

**Identity as process: an archaeological and osteological study of Early  
Bronze Age burials in northern England.**

**Volume 2 of 2**

**by**

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A thesis submitted in partial fulfilment for the requirements for the degree of  
Doctor of Philosophy at the University of Central Lancashire

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**Appendix 18: CD with Digital versions of large excel files**

Sheet 1 Main inhumations spreadsheet

Sheet 2 Main cremations spreadsheet

Sheet 3 Dental pathology

## Appendix 16.1: Sites list

Site	Museum	Reference
Gallowsclough	Manchester	Forde-Johnston 1960
Woodhouse end	Grosvenor	Rowley 1977
Bearhurst	Grosvenor	CAB 1976
Kellsall/morries nurseries	Grosvenor	JCNWAAHS 1952
Church lawton	Grosvenor	McNeil 1982
Glead hill cob/ hounslow	Grosvenor	JCAS 1939
Betchton	Grosvenor	Newstead 1939
Cleulow cross	Grosvenor	Rowley 1982
Beech hall	Grosvenor	Cave 1961
Bell farm	Grosvenor	Rowley 1982
Castleton (cairn)	Manchester	Pennington 1877
Macclesfield	Manchester	Jackson 1935
Carrock fell	Tullie House	Barker 1934
Broomrigg	Tullie House	Hodgson 1952
Shield knowe	Tullie House	Hodgson 1940
Greystoke	Tullie House	Richardson and Hallam 1995
Castle carrock	NHM	Greenwell and Rolleston 1877
Aglionby, waterloo hill	Tullie House	Hodgson 1956
Holmrook	Tullie House	Hodgson 1956
Thursby How Hill	Tullie House	Fell 1967
Kirkoswald	Tullie House	Thornley 1904
Arbor Low	Buxton	Radley 1968
Stoop Barrow	Buxton	Turner 1899
Thirkel Low	Buxton	Turner 1899
Green Low	Buxton	Marsden 1963
Liff's Low	Buxton	Bateman 1848; Barnatt and Collis 1996
Megdale	Buxton	Ward 1901
Hindlow	Buxton	Ashbee and Ashbee 1981
Stanton Moor	Derby	Heathcote 1936
Kirk Ireton	Derby	Childe et al. 1948
Swarkestone Lowes 4 and 2	Derby	Greenfield 1960
Mosley Height	Townley hall	Bennett 1951
Noon Hill	Bolton museum	JBDAS 1963
Hades Hill	Rochdale	Sutcliffe 1888-1900
Bleasdale	Harris museum	Varley 1938
Whitelow	Bury	Tyson 1994
Shuttleworth/Bank Lane	Bury	Tyson 1984
Ashfell	NHM	Greenwell and Rolleston 1877, barrow 13
Welburn	NHM	Greenwell and Rolleston 1877
Langton Wold 2	NHM	Greenwell and Rolleston 1877, 137-140

Hestleton Wold 4, 7	NHM	Greenwell and Rolleston 1877, 145
Sherburn Wold 7, 9, 13	NHM	Greenwell and Rolleston 1877,
Ganton 21, 22, 27, 28	NHM	Greenwell and Rolleston 1877, 160
Willerby Wold 33, 34, 38	NHM	Greenwell and Rolleston 1877, 183
Helperthorpe 41	NHM	Greenwell and Rolleston 1877, 191
Weaverthorpe 43, 44, 46, 49	NHM	Greenwell and Rolleston 1877, 194
Cowlam 3, 52, 53/8, 57/7, 59	NHM	Greenwell and Rolleston 1877, 211
Rudstone 61, 62, 63, 66, 68, 234	NHM	Greenwell and Rolleston 1877, 230
Folkton elf howe, 70, 71	NHM/BM	Greenwell and Rolleston 1877, 270
Cherry burton 72	NHM	Greenwell and Rolleston 1877, 280
Goodmanham (numerous)	NHM	Greenwell and Rolleston 1877, 301-331
Londesborough 123	NHM	Greenwell and Rolleston 1877, 332
Siggett	Bolton museum	Pennington 1877
Gautriss	Bolton museum	Pennington 1877
Brackenber	Wardell armstrong	Railton 2011
Cold Eaton	BM	Barnatt 1989
Pockley	BM	Pacitto 1970
Loose Howe	BM	Elgee and Elgee 1949
Herd Howe	BM	Smith 1984
Ashford	BM	Pennington 1877; Barnatt and Collis 1996, 93
Alport	NHM	Barnatt and Collis 1996,
Moor Houses	NHM	Taylor 1881
Old Byland	NHM	<a href="http://archaeologydataservice.ac.uk/archsearch/record.jsf?titleId=991938">http://archaeologydataservice.ac.uk/archsearch/record.jsf?titleId=991938</a>
Malton	NHM	<a href="http://archaeologydataservice.ac.uk/archsearch/record.jsf?titleId=993028">http://archaeologydataservice.ac.uk/archsearch/record.jsf?titleId=993028</a>
Bridlington	NHM	Manby 1972
Long how, grindlow	NHM	Barnatt 1989
Crosby Garrett	NHM	Greenwell and Rolleston 1877, 387

### Appendix 16.1.1: Map data

Number	Site	Grid ref
1	aglionby	NY 444 562
2	how hill thursby	NY315499
3	greystoke	NY4030
4	carrock fell	NY349348
5	kirkoswald	NY 5699 3988
6	holmrook	SD13409390
7	shieldknowe	NY 5627 7972
8	broomrigg	NY5482 4645
9	castle carrock	NY 5390 5595
10	ashfell	NY 73780 05310
11	Brackenber	NY 7083 1982
12	Moor house	NY547 283
13	shuttleworth	SD803 172
14	whitelow	SD8050 1626
15	hades hill	SD909 202
16	noon hill	SD 65580 14990
17	Bleasdale	SD5770 4599
18	Mosley Height	SD 8795 3050
19	bearhurst	SJ8740072000
20	beech hall	SJ91387484
21	bell farm	SJ 8979 6722
22	betchton	SJ 79220 59100
23	cleulow cross	SJ 95560 67620
24	gallowsclough	SJ5700071350
25	kelsall	SJ5330068500
26	woodhouse end	SJ 91460 69550
27	church lawton	SJ8220055810
28	green low	SK1510055800
29	hindlow	SK 08370 69050
30	castleton cairn	SK131825
31	cold eaton	SK1480056700
32	ashford	SK183712
33	Kirk Ireton	SK25024973
34	swarkeston	SK3668 2950
35	stanton moor	SK 24765 62876
36	Haddon Grove	SK1773065860
37	Siggett	SK1555082290
38	liff's low	SK1531057660
39	Thirkel low	SK04936922
40	stoop high edge	SK0616068430
41	Arbor low	SK1607063530
42	green howe	SE 3887 5123
43	herd howe	NZ 7045 1176

44	loose howe	NZ 70250 00850
45	Sherburn 13	SE9750075300
45	sherburn 7	SE 96010 74750
45	sherburn 9	SE9614074710
46	welburn	SE 73620 67350
47	heslerton wold	SE9200074000
48	langton 2	SE 80320 68370
49	Ganton 21	SE 9855076080
49	ganton 22	SE9860075800
49	ganton 27	TA 00290 76030
49	ganton 28	TA00000 76000
50	willerby wold 33	TA0259075960
50	willerby wold 34	TA0292075830
50	willerby wold 38	TA0302076100
51	helperthorpe 41	SE9500072000
51	helperthorpe 49	SE959 689
52	weaverthorpe 43	SE98630 68660
52	weaverthorpe 44	SE98900 68900
52	weaverthorpe 46	TA0011069030
52	weaverthorpe 49	SE 95940 68920
53	cowlam 51 (2)	SE 98400 66700
53	cowlam 52 (3)	SE98400 66700
53	cowlam 53	SE9840066700
53	cowlam 57	SE97540 67150
53	cowlam 59	SE96630 66490
54	rudstone 61	TA0965
54	rudstone 62	TA0988065830
54	rudstone 63	TA0971065680
54	rudstone 68	TA1112066290
54	rudstone 234	TA0560067320
55	folkton elf howe	TA04227725
55	folkton 71	TA 04010 76790
55	folkton 70	TA0428076730
56	cherry burton	SE9420040500
57	goodmanham 92	SE9100046000
57	goodmanham 94	SE9100046000
57	goodmanham 99	SE9100046000
57	goodmanham 101	SE9112045900
57	goodmanham 103	SE9094045850
57	goodmanham 104	SE9100046000
57	goodmanham 105	SE9100046000
57	goodmanham 110	SE9100046000
57	goodmanham 111	SE9100046000
57	goodmanham 112	SE9100046000
57	goodmanham 113	SE9100046000
57	goodmanham 114	SE9100046000

57	goodmanham 117	SE9000046000
57	goodmanham 120	SE9000046000
57	goodmanham 121	SE9207045480
58	londesborough 123	SE8900049000
59	old byland yorks	SE57008149
60	malton yorks	SE737673
61	bridlington yorks	TA1670

## Appendix 16.1.2: Recording forms

Cremated remains form

<b>Site</b>		
<b>Date(s) of analysis</b>		
<b>Deposit / context</b>		
<b>Weight</b>	<u>&lt;2mm:</u> <u>&lt;5mm:</u> <u>&lt;10mm:</u> <u>10mm&gt;:</u>	<u>Areas / Elements</u>
<b>Colour</b>	Element, side, parts and % affected	
<b>Size of fragments</b>	<u>Minimum</u>	<u>Maximum</u>
<b>Fracture patterns</b>		
<b>MNI</b>		
<b>Age</b>		
<b>Sex</b>		

Notes:

<b>Remains photograped</b>	<b>Y/N</b>
<b>Number(s)</b>	

<b>Finds</b>	
<b>Description</b>	
<b>Photo numbers</b>	

17/05/2010

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**Site**

**Date(s) of analysis**

**Deposit/context**

**Skeleton/burial#**

---

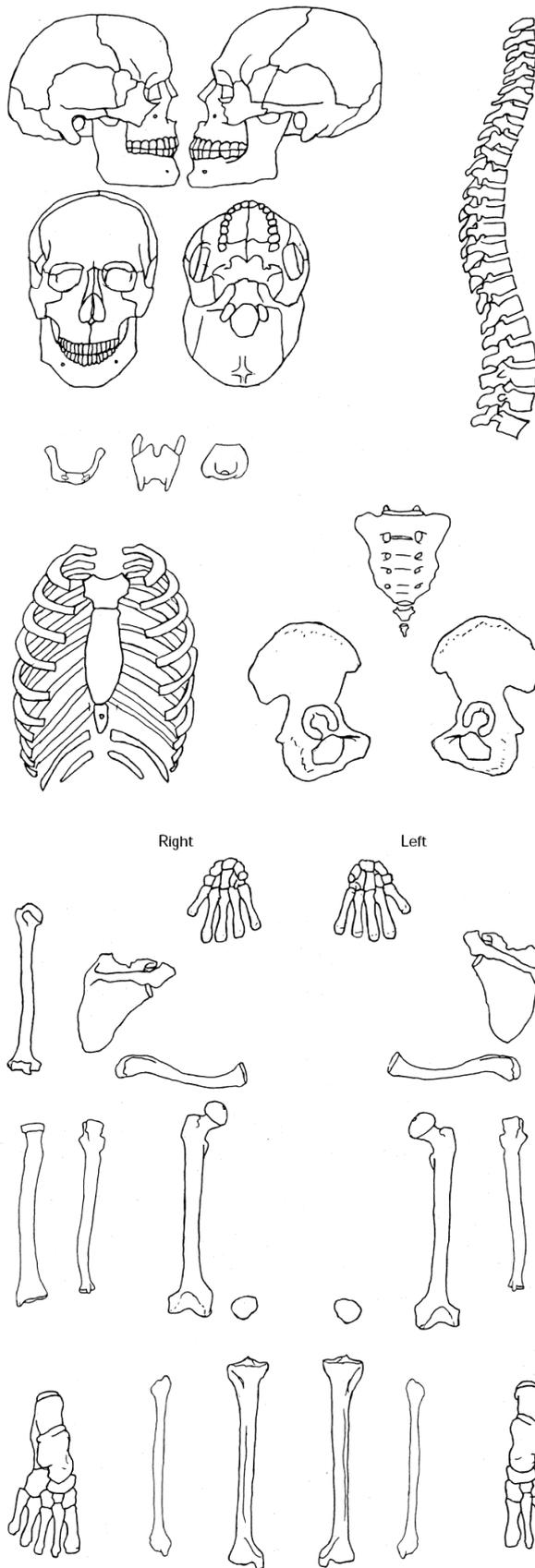
**Inventory – description**

---

**Dentition** (add separate form for detail)

---

**Inventory**



Visual inventory– after Brickley and McKinley (2004)

**Sex**

---

**Age**

---

**Metrics**

---

**Taphonomy** – fracture patterns, patination, weathering, carnivore activity etc.

---

**Palaeopathology**

---

<b>Remains photograped</b>	<b>Y/N</b>
<b>Number(s)</b>	

<b>Finds</b>	
<b>Description</b>	
<b>Photo numbers</b>	

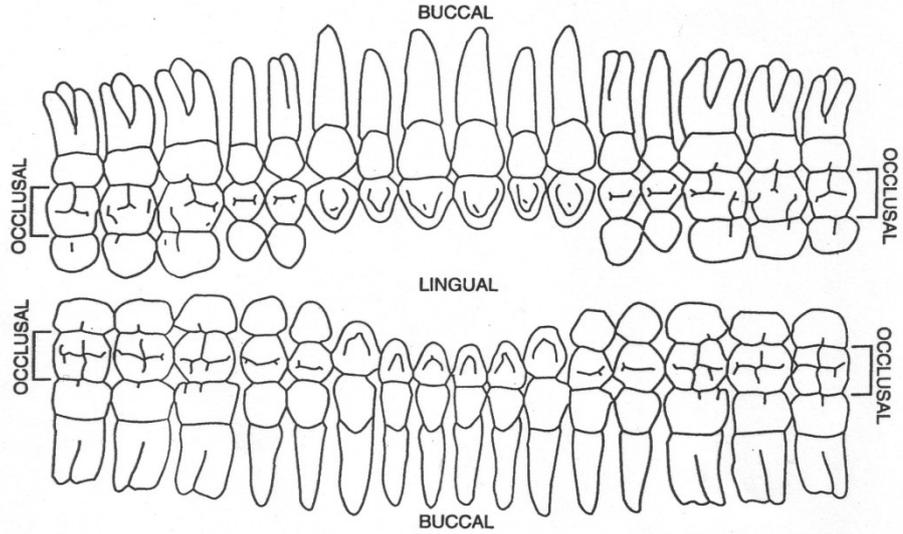
**Other notes**

---

Dental appendix – permanent dentition

**Pathology:**

Maxillary	Right								Left							
Tooth	18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
Calculus																
DEH																
Caries																
Abscess																
Granuloma																
Periodontal																



Mandibular	Right								Left							
Tooth	48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
Calculus																
DEH																
Caries																
Abscess																
Granuloma																
Periodontal																

**Calculus**

P = present  
O = occlusal  
R = root

**DEH**

(Lukacs 1989)  
1 = pit  
2 = line  
3 = groove

**Cariou lesions**

(Moore and Corbett 1971)  
1 = occlusal surface  
2 = interproximal surfaces

3 = smooth surfaces

4 = cervical caries

5 = root caries

6 = large caries

7 = noncarious pulp exposure

**Position**

B = buccal/labial

L = lingual

M = mesial

D = distal

O = occlusal

B + L = E (external)

M + D = I (interproximal)

A = all sides

**Abscess**

1 = buccal/labial

2 = lingual

**Granuloma**

1 = buccal/labial

2 = lingual

**Periodontal Disease**

(Ogden in prep)

0 = unable to score

1 = no disease

2 = mild periodontitis

3 = moderate periodontitis

4 = severe periodontitis

**Permanent dentition**

**Dentition**

18	17	16	15	14	13	12	11		21	22	23	24	25	26	27	28
48	47	46	45	44	43	42	41		31	32	33	34	35	36	37	38

**Number of teeth present:** -

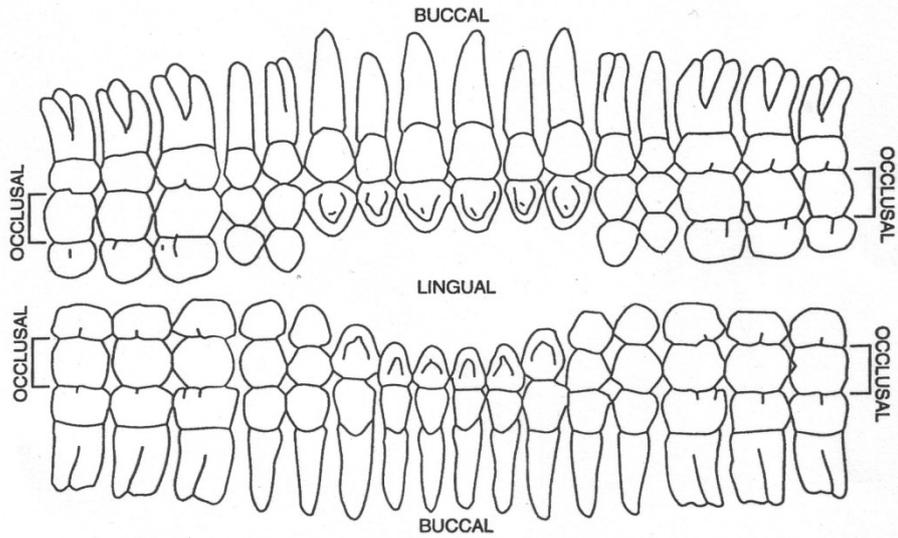
**Number of positions present:**

- / = lost PM
- X = lost AM
- B = broken PM
- R = root only
- = jaw and teeth not present
- A = tooth absent (congenital)
- NE = not erupted

Loose teeth:

**Dental wear:**

(For scoring see Murphy 1959, Smith 1984 – incisors, canines and premolars. Scott 1979 – molars, in Buikstra and Ubelaker 1994). Note – only the left side is recorded unless there is asymmetry



**Estimated age:**

**Comments:**

Date:

Site:

**DECIDUOUS DENTITION:**

Skeleton #:

On diagrams, please note portion of root present where possible

Box #:

Absent teeth should be crossed through.

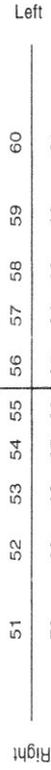
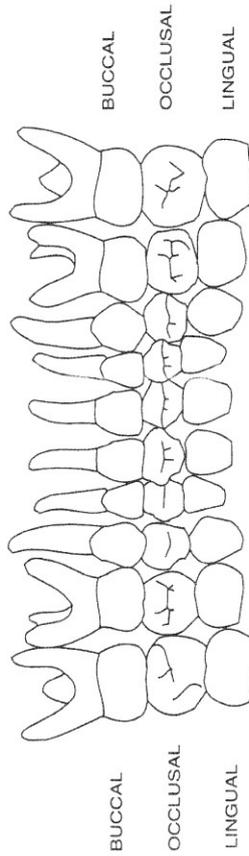
Show position of caries/dentine exposure on diagram below.

If no coded criteria or details apply, enter a '/' in the box.

CODES:					
A	Antemortem loss	L	Calculus	RF	Reconstruction - filling
P	Postmortem loss	U	Unrupted	RD	Reconstruction - denture
H	Healthy	I	Impacted	O	Other (give details in adjacent box)
D	Dentine exposed	E	Enamel hypoplasia		
C	Caries	X	Extra cusp		

Tooth	Code	Details
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		

**MAXILLARY**



Additional information:

# PERINATAL SKELETAL RECORDING FORM

Right      Left

Left      Right

R.Rib Hds	L.Rib Hds
Sternal ends	Sternal ends

R.Arch	Body	L.Arch
C 3-7		
T 1-12		
L 1-5		
S 1-5		

Hand	
Phalanges	
Metacarpals	

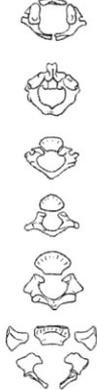
Foot	
Phalanges	
Metatarsals	

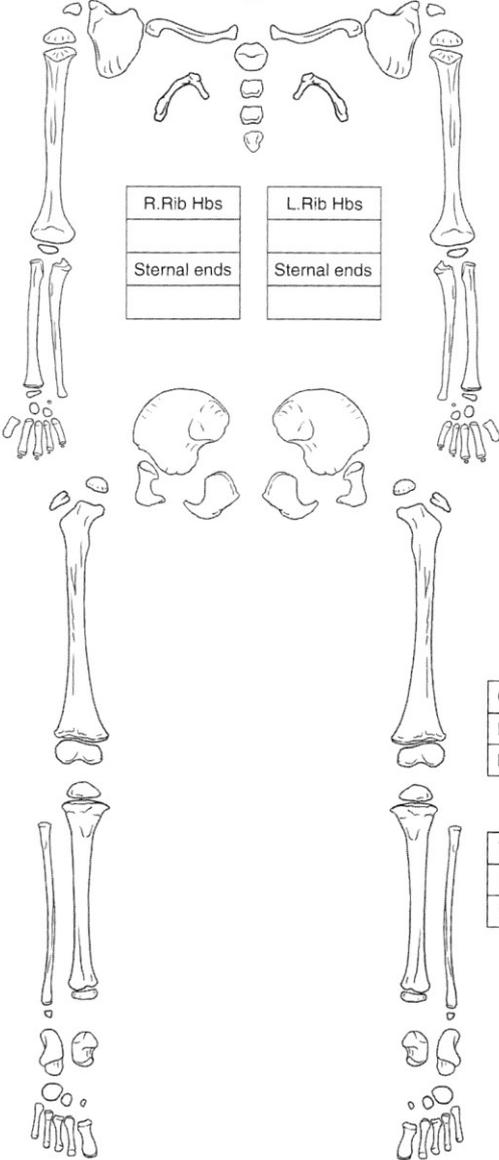
Peri-natal visual inventory Schaefer et al. (2009)

# EARLY CHILDHOOD SKELETAL RECORDING FORM



Left Right





R. Rib Hbs	L. Rib Hbs
Sternal ends	Sternal ends

	Arch	Body
C 3-7		
T 1-12		
L 1-5		
S 1-5		

Hand	
Carpals	
Phalanges	
Metacarpals	

Foot	
Tarsals	
Phalanges	
Metatarsals	

Early childhood visual inventory from Schaefer et al. (2009)

## LATE CHILDHOOD SKELETAL RECORDING FORM

The form includes the following tables for recording bone counts:

R. Rib Hds	L. Rib Hds
Sternal ends	Sternal ends

Hand	
MC heads	
Phalanges	
Metacarpals	

Foot	
MT heads	
Phalanges	
Metatarsals	

Late childhood visual inventory from Schaefer et al. (2009)

### **Appendix 16.1.3: Stature formulae**

Pearson (M)

$$= 81.306 + 1.880 \text{ FEMUR} \pm 3.3\text{cm}$$

Pearson (F)

$$= 72.884 + 1.945 \text{ FEMUR} \pm 3.3\text{cm}$$

Trotter (M)

$$= 61.41 + 2.38 \text{ FEMUR} \pm 3.27\text{cm}$$

Trotter (F)

$$= 54.10 + 2.47 \text{ FEMUR} \pm 3.72\text{cm}$$

### **Appendix 16.1.4: Craniology formula**

Maximum cranial breadth (eu-eu) x 100

Maximum cranial length (g-op) =

## Appendix 16.2: Main inhumations spreadsheet

	A	B	C	D
1	Inhumations			
2	<b>Burial &amp; site</b>	<b>SEX - skull</b>	<b>SEX - post cranial</b>	<b>Age (dental/sutures)</b>
3	Green Howe 1	M	M	18-28
4	Green Howe 14	F	NP	30- 40
5	Green Howe 3	NA	NA	3-5 Years
6	Green Howe 4	NA	NA	NP
7	Green Howe 6	NA	NA	3 -6 months
8	Green Howe 7	M?	M?	24-30
9	Green Howe 13	M	M	18-22
10	Green Howe 8	M?	M?	15-17
11	Green Howe 9	NA	NA	4-5 years
12	Green Howe 12	M	M	25-35
13	Haddon Grove	F?	NP	20-30
14	Grange Mill	NA	NA	juv
15	Grange Mill	M	M?	NP
16	Folkton sharp howes 2	NA	NA	NP
17	Folkton sharp howes 2	NP	M	NP
18	Folkton sharp howes 2	NP	F	adult
19	Cowlam 3, 1	F?	F	40-50
20	Cowlam 3	M?	M - large	NP
21	Cowlam 3	NA	NA	Adolescent
22	Cowlam 3	F?	F?	40s
23	Cowlam 3	F	NP	40-50
24	Cowlam 3	M?	NP	25-30
25	Cowlam 3	F?	NP	MA
26	Cowlam 3	NA	NA	infant
27	Cowlam 3	NA	NA	infant
28	Gautriss	M	NP	MA
29	Gautriss	M	NP	MA
30	Gautriss	NA	NA	Neonate
31	Siggett barrow	M	NP	20-30
32	Siggett barrow	NA	NA	4.5-5.5
33	Siggett barrow	NA	NA	18 month- 3
34	Siggett barrow	NA	NA	18 month - 3
35	Hindlow Bateman	NP	M??	Adult
36	Hindlow 5	NP	F??	NP
37	Hindlow 6	NP	M??	45+
38	Hindlow 7	NP	F??	NP
39	Hindlow Bateman F	NP	F??	MA
40	Hindlow Bateman	NA	NA	NP
41	Hindlow Bateman	NA	NA	NP
42	Hindlow scatter 2	NA	NA	NP
43	Hindlow scatter 2	NP	NP	Adolescent
44	Hindlow scatter 1	NA	NA	NP
45	Hindlow scatter 1	NA	NA	NP
46	Hindlow scatter 1 juv	NA	NA	2-3 years
47	Hindlow 'old man'	M	M	30-40
48	Hindlow 8	M	M	17-25
49	Hindlow 1	M	M	20-30
50	Hindlow 1A	NA	NA	c.10
51	Hindlow 3	M	NP	20-25
52	Hindlow 2	M	M	40-50
53	Hindlow 2A	NA	NA	neonate
54	Hindlow 4	?	NP	35-50
55	Megdale	M	NA	18-22
56	Megdale	M	NP	35-50
57	Megdale	F?	NP	24-35

Appendix 16.2: Main inhumations spreadsheet

	E	F	G	H	I	J
1				NA= no limbs		
2	Age - post-crania	Non-metric	Pathology - cranial	Pathology - post crania	Dental	MSM
3	rib 2 17-19; misc ribs	sternum for	NA	S.N.	NA	clavicles
4	NA	Shovel Up I2	none	NA	LEH, period	NA
5	NP	none	none	none	none	NA
6	34-36 weeks	none	none	none	none	NA
7	3-6 months	none	none	none	none	NA
8	R auric phase 3	Sup-orb for	none	none	LEH	none
9	NP	none	mandib assym	eburnation to radial facet	Calculus	Brachialis R
10	less than 17 - fusion	supr orb for	none	none	none	NA
11	NP	none	none	none	none	NA
12	NP	none	none	osteophytosis of vert, esp	none	marked delt
13	NP	none	none	NP	none	NP
14	NP	none	none	NP	none	NP
15	NP	none	none	none	none	none
16	c.6	none	NP	none	NP	NA
17	Pub symph@ 4 = 30	none	NP	none	NP	none
18	Auric surf @ early 4	none	NP	healed periostitis to tibia;	NP	none
19	42+	metopic; sup	Healed blunt force tra	Fusion C-verts; fractues - T	LEH; calc; p	extoses to U
20	NP	none	none	none	none	none
21	14-19 years	none	none	none	LEH	NA
22	auric phase 5	none	none	S.N on T-vert, osteophytosis	none	none
23	auric phase 5	none	none	O.A.	none	none
24	NP	none	none	none	none	none
25	NP	none	none	changes to acromial end of	none	none
26	1.5 to 2 years	none	none	none	none	NA
27	birth - 3 months	none	none	none	none	NA
28	NP	supr orb not	cribra - healed	none	none	NP
29	NP	supr orb not	none	none	none	NP
30	NP	none	none	none	none	NA
31	NP	shovel shape	none	none	granuloma?	NP
32	NP	none	none	none	none	NP
33	NP	none	none	none	none	NP
34	NP	none	none	none	none	NP
35	Adult	none	none	S.N.	NP	clav deltoid
36	poss osteoarthritis	NP	NP	O.A. foot bones	NP	NP
37	NP	NP	NP	NP	NP	NP
38	NP	NP	NP	NP	NP	NP
39	NP	none	none	NP	NP	NP
40	40 weeks	NP	none	none	none	NA
41	38-40 weeks	NP	none	none	NP	NA
42	infant 1.5-3 months	none	none	none	none	NA
43	Adolescent	NP	NP	NP	NP	NP
44	38-40 weeks	none	none	none	none	NA
45	38-40 weeks	none	none	none	none	NA
46	2-3 years	none	none	none	none	NA
47	pub symph@ 45; a	R humerus s	none	O.A. O.P. To the spine	Calculus	radius - bice
48	NP	none	none	S.N.	peri-apical a	brachialis, b
49	NP	Supra-orb nd	Periostitis	mild O.A.	periodontal	brachialis u
50	older child	none	none	none	LEH	NA
51	auric @ 25-35; rib 2	Shovel Ins, n	none	O.A. SN poss toe fracture	periodontal	Brachialis
52	auric @ 36-44	R calc- doub	thickened	O.A. spinal fuse	periodontal	none
53	36 weeks	none	none	none	none	NA
54	NP	metopic	thickened	pitting to some joints	caries, maxi	none
55	NP	none	none	NP	none	NP
56	NP	zygo forame	poss cranial trauma	NP	periodontal	NP
57	NP	none	none	NP	leh	NP

## Appendix 16.2: Main inhumations spreadsheet

	K	L	M	N	O
1				<i>deposit/mix with others</i>	<i>1/2 stage</i>
2	Stature	Artefacts	<b>Notes</b>		exposure/manip
3	NP	none	0	first in grave 1 sequence	skull and limbs removed?
4	NP	none	Cu stain on	no	no
5	NP	Plano-convex knife	0	pit 1	no
6	NP	none	0	pit 1	no
7	NP	none	0	on pit 1	no
8	5'4-5'49	none	activity dep	pit 2	no
9	NP	Flint knife	0	pit 4	no
10	NP	F.V. 14g crem	carboniferous	pit 3	no
11	NP	F.V.	0	pit 3	no
12	NP	none		no	no
13	NP	none		np	
14	NP	?	0	np	
15	NP	?	0	np	
16	NP	?Brewster ex 1967?	0		
17	NP	?	0		
18	5'0-5'14	?	0		
19	5'3-5'47	food vessel			
20	NP	none			
21	NP	bone awl			
22	NP	none			
23	NP	none			
24	NP	none			
25	NP	none			
26	NP	none			
27	NP	none			
28	NP	flint flakes		np	
29	NP	flint flakes, bone pin		np	
30	NP	np		np	
31	NP	bronze ring, jet bead and quartz g		possibly assoc with below	no
32	NP	none		poss assoc with above or with a crem	
33	NP	none			
34	NP	none			
35	NP	none		disturbed by bateman	
36	NP	none		disturbed for later burials	
37	NP	none		disturbed for later burials	
38	NP	none		disturbed for later burials	
39	NP	none		disturbed by bateman	
40	NA	none	Bateman	disturbed by bateman	
41	NA	none	centre bar	disturbed by bateman	
42	NP	none		disturbed	
43	NP	none		disturbed	
44	NP	none		disturbed	
45	NP	none		disturbed	
46	NP	none		disturbed	
47	NP	none		NP	
48	NP	none		scatter 2	
49	6'0- 6'2	none		cremation of F at feet, 1A underneath	
50	NP	none		assoc with 1	
51	5'6-5'7	none		assoc with 4	
52	5'5-5'7	none		assoc with 2a	
53	NP	none		assoc with 2	
54	NP	none		assoc with 3	
55	5'4-5'49	none		NP	
56	NP	none		NP	
57	NP	none		NP	

Appendix 16.2: Main inhumations spreadsheet

	P	Q	R	S	T	U	V	W	X
1	<i>where body placed in site</i>				<i>what body is contained in</i>				<i>organic wr</i>
2	barrow	cave	flat cemeter	other	cist	grave	wooden 'coff	pit	animal skin
3	centre					pit 1			
4	yes					?			
5	yes					pit 1			
6	yes				covered by small cairn				
7	yes					on pit 1 next to wall			
8	yes					pit 2			
9	yes					pit 4			
10	yes					pit 3			
11	yes					pit 3			
12	yes					? Disturbed			
13	cairn					disturbed			
14	yes								
15	yes								
16	yes								
17	yes								
18	yes								
19	yes					grave 2 burial 1			
20	yes					disturbed			
21	yes					grave 2 burial 2			
22	yes					disturbed			
23	yes					disturbed			
24	yes					disturbed			
25	yes					disturbed			
26	yes					disturbed			
27	yes					disturbed			
28	yes				yes				
29	yes				yes				
30	yes				yes				
31	yes					shallow scoop			
32	yes								
33	yes								
34	yes								
35	cairn								
36	cairn								
37	cairn								
38	cairn								
39	cairn								
40	cairn								
41	cairn								
42	cairn								
43	cairn								
44	cairn								
45	cairn								
46	cairn								
47	cairn								
48	cairn								
49	cairn					surface			
50	cairn					surface			
51	cairn					surface			
52	cairn					on primary cairn?			
53	cairn					on primary cairn?			
54	cairn					surface			
55	?								
56	?								
57	?								

Appendix 16.2: Main inhumations spreadsheet

	Y	Z	AA	AB	AC	AD	AE	AF
1	apping			how is body positioned				
2	textile	plant rems	bag	extension	flexion	side	position arms/hands	position of head
3				np	np	np		
4								
5					yes	right	hands over lower bo	sw
6								
7								
8					yes	left	hands to face	e
9					yes	left		
10		carbonised?		on back?	limbs flexed to s			head to w, but face
11					yes	left	np	ne
12					yes	np		
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28					yes	np		
29					yes	np		
30				np				
31					yes	left	np	nw
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49					yes	left	arms crossed	
50								
51					yes	right		
52				yes				
53								
54					yes	left		
55								
56								
57								

Appendix 16.2: Main inhumations spreadsheet

	AG	AH	AI	AJ	AK	AL
1	artefacts					
2	material	location	complete/frag	worn/new	burnt/unburnt	associations
3						
4						
5	knife	near vertebrae				charcoal surr
6						
7						
8						
9	flint knife					
10	fv	at knees				
11	fv	at skull	crushed- prob post deposition			
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31	bronze ring, jet bead and quartz pebble					
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						

## Appendix 16.2: Main inhumations spreadsheet

	A	B	C	D
58	Megdale	M	NP	30-40
59	Liff's Low 1	M	M	20-30
60	Liff's Low F	F	F	c.20
61	Liff's Low F (2)	F	F	adolesc/YA
62	Liff's Low	NP	NP	neonate
63	Thirkel Low	NP	NP	NP
64	Stoop high edge Barrow - interment A	M	NA	20-30
65	Arbor Low	M	NA	MA
66	Loose Howe	NP	NP	adult
67	4.039 Alport, Derbs	M??	NA	YA?
68	4.0457 YORKS	M	NA	NP
69	4.0451 (Folkton)	M	NA	16-20; 17-25
70	4.0452 folkton	M	NA	20-30
71	4.0454 folkton	M?	NA	35-45
72	4.0455 folkton	M?	NA	M2=45+
73	4.0456 folkton	M?	NA	18-22
74	E11.3 102 sherburn 9	M?	NA	MtoOA
75	E11.3 103 Sherburn 9?	F	NA	16-20
76	E11.3 104 Sherburn (13)	F	NA	12 to 18
77	E11.3 105 sherburn (13)	M	NA	20-30
78	E11.3 106 Ganton 21?	NP	NA	c. 9 to 12
79	E11.3 107 ganton 21?	NP	NA	c. 6 to 9
80	E11.3 108 Potter brampton wold ganton	M?	NA	20-30
81	E11.3 109 Ganton (21)	F	NA	40-55+
82	E11.3 111 Potter brampton (21)	M	NA	18-22
83	E11.3 112 ganton (21)	M??	NA	20-24
84	E11.3 113 Ganton	F?	NA	YA-MA?
85	E11.3 114 Ganton (22)	M	NA	45-55
86	E11.3 89 castle carrock (163)	M	NA	35-40
87	E11.3 90 ashfell, kirkby stephen (167)	M	NA	35-45
88	E11.3 91 welburn	M??	NA	YmidA-MA
89	E11.3 93 langton wold (2)	M	NA	25-35
90	E11.3 94 langton wold (2)	?	NA	40-50+
91	E11.3 95 langton wold (2)	F?	NA	OA
92	E11.3 96 Hesleton wold hall grave (4)	M	NA	24-30
93	E 11.3 97 hesleton wold	M?	NA	20-30
94	E11.3 98Sherburn wold (7)	F	NA	YA-MA
95	11.3 99 sherburn	F	NA	35-45
96	E11.3 100 Sherburn wold	F?	NA	MA?
97	E11.3 101 Sherburn	M?	NA	MA?
98	E11.3 115 Ganton (22)	F	NA	YA-MA
99	E11.3 116 GANTON (27)	M?	NA	30-35
100	E11.3 117 Ganton (27)	M?	NA	24-30
101	E11.3 118 ganton (28)	M	NA	35-45
102	E11.3 119 Ganton (28)	M	NA	40-45
103	E11.3 120 Willerby wold (33)	M?	NA	30-40
104	E11.3 121 WILLERBY WOLD (33)	F	NA	35-45
105	E11.3 122 Willerby wld 34	F?	NA	45-55
106	E11.3 123 willreby wold (34)	M	NA	20-24
107	E11.3 124 willerby wold (38)	M?	NA	OA
108	E11.3 125 Helperthorpe (41)	M	NA	35-45
109	E11.3 126 Weaverthorpe	M?	NA	YA TO MA
110	E11.3 127 Weaverthorpe	M	NA	40-50
111	E11.3 128 Weaverthorpe	M?	NA	30-35
112	E11.3 129 Weaverthorpe (43)	M	NA	40-55
113	E11.3 130 weaverthorpe (43)	F	NA	MA
114	E11.3 131 weaverthorpe 43	?NP	NA	9 to 11

Appendix 16.2: Main inhumations spreadsheet

	E	F	G	H	I	J
58	NP	sup orb notc	none	NP	none	NP
59	pub symph @ 25-2	shovel up l	none	healed fracture humerus;	none	brachioradi
60	NP	none	none	none	none	none
61	NP	shovel up 2l	none	none	LEH	none
62	NP	NP	none	NP	NP	NA
63	14-20	none	NP	none	NP	none
64	NA	none	mandibular tori	NA	none	NA
65	NA	none	none	NA	NP	NA
66	NP	NP	NP	NP	NP	NP
67	NA	none	none	NA	periodontal	NA
68	NA	none	none	NA	NP	NA
69	NA	supra orb no	none	NA	none	NA
70	NA	supra orb fo	none	NA	mod perio,	NA
71	NA	none	none	NA	mild perio,	NA
72	NA	none	resorbtion of most m	NA	periodontal	NA
73	NA	Supra orb no	healed cribra orb	NA	mild perio	NA
74	NA	none	lesions? On internal s	NA	NP	NA
75	NA	supra orb no	healed cribra orb	NA	small am ca	NA
76	NA	sup orb notc	cribra orb	NA	none	NA
77	NA	supra orb no	none	NA	LEH, mild pe	NA
78	NA	NONE	none	NA	none	NA
79	NA	supra orb fo	cribra orb/scurv?	NA	none	NA
80	NA	CANT SEE	NONE	NA	none	NA
81	NA	L supra orb f	none	NA	abccs? Per	NA
82	NA	supra orb no	none	NA	plaq to CEJs	NA
83	NA	supra orb no	small bony lump in o	NA	calc to CEJs	NA
84	NA	Supra orb no	none	NA	NP	NA
85	NA	supra orb no	healed cribra orb?	NA	peri ap gran	NA
86	NA	supra orb no	O.A. of occip facets	NA	calc LM2-3,	NA
87	NA	supra orb no	healed cribra orb?	NA	serious plac	NA
88	NA	Supra orb fo	none	NA	NP	NA
89	NA	supra orb no	bit out of frontal mar	NA	perio	NA
90	NA	Supra orb fo	none	NA	perio, comp	NA
91	NA	Supra orb fo	lytic lesion internal o	NA	NP	NA
92	NA	supra orb fo	faint cribra orb?	NA	mild perio	NA
93	NA	Supra orb no	none	NA	none	NA
94	NA	Supra orb no	poss o.a. to occip cor	NA	NP	NA
95	NA	supra orb no	none	NA	mild perio,	NA
96	NA	Supra orb nt	none	NA	NP	NA
97	NA	NONE	none	NA	NP	NA
98	NA	Supra orb no	l occip condyle weird	NA	NP	NA
99	NA	Supra orb fo	none	NA	overcrowdi	NA
100	NA	SUPRA ORB	none	NA	slight perio	NA
101	NA	supra orb fo	none	NA greenwell mentions he	poss abccs	NA
102	NA	Supra orb no	none	NA	plaq to CEJs	NA
103	NA	NONE	thick cranium 8.60mr	NA	plaq to CEJs	NA
104	NA	supra orb fo	cribra orb	NA	mild-mod p	NA
105	NA	supra orb no	cribra orb?	NA	none	NA
106	NA	R supra orb f	none	NA	mild perio,	NA
107	NA	supra orb no	porosity around front	NA	NP	NA
108	NA	supra orb no	TMJ	NA	mild perio,	NA
109	NA	Supra orb no	none	NA	NP	NA
110	NA	Supra orb no	none	NA	neo like we	NA
111	NA	supra orb no	none	NA	none	NA
112	NA	supra orb no	none	NA	none	NA
113	NA	NONE	none	NA	endentulou	NA
114	NA	supra orb fo	none	NA	none	NA

## Appendix 16.2: Main inhumations spreadsheet

	K	L	M	N	O
58	NP	none		NP	
59	NP	Pendant- bracer. Beaker		NP	
60	NP	none		NP	
61	NP	none		NP	
62	NP	none		NP	
63	NP	whetstone pebble and flint flake		no but 3 others in same barrow - one a male with perf axe	
64	NP	bronze dagger	copper sta	no	
65	NP	flints? - see bateman and barnatt		NP	
66	NP	oak dug out canoe	Log burial	?	
67	NP	bronze ring		NP	
68	NP	np		NP	
69	NP	?			
70	NP	?	ramus short but wide		
71	NP	?			
72	NP	?			
73	NP	?	square orbits		
74	NP	vessel	photoed as	if 9 is double burial with 103	
75	NP	none		with 102	
76	NP	greenwell xiii FV		no	
77	NP	greenwell xiii FV		no	
78	NP	fv		no	
79	NP	none		no	
80	NP	greenwell 162 drinking cup, flint k		no	
81	NP	greenwell p163, fv in front of face		no	
82	NP	green well p 163, fv in front of face		no	
83	NP	greenwell o 163, barb arrow at kr		w end of grave w 111, head immed w of 111's feet	
84	NP	?	small femur	no	
85	NP	greenwell xxii none	small skull	no	
86	NP	beaker greenwell clxiii		no	
87	NP	greenwell clxvii, none		no	
88	NP	no page			
89	bb 5'9	Greenwell langton 2, s	looks neo?	assos with post holes at head	1
90	NP	Greenwell langton 2, 137 (F?) - w		no	1
91	NP	Greenwell laangton 2, 139 collare		no	
92	NP	greenwell heslerton iv	vrobust	no	
93	NP	Greenwell 145 only skull disturbe		np	
94	bb 4'8	greenwell vii six flakes	nmight be	no	
95	NP	?			
96	NP	?			
97	NP	no page			
98	NP	greenwell xxii none		no	
99	NP	greenwell 174, pot?		assoc with child c.6	
100	NP	greenwell 174, jet button at chest		no	
101	NP	greenwell 176 pot	greenwell	no	
102	NP	greenwell 176 none	just skull a	no	
103	NP	Greenwell 183, none	partly over	no	
104	NP	Greenwell 183, none		near male above	
105	NP	none page 183	V F frontal	associated with three children	
106	NP	greenwell 184 none		no	
107	NP	greenwell 186 fv		no	
108	NP	greenwell 191 xli, flint knife, tine		no	
109	NP	greenwell 193, quartz pebble,		near skull of 'young person'	skull nr femur?
110	NP	?			
111	NP	greenwell 194, food vessel,		no	
112	NP	greenwell 194 flint knife and othe		no	
113	NP	Greenwell 195, round flint scrape		no	
114	NP	one of 4 children at this site		no	

Appendix 16.2: Main inhumations spreadsheet

	P	Q	R	S	T	U	V	W	X
58	?								
59	yes								
60	yes								
61	yes								
62	yes								
63	cairn				on limestone				
64	cairn				used natural limestone crevices				
65	yes								
66	yes						boat coffin		leather-sho
67									
68									
69									
70									
71									
72									
73									
74	yes					centre, oval shaped			
75	yes					centre, oval shaped			
76	yes					centre first in with crem			
77	yes					yes			
78	yes					yes			
79	yes					yes			
80	yes					yes			
81	yes					yes			
82	yes					central pit			
83	yes					central pit			
84	yes								
85	yes					pit grave			
86	?				yes	cist			
87	yes					into limestone rock			
88									
89	yes					centre natural surface			
90	yes				between st	?			
91	yes					on rough 'pavement'			
92	yes					grave- central			possible 'le
93	yes					skull on surface			
94	yes					surface			
95									
96									
97									
98	yes					suurface			
99	yes					centre surface			
100	yes					surface			
101	yes					?			
102	yes					surface			
103	yes					1 of 7 in central pit			
104	yes					1 of 7 in central pit			
105	yes					?			
106	yes					yes central on 'flooring of chalk flags'			
107	yes					centre surface			
108	yes					central pit, fill with child bones			
109	yes					yes			
110									
111	yes					centre			
112	yes					above nat surface			
113	yes					surface			
114	yes								

Appendix 16.2: Main inhumations spreadsheet

	Y	Z	AA	AB	AC	AD	AE	AF
58								
59								
60								
61								
62								
63					np			
64					yes	left	np	s
65								
66	e?			np	np	np	np	all orientated wsw to
67								
68								
69								
70								
71								
72								
73								
74					yes	right		w
75					yes	right		e
76					yes	right	r in front of knees, l	west
77					yes	left	r in front kness, l just	ssw
78					yes	left	hands to knees	e
79					yes	left	right hand under kne	enne
80					yes	left	hands to face	e
81					yes	right	r under knees, l nr fa	sw
82					yes	left	r hand on knees, left	e
83					yes	right	hands to face	nw
84								
85					yes	right	hands in front of hips	s by e
86					yes	left	one arm ext, other a	ne
87					yes	right	right hand under chi	s
88								
89					yes	left	hands on top of head	nw
90					yes	right	r hand across chest,	sw
91					yes	left	to face	little s of e - upright s
92	ather'				yes	left	r accros chest, left a	ese
93					NP			
94					yes	left	hands to face	
95								
96								
97								
98					yes	left	hands to face	e
99					yes	right	r arm extended dow	e
100					yes	right	hands touching face	not mentioned
101					yes	right	r hand in front of che	nw
102					yes	left	np	np
103					yes	left	hands in front of che	se
104					yes	right	hands to face	wnw
105					yes	right	right arm down side,	s
106					yes	left	right hand on chest,	nw
107					np			
108					yes	left	right arm across bod	n
109					np			
110								
111					yes	right	left hand crossed o	vw
112					yes	left	hands up to face, le	e
113					yes	right	hands to face	e
114								

Appendix 16.2: Main inhumations spreadsheet

	AG	AH	AI	AJ	AK	AL
58						
59						
60						
61						
62						
63	pebble, flint?			pebble used as whetstone?		
64	bronze dag	mandible				
65						
66	bone					
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						behind and u
77						
78	pot	at crown of head				
79						
80	pot, flint k	pot behind head, knife below cup				
81						
82						
83						
84						
85						
86						
87						
88						
89						
90	lots	nr waist- in bag?		one awl perfect, other worn		
91	pot					
92						
93						
94						
95						
96						
97						
98						
99						
100	jet	chest	complete	new	unburnt	
101	pot	behing head				
102						
103						
104						
105						
106						
107						
108	flint and artine	at head and feet,	tines worn	poss by animal		
109	oval quartz	nr skull	yes	one end used for pounding/grinding		
110						
111	unusual for	above knees	eyes			
112	flints	flake under	incomplete			
113						
114						

## Appendix 16.2: Main inhumations spreadsheet

	A	B	C	D
115	E11.3 132 Weaverthorpe (43)	M	NA	35-40
116	E11.3 133 Weaverthorpe	M	NA	OA
117	E11.3 134 weaverthorpe (44)	M	NA	45-55
118	E11.3 135 weaverthorpe (46)	M	NA	15-18
119	E11.3 136 Weaverthorpe (46)	F?	NA	24-30
120	E11.3 138 weaverthorpe (49)	M	NA	35-40
121	E 11.3 139 Weaverthorpe 49	?NP	NA	ADOL/YA
122	E11.3 140 Helperthorpe (49)	?	NA	45-55
123	E11.3 141 Helperthorpe (49)	M	NA	50+
124	E11.3 142 Cowlam (51) I.A.?	F?	NA	40-50
125	E11.3 143 Cowlam (52)	F	F	35-40
126	E11.3 144 Cowlam (53)/8	F	NA	40-50
127	E11.3 145 Cowlam 56/3	?	NA	JUV?
128	E11.3 146 Cowlam (57)/7	M	adolesc	
129	E11.3 147 Cowlam (57)	F	NA	12 to 18
130	E11.3 148 Cowlam (57)	?	?	35-40
131	E11.3 149 Cowlam (57)	M	NA	20-24
132	E11.3 150 Cowlam (57)	F	?F?	45-55+
133	E11.3 151 Cowlam (57)	F	NA	45-55
134	E11.3 152 Cowlam (57)	M?	?	MA
135	e11.3 153 Cowlam (59)	M	large bones	40-50
136	E11.3 154 Rudstone (61)	M?	?	20-30
137	E11.3 155 Rudstone (61)	M	NA	40-50
138	E11.3 157 Rudstone (61)	F	NA	45-55
139	E11.3 158 Rudstone	M	?	30-35
140	E11.3 159 Rudstone (62)	F??	?	45-55
141	E11.3 161 Rudstone 63	F	NA	MA
142	E11.3 162 Rudstone (63)	F??	NA	40-50
143	E11.3 163 Rudstone 63	M??	?	OA
144	E11.3 164 Rudstone 63	M?	NA	OA
145	E11.3 165 Rudstone (63)	M	?	45-55
146	E11.3 166 Rudstone (63)	F?	NA	35-40
147	E11.3 167 Rudstone (66)	NP	NA	OA
148	E11.3 168 Rudstone (66)	F?	NA	YA TO MA
149	E11.3 169 Rudstone (68)	M	NA	45-55
150	E11.3 170 Rudstone (234)	F	NA	OA
151	E11.3 171 Rudstone (234)	F?	?	45-55
152	E11.3 172 Rudstone	f??	NA	ADOL/YA
153	E11.3 173 Flixton (elf howe)	M	NA	MA
154	E11.3 175 Flixton, folkton (70)	M	NA	35-40
155	E11.3 176 Flixton (70)	? Adolesc	NA	16-20
156	E11.3 177 flixton/folkton (70)	?	NA	45-55
157	E11.3 178 Flixton/folkton (70)	M	NA	16-20
158	e11.3 179 Flixton/folkton (71)	Adolesc	NA	ADOLESC
159	E11.3 180 Flixton/folkton (71)	F	?	16-20
160	e11.3 181 Flixton, folkton (71)	M	NA	45-55
161	E11.3 182 Flixton, folkton (71)	M??/OLD F?	NA	45-55
162	E11.3 183 Flixton,folkton (71)	M?	?	45-55
163	e11.3 184 Cherry burton (72)	M	NA	35-40
164	E11.3 186 Goodmanham	M	NA	40-45
165	E11.3 187 Goodmanham (92)	M	NA	18-22
166	E11.3 188 Goodmanham (94)	M	NA	45-55
167	E11.3 189 Goodmanham (97)	F?	NA	MA TO OA
168	E11.3 190 Goodmanham (99)	M	?	18-22
169	E11.3 191 Goddmanham (101)	M	NA	35-40
170	E11.3 192 Goodmanham (103)	F?	NA	35-40
171	E11.3 193 Goodmanham (103)	M	obtura foram tri	30-35

## Appendix 16.2: Main inhumations spreadsheet

	E	F	G	H	I	J
115	NA	supra orb no	none	NA	LEH	NA
116	NA	supra orb fo	none	NA	NP	NA
117	NA	Supra orb no	none	NA	mod perio	NA
118	NA	supra orbital	none	NA	LEH	NA
119	NA	Supra orbita	none	NA	mild perio,	NA
120	NA	supra orb fo	none	NA	LEH	NA
121	NA	NONE	none	NA	NP	NA
122	NA	supra orb no	none	NA	AM loss res	NA
123	NA	R supra orb	none	NA	oss, abcess	NA
124	NA	supra orb no	none	NA	mod perio,	NA
125	?	not visible d	none	none	none	?
126	NA	supra orb no	none	NA	mild perio,	NA
127	NA	NP	poss cribra/E	NA	NP	NA
128	adolesc femoral ep	supra orb no	none	none	mod perio,	?
129	NA	NONE	NONE	NA	none	NA
130	?	supra orb no	none	none	calc to CEJs	NA
131	NA	supra orb no	cribra?	NA	none	NA
132	?	supra orb no	none	none	none	NA
133	NA	supra orb fo	none	NA	almost ende	NA
134	?	supra orb fo	none	none	NP	?
135	phase 3 or 4	supra orb fo	none	none	mild to mod	?
136	?	supra orb no	none	Oa, to distal femoral cond	mild perio,	?
137	NA	NONE VISIBL	none	NA	peri ap gran	NA
138	NA	supra orb fo	none	NA	mild perio	NA
139	?	supra orb fo	none	none	mild perio	NA
140	?	supra orb no	poss lesion on occip?	none	am loss, larg	NA
141	NA	supra orb fo	none	NA	NP	NA
142	NA	L supra orb f	none	NA	am loss, LEH	NA
143	?	supra orn no	none	none	NP	?
144	NA	supra orb fo	none	NA	NP	NA
145	?	Supra orb fo	none	O.A. to distal femoral cond	mod perio	?
146	NA	supra orb fo	none	NA	mod perio	NA
147	NA	NP	NONE	NA	NP	NA
148	NA	NP	none	NA	NP	NA
149	NA	supra orb no	none	NA	calc and res	NA
150	NA	supra orb fo	Dent internal craniur	NA	almost ende	NA
151	?	upra orb not	none	none	calc	NA
152	NA	NP	none	NA	NP	NA
153	NA	supra orb fo	none	NA	NP	NA
154	NA	supra orb no	none	NA	mod perio	NA
155	NA	supra orb no	none	NA	none	NA
156	NA	NONE	none	NA	calc and res	NA
157	NA	supra orb fo	small earhole L, nuch	NA	none	NA
158	NA	supra orb fo	cribra orb	NA	NP	NA
159	some epiphyses jus	double infra	cribra/scurvy, lines of	none	LEH	?
160	NA	Supra orb no	none	NA	peri ap gran	NA
161	NA	Supra orb no	none	NA	root gran, c	NA
162	phase 3 or 4	supra orb no	poss lesion at end of	O.A. TO L5 AND S1 SEE PH	am res ? LEH	?
163	NA	supra orb fo	poss inter cranial but	NA	LEH	NA
164	NA	supra orb an	none	NA	calc to CEJs	NA
165	NA	supra orb no	none	none	slight calc to	NA
166	NA	supr orb not	lytic/space occupy les	NA	crowding, c	NA
167	NA	supra orb no	none	NA	NP	NA
168	NA	supra orb fo	temporal vein line	NP	oss, abcess	strong clavi
169	NA	supra orb fo	none	greenwell mentions 'grow	am res, mod	NA
170	NA	supra orb fo	none	greenwell mentions urina	none	NA
171	auric surf@3 (30-34	supra orb no	none	none	LEH	?

## Appendix 16.2: Main inhumations spreadsheet

	K	L	M	N	O
115	NP	greenwell 195, none		no	
116	NP	flint knife, oval flint flake		no	possible - evidence of disturba
117	NP	greenwell 198, flint under knees		no	
118	bb 5'8	Greenwell pg 200 flint flake		no	
119	NP	Greenwell 200 quartite pebble, fl		no	
120	NP	Greenwell 206, bone gre-excavate		no	
121	NP	49? Assoc with two skulls		yeap	
122	NP	Greenwell 206, none?		no	
123	NP	Greenwell 207 bronze dagger		no	
124	NP	greenwell 210, bronze	none	no	
125	4'9-5'0	greenwell 211, pottery		no	
126	NP	greenwell 211, charcoal, scraper,		no	
127	NP	greenwell 214 - can't read		assoc with 2 adult males	
128	5'2	greenwell 215, greenw	card says F	no	
129	NP	greenwell 215, pottery, boar tusk		close to fingers and knees of	possibly disturbed or not all d
130	5'14-5'38	greenwell 215 none		in grave below 146 and 7	
131	NP	greenwell 217, antler hammer		no	disturbed, no mandib, elbow
132	4'9-5'0	greenwell 218 leaf shaped arrowh		no	disturbed
133	NP	greenwell 219, bone pin in front of		head laid on thighs of a male	no bones of body!
134	NP	greenwell 219 none		assoc with 151	only one femur and pelvis
135	bb 5'7	greenwell 226 flint knife, remains		no	removed and replaced? Sacru
136	5'4-5'49	greenwell 229 inf jet- 2 pieces		no	
137	NP	greenwell 230 none	long M sha	no	
138	NP	greenwell 232 bone pin, 4 flints		no	
139	5'6-5'83	greenwell 235 plough damaged			
140	5'2-5'4	greenwell 236 bronze awl and flint		no	
141	NP	greenwell 248 bone pin,		a few inches higher than 161 was the jaw of a child	
142	NP	greenwell 248 none		no	
143	NP	greenwell 248 none		no	
144	NP	greenwell 248 none		no	
145	5'9-10	greenwell 248 fv barb arrow		no	
146	NP	greenwell 250 none		no	legs facing right whilst body la
147	NP	Greenwell 255 drinking cup, 2 flint		in same grave pit as below?	
148	NP	greenwell 255, none		no	disturbed and relaid
149	NP	?	large copp	no	
150	NP	greenwell 555 flint	long barrow		
151	NP	greenwell 556 none	long barrow		
152	NP	greenwell 556 food vessel	long barrow	no	
153	NP	greenwell 270 fv		no	
154	NP	greenwell 273		with child against chest	
155	NP	greenwell 273 none		cremated bone	
156	NP	greenwell 273, cup	says F	no	
157	NP	greenwell 274, boars tusk pin, pig		no	
158	NP	greenwell 275 none		no	
159	5'08-5'1	greenwell 275 fv, flint scraper, bo		no	
160	NP	greenwell 276, half flint knife, scr		no	
161	NP	greenwell 277 flint scrapers		no	disturbed - head separate
162	5'3-5'38	greenwell 278 bone button, fv, pi		no	
163	NP	greenwell 280 none	huge M	no	
164	NP	no page	temporal indent line		
165	5'49-5'59	greenwell 301, flint scraper		no	
166	NP	greenwell 303 fv, flint scrapers		no	
167	NP	greenwell 304 food vessel and lor		no	
168	5'4-5'48	greenwell 308, none		no	
169	NP	greenwell 312, none		no	
170	NP	greenwell 313, bronze awl		no	
171	5'57- 5'7	greenwell 313 fv,		no	

Appendix 16.2: Main inhumations spreadsheet

	P	Q	R	S	T	U	V	W	X
115	yes					above nat surface			
116	yes								
117	yes					?			
118	yes					on surface			
119	yes					?			
120	yes					?			
121									
122	?					np			
123	yes					surface			
124	yes					surface			
125	yes					surface, centre			
126	yes					surface, centre			
127	yes								
128	yes					surf			
129	yes					surf			
130	yes					yes			
131	yes					surace centre			
132	yes					surface			
133	yes					?			
134	yes					?			
135	yes						yes - wooden surround but not lid		
136	yes					?			
137	yes					surface			
138	yes					surface			
139	yes					yes			
140	yes					on charcoal			
141	yes					yes			
142	yes					yes			
143	yes					surface			
144	yes					surface			
145	yes					in central p	between 2 willow planks		
146	yes					surface centre			
147	yes					yes			
148	yes					?			
149	yes					yes			
150	yes					?			
151	yes					?			
152	yes					just above natural surface			
153	yes					yes			
154	yes								
155	yes					surface			
156	yes					surface			
157	yes					yes			
158	yes					covered with chalk slabs			
159	yes					yes with flat pieces of chalk set around it			
160	yes					yes			
161	yes					yes			
162	yes					at base of central grave chalk slabs protecting			
163	yes					central			
164									
165	yes					in central h	lined wood grave		
166	yes					central hol	wood lined hollow		
167	yes					central	wood lined grave		
168	yes					?			
169	yes					at base of central grave surrounded by large			
170	yes					?			
171	yes					in central h	thin slabs of wood around body		

Appendix 16.2: Main inhumations spreadsheet

	Y	Z	AA	AB	AC	AD	AE	AF
115					yes	left	hands clasping each	e
116					np	np		
117					yes	left	hands to face	e
118					yes	right	hands to face	ne
119					yes	right	hands to face	?
120					yes	left	right hand on left arm	nw
121								
122					np			
123					yes	left	left hand to face, right	e
124					yes - extreme	left	hands to face	n
125					yes	left	right arm extended	e
126					yes	left	hands just above knees	n
127								
128					yes	left	arms para with thighs	n
129					yes	left	np	s
130					yes	right	hands to face	ws
131					yes	right	? Disturbed	e
132					yes	left	left hand to face, right	e
133					yes	right	np	w
134					yes	right	hands to face	ws
135	ded				yes	left	hands to face	se
136					yes	left	hands to face	ne
137					yes	left	r hand to face, l to knee	nw
138					yes	right	hands in front of stomach	wn
139					np			
140					yes	left	r hand accross neck, l	e
141					yes	right	right hand to face, left	e
142					yes	left	rv hand between face	e
143					yes	left	right hand to knees	e
144					yes	right	hands in front of knees	n
145					yes	right	r hand under head, l	w
146					yes	left	r hand under head, l	s
147					yes	right	hands to face	w
148					np			
149					yes	left	r hand on head, l to	e
150					yes	right	arms crossed over chest	w
151					yes	left	hands to face	n
152					yes	right	right hand to face, left	s
153					yes	np		
154					yes	left	arms crossed at chest	n
155					yes	right	hands to face	e
156					yes	left	hands to knees	e
157					yes	right	hands to face	s
158					yes	left	r hand at hips, l to	e
159					yes	right	hands to face	s
160					yes	left	arms crossed, hands	e
161		decayed wood- poss club			yes	right	np	n
162	g the head				yes	right	hands in front of chest	e
163					yes	left	hands to face	e
164								
165					yes	right	r hand to mid thigh, l	s
166				yes			r hand on stomach, l	s
167					yes	right	hands in front of chest	ws
168					yes	left	hands to face	n
169	flint blocks				yes	left	hands to face	e
170					yes	right	r hand upper things, l	n
171					yes	left	hands to face	w

Appendix 16.2: Main inhumations spreadsheet

	AG	AH	AI	AJ	AK	AL
115						
116	knife at knees, flake at head					
117	flint	under knees				
118	flake in hands					
119	quartz and	quartz-back at head; f	both worn			
120	bone pin, c	at crown of head				charcoal aro
121						
122						
123	bronze dag	point touching chin	used- long-time and whetting - shar			
124	bronze arm	on wrist of	eyes	?	un	charcoal
125						
126	antler	?		smooth at point from use		
127						
128						
129	boar tusk	on r femur	split and sh	worn	un	
130						
131	antler ham	almost tou	complete	worn- cons	un	
132	leaf arrow	under the hips				thought by g
133	pin in front of face					
134						
135	flint knife	infilling of	eyes			
136						
137						
138	bone pin, f	pin back of hips, laid on flints, other flint beneath knees				
139						
140						
141	bone pin	behind head				chalk layer 14
142						
143	none					
144						
145	pot, flint	fv in front of face, arrow between it and face				greenwell su
146						
147	pot and sc	pot behind head, two scrapers in front of chest, another at				
148	none					
149	bronze knif	knife in fro	complete	?		
150	oval flint sc	in front of face, touching teeth				
151						
152	food vesse	in front of face				in a small rou
153	fv	at head				
154	none					child betwee
155						
156						
157	boar tusks	fastening at chest. Oth	worn	un		
158						
159	fv, flint scra	fv in front o?				also bones of
160	flint	near head	flint knife- half			turfs had bee
161	flints	2 scrapers touching teeth, 3rd under head				
162	bone butto	button - under neck, fv behind shoulders, pig feet near fee				
163						burnt earth a
164						
165	oval flint sc	in front of chest				
166	fv, 2 flint sc	fv right of head, scrapers underfv				
167	fv, flint flak	fv on right hand, flake at crown of head				only burial in
168						
169						
170	awl	left temporal				
171	fv	in front of face				

Appendix 16.2: Main inhumations spreadsheet

	A	B	C	D
172	E11.3 194 Goodmanham (104)	M	M	45-55
173	E11.3 195 Goodmanham (105)	M	F? Sciatic notch	30-35
174	E11.3 196 Goodmanham (110)	M	NA	35-40
175	E11.3 198 Goodmanham 111	F?	NA	YA
176	E11.3 199 Goodmanham (111)	F?	NA	30-35
177	E11.3 200 Goodmanham (111)	F	NA	18-22
178	E11.3 201 Goodmanham (111)	F	NA	35-40
179	E11.3 202 Goodmanham (112)	F	NA	35-40
180	E11.3 203 Goodmanham (113)	? Mandible	NA	NP
181	E11.3 204 Goodmanham (113)	F	NA	40-45
182	E11.3 205 Goodmanham (113)	M	NA	OA
183	E11.3 206 Goodmanham (113)	F	NA	YA
184	E11.3 208 Goodmanham (113)	M	NA	OA
185	E11.3 209 Goodmanham (114)	juv	NA	juv
186	E11.3 210 Goodmanham (115)	f	NA	YA
187	E11.3 211 Goodmanham (117)	F	NA	MA?
188	E11.3 212 Goodmanham (117)	M	NA	20-24
189	E11.3 213 Goodmanham (118)	adolesc	NA	YA
190	E11.3 214 Goodmanham (120)	M	NP	40-50
191	E11.3 215 Goodmanham (121)	M?	NA	NP
192	E11.3 216 Goodmanham (121)	juv	NA	YA
193	E11.3 217 Goodmanham (121)	M	NA	20-24
194	E11.3 218 Londesborough (123)	M	NA	YA
195	E11.4 233 Crosby Garrett, Westmorland	F	NA	MA
196	E11.4 235 Moorhouse, Penrith	F	NA	18-22
197	E11.4 239 Old byland yorks	M?	NA	20-24
198	E11.4 140 Cist burial malton yorks	M	NA	18-22
199	E11.4 241 Bridlington yorks	F?	NA	Y TO MA
200	E11.4 Langton, gainford yorks	?	NA	OA
201	E11.4 243 Long how, grindlow eyam d	M	NA	np
202	RCS 4.03.4 North Deighton (green how)	F	NA	45-55
203	Aglionby 56-1938	NP	NP	NP
204	Aglionby 15-1927	M?	M??	25-35
205	Shield knowe 1	NP	NP	NP
206	Shield knowe 2	NP	NP	NP

Appendix 16.2: Main inhumations spreadsheet

	E	F	G	H	I	J
172	np	Supra orb fo	none	np	none	NA
173	L @2 (25-28); R 3 (3	supra orb fo	pit at end of meninge	np	LEH	?
174	NA	supra orb fo	none	NA	no 3rd Ms,	NA
175	NA	supra orb no	none	NA	NP	NA
176	NA	supra orb fo	poss cribra but V/E of	NA	LEH	NA
177	NA	supra orb fo	none	NA	LEH	NA
178	NA	supra orb no	none	NA	none	NA
179	NA	supra orb no	none	NA	am res, LEH	NA
180	NA	NONE SEEN	none	NA	mild perio,	NA
181	NA	shovel lat 12s	none	NA	LEH	NA
182	NA	NONE SEEN	none	NA	NP	NA
183	NA	supra orb no	none	none	NP	NA
184	NA	supra orb fo	none	NA	NP	NA
185	NA	supra orb fo	none	NA	NP	NA
186	NA	none visible	none	NA	NP	NA
187	NA	supra orb fo	none	NA	NP	NA
188	NA	supra orb fo	none	NA	LEH	NA
189	NA	supra orbital	none	NA	NP	NA
190	np	supra or fora	none	none	mod perio,	muscle mar
191	NA	supra orb fo	thick crania 6mm	NA	am loss of n	NA
192	NA	supr orb fora	lines on temporal	NA	NP	NA
193	NA	supra orb no	none	NA	none	NA
194	NA	supr orb not	none	NA	NP	NA
195	NA	supra orb fo	none	NA	mand has re	NA
196	NA	supra orb fo	poss cribra? Occip co	NA	?	NA
197	NA	supra orb fo	none	NA	IEH	NA
198	NA	supra orb fo	none	NA	am res, cari	NA
199	NA	supra orb fo	none	NA	NP	NA
200	NA	NP	none	NA	NP	NA
201	NA	supra orb no	none	NA	NP	NA
202	NA	supra orb fo	none	NA	NP	NA
203	NP	NP	NP	NP	NP	NP
204	NP	condylar can	none	NP	LEH on R M	pronounced
205	NP	NP	NP	NP	NP	NP
206	NP	NP	NP	NP	NP	NP

Appendix 16.2: Main inhumations spreadsheet

	K	L	M	N	O
172	5'7-5'87	greenwell 315 none		no	
173	5'3-5'38	greenwell 315 none		no	
174	NP	greenwell 318 flint scraper		no	
175	NP	?			
176	NP	greenwell 319 none		no	
177	NP	greenwell 319 fv, scraper		no	
178	NP	greenwell 320 flint block, fv		no	
179	NP	greenwell 321, bronzeawl, scraper		no	
180	NP	greenwell 321, vessel and flint fla		no	
181	NP	greenwell 322 fv		no	
182	NP	greenwell 322 none		no but others in grave pit	
183	NP	greenwell 323 none		no but others in grave pit	disturbed skull 7 feet from bo
184	NP	greenwell 323 none		no	
185	NP	Greenwell 324, fv		no	
186	NP	Greenwell 324 fv, bronze awl, bro		no	
187	NP	greenwell 326 perf pig tooth		no	
188	NP	greenwell 327none		no	
189	NP	Greenwell 328 fv, ochre		no	
190	5'67-5'82	greenwell 329 none		assoc with cremated bone	
191	NP	Greenwell 330 pot	greenwell	parts of childs skull at back	
192	NP	greenwell 330, small pot		no	
193	NP	Greenwell 330 none		no	disturbed for central grave
194	NP	greenwell 332 none		no	
195	NP	?			
196	NP	F.V. Acc vess	TEMP LINE	no	
197	NP	np	thick skull	no	
198	NP	np	may not be	no	
199	NP	np	v small, thi	no	
200	NP	np		no	
201	NP	?		no	
202	NP	bone pin		2nd in grave 1	no
203	NP	?		np	
204	NP	?		np	
205	NP	?		np	
206	NP	?		np	

Appendix 16.2: Main inhumations spreadsheet

	P	Q	R	S	T	U	V	W	X
172	yes					at base of central grave			
173	yes					yes			
174	yes					?			
175									
176	yes					yes			
177	yes					?			
178	yes					surface			
179	yes					yes			
180	yes					surface			
181	yes					centre			
182	yes					yes at east	remains of wood underneath the		
183	yes					yes at south of pit			
184	yes					yes	wood lined		
185	yes					yes			
186	yes					surface			
187	yes					yes	in rough cist of chalk and flint blo		
188	yes					at base of central grave			
189	yes					centre	wood lined		
190	yes					yes			
191	yes					yes			
192	yes					surface			
193	yes					disturbed			
194	yes						wood lined grave		
195									
196									
197									
198									
199									
200									
201									
202	yes					pit 1			
203	?		poss						
204	?		poss						
205									
206									

Appendix 16.2: Main inhumations spreadsheet

	Y	Z	AA	AB	AC	AD	AE	AF
172					yes	right	r hand between left thigh and leg, left acr	
173					yes	left	hands to face	s by w
174					yes	left	hands in front of che	e by s
175								
176					yes	left	r hand to face, l exte	ne by n
177					yes	left	l hand under head, r	ne ny e
178					yes	left	arms crossed on stor	ne
179					yes	right	hands to face	sw by s
180					yes	left	hands to face	ne
181					yes	right	hands crossed on sto	ene
182	body				yes	left	hands to face	ne by n
183					np			
184					yes	left	r hand on stomach	se by s
185					yes	right	hands to face	nw by w
186					yes	left	arms crossed on hips	e by s
187	cks				yes	right	r hand under head, l	nw by w
188					yes	left	hands to face	sse
189					yes	right	hands to face	se by e
190					yes	left	hands to face	ene
191					np	np	np	e
192					np	np	np	e
193					np			
194					yes	right	hands under hips	sw by s
195								
196								
197								
198								
199								
200								
201								
202					yes	right	right hand to face let	sw
203								
204								
205								
206								

Appendix 16.2: Main inhumations spreadsheet

	AG	AH	AI	AJ	AK	AL
172	bss r elbow					
173						
174	flint scraper nr face					
175						
176						
177	fv and flint	fv in front of face, scraper nr neck				
178	flint block	flint in front of face, fv squashed beneath, pot				this and prev
179	awl, flint sq	awl behind head, scraper behind head				greenwell thi
180	vessel, flint	vessel behind shoulders, flake under it				
181	fv 'of pecu	behind head				
182	none					
183	none					
184	none					
185	fv	in front of face				
186	fv, bronze	fv in front of face, awl behind head, 1 earring at R ear othe				
187	perf pig to	at neck		yes rubbed smooth		
188						
189	fv, ochre	fv behind and at crown of head				
190						
191	pot under hips					
192	pot	below head				
193						
194						
195						
196						
197						
198						
199						
200						
201						
202	bone pin	behind head				
203						
204						
205						
206						

### Appendix 16.2.1: Inhumations MNI

Overall sex	Number	Percent
Male	94	60%
Female	48	31%
NP	13	8%
Indeterminate	1	1%

Age	Number of females	Percent
16-25	12	25%
25-30	2	4%
30-40	14	29%
40-50	12	25%
50+	8	17%
total	48	

Age	Number of males	Percent
16-25	20	21%
25-30	17	18%
30-40	23	25%
40-50	23	24%
50+	11	12%
total	94	

## Appendix 16.2.2: Stature measurements and results

<i>femur</i>			
Site/burial/sex	Cowlam 143 F	Cowlam 146 M?	Cowlam 150 F
Left	39.9		
Right		41.7	40.1
<i>Trotter</i>	152.653 ± 3.72 cm	160.656 ± 3.27 cm	153.147 ± 3.72 cm
<i>Pearson</i>	150.4895 ± 3.3 cm	159.702 ± 3.3 cm	150.8785 ± 3.3 cm
In feet	5'0 - 5'1	5.4	5'0 - 5'1

Rudstone 154 M?	Rudstone 158 M	Rudstone 159 F?	Rudstone 165 M
44.6	48.9	45.1	47.9
167.558 ± 3.27 cm	177.792 ± 3.27 cm	165.497 ± 3.72cm	175.412 ± 3.27cm
165.154 ± 3.3 cm	173.238 ± 3.3 cm	160.6035 ± 3.3 cm	171.358 ± 3.3cm
5'6 - 5'7	5'9- 5'11	5'4 - 5'6	5'9- 5'10

Folkton 180 F	Folkton 183 M?	Goodmanham 187 M	Goodmanham 190 M
42.2	43.1	45.8	44.4
158.334 ± 3.72 cm	163.988 ± 3.27 cm	170.414 ± 3.27 cm	167.082 ± 3.27 cm
154.963 ± 3.3 cm	162.334 ± 3.3 cm	167.41 ± 3.3 cm	164.778 ± 3.3 cm
5'2 - 5'4	5'5 - 5'6	5'7 - 5'8	5'6 - 5'7

Goodmanham 194 M	Goodmanham 193 M	Goodmanham 195 M	Goodmanham 214 M
49.4	47.2	43.1	48.8
178.982 ± 3.27 cm	173.746 ± 3.27 cm	163.988 ± 3.27 cm	177.554 ± 3.27 cm
174.178 ± 3.3 cm	170.042 ± 3.3 cm	162.334 ± 3.3 cm	173.05 ± 3.3 cm
5'10 - 5'12	5'8 - 5'9	5'5 - 5'6	5'9 - 5'11

<b>Hindlow 1 M</b>	<b>Hindlow 3 M?</b>	<b>Hindlow 2 M</b>	<b>Megdale M</b>
54.1	48.2	47.5	44.6
190.168 ± 3.27 cm	176.126 ± 3.27	174.46 ± 3.27 cm	167.558 ± 3.27 cm
183.014 ± 3.3 cm	171.922 ± 3.3 cm	170.606 ± 3.3 cm	165.154 ± 3.3 cm
6'1 - 6'4	5'9 - 5'10	5'8 - 5'10	5'6 - 5'7

<b>Green Howe 7 M</b>	<b>Cowlam 1 F</b>	<b>Folkton F</b>
46.1	45.6	41.6
171.128 ± 3.27 cm	166.732 ± 3.72 cm	156.852 ± 3.72 cm
167.974 ± 3.3 cm	161.576 ± 3.3 cm	153.796 ± 3.3 cm
5'7 - 5'8	5'5 - 5'7	5'1 - 5'3

All	Height	cm
cowlam 143	5'0 - 5'1	151
cowlam 150	5'0 - 5'1	151.5
folkton 180	5'2 - 5'4	156
rudstone 159	5'4 - 5'6	163
cowlam	5'5 - 5'7	162.5
folkton	5'1 - 5'3	154.5
cowlam 146	5'4	160
rudstone 154	5'6 - 5'7	166
folkton 183	5'5 - 5'6	163
rudstone 158	5'9 - 5'11	175
rudstone 165	5'9 - 5'10	173
goodmanham 187	5'7 - 5'8	168.5
goodmanham 190	5'6 - 5'7	165.5
goodmanham 194	5'10 - 5'12	176.5
goodmanham 193	5'8 - 5'9	171.5
goodmanham 195	5'5 - 5'6	162.8
goodmanham 214	5'9 - 5'11	174.5
hindlow 2	5'8 - 5'10	172.5
hindlow 1	6.1 - 6.4	183
hindlow 3	5'9 - 5'10	173.5
megdale	5'6 - 5'7	166.5
green howe 7	5'7 - 5'8	169
average	5'7	166.3318182
minimum	5'0	151
maximum	6'1	183
range	5'0-6'1	151-183

**Appendix 16.2.3: Correlation of Inhumations sex/age with objects**

MALES	F.V. Or pot	Bone pin	Bronze dagger	Bronze awl	Flint knife	Flint scraper	Axe
16-25	2	1			1	1	1
25-30	3		1				
30-40	5	2				1	
40-50	3				4		
50+	2		2		1	3	1
Totals	15	3	3	0	6	5	2
FEMALES	F.V. Or pot	Bone pin	Bronze dagger	Bronze awl	Flint knife	Flint scraper	Axe
16-25	5			1		1	
25-30				1		1	
30-40	2	1		2		1	
40-50	5					1	
50+	3	3		2	1		
Totals	15	4	0	6	1	4	0

MALES	Other flints	Animal parts	Beads/pendants /buttons	Quartz	Bronze ring or bracelet	Arrowheads
16-25	1	1				1
25-30	2		4	1	1	
30-40	3			1		
40-50	2	1				
50+	2	1	1			1
Totals	10	3	5	2	1	2
FEMALES	Other flints	Animal parts	Beads/pendants /buttons	Quartz	Bronze ring or bracelet or earrings	Arrowheads
16-25		1	1			
25-30	1			1		
30-40			1		1	
40-50	1	3			1	
50+	3	1	1			1
Totals	5	5	3	1	2	1

MALES	Totals	Total individuals
16-25	9	20
25-30	11	17
30-40	11	23
40-50	10	23
50+	14	11
Totals	57	
FEMALES	Totals	Total individuals
16-25	8	12
25-30	4	2
30-40	3	14
40-50	11	12
50+	11	8
Totals	47	

#### Appendix 16.2.4: Inhumations side

Burial & site	Sex	Age	Side	Position of head
Green Howe 1	M	18-28	np	
Green Howe 14	F	30- 40		
Green Howe 3	NA	3-5 Years	right	sw
Green Howe 4	NA	NP		
Green Howe 6	NA	3 -6 months		
Green Howe 7	M?	24-30	left	e
Green Howe 13	M	18-22	?	
Green Howe 8	M?	15-17		head to w, but face turned s
Green Howe 9	NA	4-5 years	left	ne
Green Howe 12	M	25-35	np	
Haddon Grove	F?	20-30		
Grange Mill	NA	juv		
Grange Mill	M	NP		
Folkton sharp howes 2	NA	NP		
Folkton sharp howes 2	NP	NP		
Folkton sharp howes 2	NP	adult		
Cowlam 3, 1	F?	40-50		
Cowlam 3	M?	NP		
Cowlam 3	NA	Adolescent		
Cowlam 3	F?	40s		
Cowlam 3	F	40-50		
Cowlam 3	M?	25-30		
Cowlam 3	F?	MA		
Cowlam 3	NA	infant		
Cowlam 3	NA	infant		
Gautriss	M	MA	np	
Gautriss	M	MA	np	
Gautriss	NA	Neonate		
Siggett barrow	M	20-30	left	nw
Siggett barrow	NA	4.5-5.5		
Siggett barrow	NA	18 month- 3		
Siggett barrow	NA	18 month - 3		
Hindlow Bateman	NP	Adult		
Hindlow 5	NP	NP		
Hindlow 6	NP	45+		
Hindlow 7	NP	NP		
Hindlow Bateman F	NP	MA		
Hindlow Bateman	NA	NP		
Hindlow Bateman	NA	NP		

Hindlow scatter 2	NA	NP		
Hindlow scatter 2	NP	Adolescent		
Hindlow scatter 1	NA	NP		
Hindlow scatter 1	NA	NP		
Hindlow scatter 1 juv	NA	2-3 years		
Hindlow 'old man'	M	30-40		
Hindlow 8	M	17-25		
Hindlow 1	M	20-30	left	
Hindlow 1A	NA	c.10		
Hindlow 3	M	20-25	right	
Hindlow 2	M	40-50		
Hindlow 2A	NA	neonate		
Hindlow 4	?	35-50	left	
Megdale	M	18-22		
Megdale	M	35-50		
Megdale	F?	24-35		
Megdale	M	30-40		
Liff's Low 1	M	20-30		
Liff's Low F	F	c.20		
Liff's Low F (2)	F	adolesc/YA		
Liff's Low	NP	neonate		
Thirkel Low	NP	NP		
Stoop high edge Barrow - interment A	M	20-30	left	s
Arbor Low	M	MA		
Loose Howe	NP	adult	np	all orientated wsw to ene
4.039 Alport, Derbs	M??	YA?		
4.0457 YORKS	M	NP		
4.0451 (Folkton)	M	16-20; 17-25		
4.0452 folkton	M	20-30		
4.0454 folkton	M?	35-45		
4.0455 folkton	M?	M2=45+		
4.0456 folkton	M?	18-22		
E11.3 102 sherburn 9	M?	MtoOA	right	w
E11.3 103 Sherburn 9?	F	16-20	right	e
E11.3 104 Sherburn (13)	F	12 to 18	right	west
E11.3 105 sherburn (13)	M	20-30	left	ssw
E11.3 106 Ganton 21?	NP	c. 9 to 12	left	e
E11.3 107 ganton 21?	NP	c. 6 to 9	left	nne
E11.3 108 Potter brampton wold ganton	M?	20-30	left	e
E11.3 109 Ganton (21)	F	40-55+	right	sw
E11.3 111 Potter brampton	M	18-22	left	e

(21)				
E11.3 112 ganton (21)	M??	20-24	right	nw
E11.3 113 Ganton	F?	YA-MA?		
E11.3 114 Ganton (22)	M	45-55	right	s by e
E11.3 89 castle carrock (163)	M	35-40	left	ne
E11.3 90 ashfell, kirkby stephen (167)	M	35-45	right	s
E11.3 91 welburn	M??	YmidA-MA		
E11.3 93 langton wold (2)	M	25-35	left	nnw
E11.3 94 langton wold (2)	?	40-50+	right	sw
E11.3 95 langton wold (2)	F?	OA	left	little s of e - upright stone either side
E11.3 96 Hesleton wold hall grave (4)	M	24-30	left	ese
E 11.3 97 hesleton wold	M?	20-30		
E11.3 98Sherburn wold (7)	F	YA-MA	left	
11.3 99 sherburn	F	35-45		
E11.3 100 Sherburn wold	F?	MA?		
E11.3 101 Sherburn	M?	MA?		
E11.3 115 Ganton (22)	F	YA-MA	left	e
E11.3 116 GANTON (27)	M?	30-35	right	e
E11.3 117 Ganton (27)	M?	24-30	right	not mentioned
E11.3 118 ganton (28)	M	35-45	right	nw
E11.3 119 Ganton (28)	M	40-45	left	np
E11.3 120 Willerby wold (33)	M?	30-40	left	se
E11.3 121 WILLERBY WOLD (33)	F	35-45	right	wnw
E11.3 122 Willerby wld 34	F?	45-55	right	s
E11.3 123 willreby wold (34)	M	20-24	left	nw
E11.3 124 willerby wold (38)	M?	OA		
E11.3 125 Helperthorpe (41)	M	35-45	left	n
E11.3 126 Weaverthorpe	M?	YA TO MA		
E11.3 127 Weaverthorpe	M	40-50		
E11.3 128 Weaverthorpe	M?	30-35	right	w
E11.3 129 Weaverthorpe (43)	M	40-55	left	e
E11.3 130 weaverthorpe (43)	F	MA	right	e
E11.3 131 weaverthorpe 43	?NP	9 to 11		
E11.3 132 Weaverthorpe (43)	M	35-40	left	e
E11.3 133 Weaverthorpe	M	OA	np	
E11.3 134 weaverthorpe (44)	M	45-55	left	e
E11.3 135 weaverthorpe (46)	M	15-18	right	ne
E11.3 136 Weaverthorpe (46)	F?	24-30	right	?
E11.3 138 weaverthorpe (49)	M	35-40	left	nw
E 11.3 139 Weaverthorpe 49	?NP	ADOL/YA		

E11.3 140 Helperthorpe (49)	?	45-55		
E11.3 141 Helperthorpe (49)	M	50+	left	e
E11.3 142 Cowlam (51) /2	F?	40-50	left	n
E11.3 143 Cowlam (52) 3	F	35-40	left	ne
E11.3 144 Cowlam (53)/8	F	40-50	left	n
E11.3 145 Cowlam 56	?	JUV?		
E11.3 146 Cowlam (57)/7	M	40-50	left	n
E11.3 147 Cowlam (57)	F	12 to 18	left	s
E11.3 148 Cowlam (57)	?	35-40	right	wsw
E11.3 149 Cowlam (57)	M	20-24	right	e
E11.3 150 Cowlam (57)	F	45-55+	left	e
E11.3 151 Cowlam (57)	F	45-55	right	w
E11.3 152 Cowlam (57)	M?	MA	right	wsw
e11.3 153 Cowlam (59)	M	40-50	left	se
E11.3 154 Rudstone (61)	M?	20-30	left	ne
E11.3 155 Rudstone (61)	M	40-50	left	nw
E11.3 157 Rudstone (61)	F	45-55	right	wnw
E11.3 158 Rudstone	M	30-35		
E11.3 159 Rudstone (62)	F??	45-55	left	ene
E11.3 161 Rudstone	F	MA	right	ne by e
E11.3 162 Rudstone (63)	F??	40-50	left	ese
E11.3 163 Rudstone 63	M??	OA	left	se by s
E11.3 164 Rudstone 63	M?	OA	right	nnw
E11.3 165 Rudstone (63)	M	45-55	right	w
E11.3 166 Rudstone (63)	F?	35-40	left	s by e
E11.3 167 Rudstone (66)	NP	OA	right	w
E11.3 168 Rudstone (66)	F?	YA TO MA		
E11.3 169 Rudstone (68)	M	45-55	left	ne by e
E11.3 170 Rudstone (234)	F	OA	right	w
E11.3 171 Rudstone (234)	F?	45-55	left	n by w
E11.3 172 Rudstone	f??	ADOL/YA	right	w by s
E11.3 173 Flixton (elf howe)	M	MA	np	
E11.3 175 Flixton, folkton (70)	M	35-40	left	n by w
E11.3 176 Flixton (70)	? Adolesc	16-20	right	e
E11.3 177 flixton/folkton (70)	?	45-55	left	ese
E11.3 178 Flixton/folkton (70)	M	16-20	right	sse
e11.3 179 Flixton/folkton (71)	Adolesc	ADOLESC	left	e
E11.3 180 Flixton/folkton (71)	F	16-20	right	s
e11.3 181 Flixton, folkton (71)	M	45-55	left	ne by e
E11.3 182 Flixton, folkton (71)	M??/OLD F?	45-55	right	n

E11.3 183 Flixton,folkton (71)	M?	45-55	right	ne by e
e11.3 184 Cherry burton (72)	M	35-40	left	se
E11.3 186 Goodmanham	M	40-45		
E11.3 187 Goodmanham (92)	M	18-22	right	w by s
E11.3 188 Goodmanham (94)	M	45-55		w by s
E11.3 189 Goodmanham (97)	F?	MA TO OA	right	wsw
E11.3 190 Goodmanham (99)	M	18-22	left	n
E11.3 191 Goddmanham (101)	M	35-40	left	se
E11.3 192 Goodmanham (103)	F?	35-40	right	ne by n
E11.3 193 Goodmanham (103)	M	30-35	left	w
E11.3 194 Goodmanham (104)	M	45-55	right	
E11.3 195 Goodmanham (105)	M	30-35	left	s by w
E11.3 196 Goodmanham (110)	M	35-40	left	e by s
E11.3 198 Goodmanham	F?	YA		
E11.3 199 Goodmanham (111)	F?	30-35	left	ne by n
E11.3 200 Goodmanham (111)	F	18-22	left	ne ny e
E11.3 201 Goodmanham (111)	F	35-40	left	ne
E11.3 202 Goodmanham (112)	F	35-40	right	sw by s
E11.3 203 Goodmanham (113)	? Mandible =F?	NP	left	ne
E11.3 204 Goodmanham (113)	F	40-45	right	ene
E11.3 205 Goodmanham (113)	M	OA	left	ne by n
E11.3 206 Goodmanham (113)	F	YA		
E11.3 208 Goodmanham (113)	M	OA	left	se by s
E11.3 209 Goodmanham (114)	juv	YA	right	nw by w
E11.3 210 Goodmanham (115)	f	YA	left	e by s
E11.3 211 Goodmanham (117)	F	MA?	right	nw by w
E11.3 212 Goodmanham (117)	M	20-24	left	sse
E11.3 213 Goodmanham (118)	adolesc	YA	right	se by e
E11.3 214 Goodmanham	M	40-50	left	ene

(120)				
E11.3 215 Goodmanham (121)	M?	NP	np	e
E11.3 216 Goodmanham (121)	juv	YA	np	e
E11.3 217 Goodmanham (121)	M	20-24		
E11.3 218 Londesborough (123)	M	YA	right	sw by s
E11.4 233 Crosby Garrett, Westmorland	F	MA		
E11.4 235 Moorhouse, Penrith	F	18-22		
E11.4 239 Old byland yorks	M?	20-24		
E11.4 140 Cist burial malton yorks	M	18-22		
E11.4 241 Bridlington yorks	F?	Y TO MA		
E11.4 Langton, gainford yorks	?	OA		
E11.4 243 Long how, grindlow eyam derbs	M	np		
RCS 4.03.4 North Deighton (green how 2)	F	45-55	right	sw
Aglionby 56-1938	NP	NP		
Aglionby 15-1927	M?	25-35		
Shield knowe 1	NP	NP		
Shield knowe 2	NP	NP		

Appendix 16.3: Main cremations spreadsheet

	A	B	C
3	<b>site</b>	<b>site type</b>	<b>COUNTY</b>
4	aglionby 25-1926.3	flat cemetery	cumbria
5	aglionby 25-1926.2		cumbria
6	aglionby 15-1927.1		cumbria
7	aglionby 15-1927.2		cumbria
8	aglionby 39-1983.1		cumbria
9	aglionby 39-1983.2		cumbria
10	aglionby 39-1983.3		cumbria
11	aglionby 15-1927.3		cumbria
12	how hill thursby	barrow	cumbria
13	greystoke 1992-46-7	barrow	cumbria
14	greystoke 1992-46-10		cumbria
15	greystoke 1992-48.8		cumbria
16	carrock fell	barrow	cumbria
17	kirkoswald	barrow	cumbria
18	holmrook	barrow	cumbria
19	shieldknowe	barrow	cumbria
20	broomrigg crem 1	barrow	cumbria
21	broomrigg crem 4		cumbria
22	broomrigg crem 3		cumbria
23	broomrigg crem 7		cumbria
24	broomrigg crem 2		cumbria
25	green low	barrow	derbyshire
26	hindlow SE quad	barrow	derbyshire
27	hindlow bateman dist		derbyshire
28	hindlow main crem		derbyshire
29	shuttleworth primary	cairn	lancashire
30	shuttleworth pit satellite		lancashire
31	shuttleworth scattered		lancashire
32	whitelow crem 300 (L?)	cairn	lancashire
33	whitelow sec F		lancashire
34	hades hill	cairn	lancashire
35	whitelow sec M		lancashire
36	whitelow sec C		lancashire
37	whitelow sec H		lancashire
38	whitelow sec A		lancashire
39	whitelow scattered (destroyed)		lancashire
40	whitelow sec K		lancashire
41	whitelow sec J		lancashire

Appendix 16.3: Main cremations spreadsheet

	A	B	C
42	whitelow sec D		lancashire
43	whitelow sec E		lancashire
44	<u>whitelow sec G</u>		<u>lancashire</u>
45	whitelow primary		lancashire
46	green howe crem (5)	barrow	yorkshire
47	green howe crem (10)		yorkshire
48	green howe crem (11)		yorkshire
49	castleton cairn	cairn	derbyshire
50	macclesfield (MM)		cheshire
51	cowlam crem 1	barrow	yorkshire
52	cowlam crem 2		yorkshire
53	cowlam crem 3		yorkshire
54	loose howe	barrow	yorkshire
55	cold eaton		derbyshire
56	pockley barrow crem	barrow	yorkshire
57	pockley crem (4)		yorkshire
58	herd howe		yorkshire
59	ashford (21a)		derbyshire
60	ashford (23a)		derbyshire
61	noon hill	cairn	lancashire
62	bearhurst		cheshire
63	beech hall		cheshire
64	bell farm		cheshire
65	betchton		cheshire
66	cleulow cross	cairn	cheshire
67	gallowsclough	barrow	cheshire
68	hounslow		cheshire
69	kelsall		cheshire
70	Kirk Ireton		derbyshire
71	swarkeston (1)		derbyshire
72	stanton moor 1		derbyshire
73	stanton moor 2		derbyshire
74	swarkeston 31 (a)		derbyshire
75	swarkeston 31 (e)		derbyshire
76	swarkeston 3		derbyshire
77	swarkeston 31 (c)		derbyshire
78	swarkeston 31 (d)		derbyshire
79	swarkeston 31 (b)		derbyshire
80	woodhouse end urned crem 1	barrow	cheshire

Appendix 16.3: Main cremations spreadsheet

	A	B	C
81	woodhouse end urned crem 3		cheshire
82	woodhouse end un-urned crem 1		cheshire
83	woodhouse end urned crem 2		cheshire
84	Mosley height urned C	cairn	lancashire
85	Mosley height Un urned D		lancashire
86	Mosley height urned A		lancashire
87	church lawton north F18	barrow	cheshire
88	church lawton north F20		cheshire
89	<u>church lawton north F9</u>		<u>cheshire</u>
90	church lawton north F2		cheshire
91	church lawton F35		cheshire
92	church lawton F23		cheshire
93	church lawton F19		cheshire
94	Church lawton F27		cheshire
95	church lawton F33		cheshire
96	church lawton F28		cheshire
97	church lawton F24		cheshire
98	church lawton F14		cheshire
99	church lawton F5		cheshire
100	church lawton F3		cheshire
101	Church lawton F7		cheshire
102	church lawton F1		cheshire
103	church lawton F10		cheshire
104	church lawton F6		cheshire
105	church lawton F34		cheshire
106	Brackenber <13>	?	cumbria
107	Brackenber <11>		cumbria
108	Brackenber <5>		cumbria
109	Brackenber <6>		cumbria
110	Brackenber <12>		cumbria
111	Brackenber <8>		cumbria
112	Brackenber <10>		cumbria
113	Bleasdale	?	Lancashire
114	Bleasdale 2		lancashire

Appendix 16.3: Main cremations spreadsheet

	D	E	F
3	<b>TOTAL</b>	<b>Total identified</b>	<b>% completeness^</b>
4	1512	702	92.9
5	14	5	0.86
6	1158	149	71.21
7	1019	635	62.66
8	914	84	56.21
9	530	383	32.59
10	337	47	20.7
11	131	108	8.05
12	1816	1440	111.68
13	1193	750	73.37
14	11	11	0.67
15	7	7	0.43
16	623	394	38.31
17	74	65	4.55
18	1159	1088	71.2
19	128	119	7.87
20	289	258	17.77
21	299	289	18.38
22	184	174	11.1
23	33	28	2.02
24	266	259	16.3
25	569	374	34.9
26	74	24	4.55
27	36	35.5	2.21
28	677.5	379.5	41.6
29	149	87	9.16
30	114	55	7.01
31	411	210	25.2
32	454	358	27.9
33	1237	376	76.07
34	275.5	219.5	16.94
35	224	75	13.77
36	1252	871	76.9
37	232	97	14.26
38	38	18	2.33
39	80	80	4.92
40	76	38	4.67
41	73	57	4.48

Appendix 16.3: Main cremations spreadsheet

	D	E	F
42	443	184	27.24
43	527	223	32.41
44	1404	1155	86.34
45	252	124	15.49
46	569.5	163.5	35.02
47	631	385	38.8
48	905	434	55.6
49	11	11	0.67
50	116	18	7.13
51	949	449	58.3
52	2955	1652	181.7
53	1313	485	80.7
54	53	18	3.2
55	362	132	22.2
56	914	344	56.2
57	16	0	0.94
58	67	14	4.12
59	300.5	149.5	18.4
60	232	126	14.2
61	201	157	12.3
62	681	322	41.8
63	410	284	25.2
64	165	84	10.1
65	181	131	11.1
66	551	295	33.8
67	1369	982	84.1
68	57	40	3.5
69	150	80	9.2
70	787.5	172.5	48.4
71	207	190	12.7
72	80	30	4.9
73	297	171	18.2
74	171	28	10.5
75	235	7	14.4
76	83	0	5.1
77	242	20.5	14.8
78	154	0	9.4
79	103.5	71.5	6.3
80	742	394	45.6

Appendix 16.3: Main cremations spreadsheet

	D	E	F
81	28	0	1.7
82	806	506	49.5
83	564	249	34.6
84	60	60	3.6
85	21	21	1.2
86	540	492	33.2
87	1098	628	67.5
88	1593	532	97.9
89	1960	926	120.5
90	1016	312	62.4
91	924.5	410.5	56.8
92	1904	1109	117
93	218.3	33.3	13.43
94	939	397	57.78
95	1377.5	595.5	84.76
96	107	22	6.58
97	1053.5	505.5	64.83
98	1363	327	83.81
99	20.5	17	1.26
100	42	16	2.58
101	315.3	39.3	19.4
102	247	55	15.2
103	0.4	0	0.02
104	53.3	13.3	3.28
105	2	0	0.12
106	1038.5	398.5	63.90%
107	27.5	5.5	1.69
108	1.2	0.2	na
109	33.8	2.8	na
110	120.9	22.9	7.38
111	73.3	31.3	4.5
112	407.1	135.1	25
113	1	0	
114	4	0	

Appendix 16.3: Main cremations spreadsheet

	G	H	I	J
3	<b>fractures</b>	<b>colour</b>	<b>MNI</b>	<b>SEX</b>
4	patina, transverse, lo	cream to pale brown	3	NP;NA;NA
5	?	cream to pale brown	2	NP
6	small frags, longintud	cream to pale brown	2	NP
7	transverse, longitudi	mid brown to light g	1	M???
8	transverse, longitudi	tan to mid brown	2	NP; NA
9	longitudinal, transve	pale brown to grey	1	M
10	transverse, longitudi	tan to brown	1	NP
11	curved, stepped, spli	pale grey to brown	2	NP; NA
12	transverse, linear, cu	pale brown, orange s	1	M?
13	longitunal, transvers	pale brown to tan	2	NP; NA
14	longintudinal, transv	pale brown to tan	1	NP
15	longitudinal, transve	pale brown to tan	1	NP
16	linear, transverse, cu	white - tan	3	F???: NA
17	linear, transverse, sp	tan - pale brown	1	F???
18	large pieces, transve	tan, grey, dark brown	2	F???: NA
19	linear, transverse, cu	white - tan	1	NP
20	patina, curved, spir	cream - tan	1	NA
21	longitudnial, transve	cream/white, pale gr	1	F???
22	split, linear, transver	tan to brown	1	M???
23	transverse, linear, cu	white - tan	1	NP
24	transverse, linear, cr	white to pale brown	1	M???
25	longitudinal, transve	tan - pale grey	1	F???
26	transverse, longitudi	cream, grey, brown	1	NP
27	transverse, longitudi	cream	1	M???
28	longitudinal, transve	all - white, grey, bro	1	F?
29		cream	1	NP
30		cream	1	NP
31	linear, transverse, ste	cream to pale brown	1	NP
32	transverse, linear, ste	white, pale brown, g	1	M?
33	linear, transverse	tan, w small am grey	1	NP
34		white-tan	1	NP
35	linear, transverse, ste	white	1	F??
36	linear, transverse, br	tan to pale brown	1	F?
37		white to grey	1	NP
38		white	1	NA
39		white to pale brown	1	NP
40		white to grey	1	NP
41		white to grey	1	NP

Appendix 16.3: Main cremations spreadsheet

	G	H	I	J
42		white to cream	1	NP
43		white to cream	1	F??
44		cream to pale brown	1	M?
45	linear, transverse, cu	white to tan	1	F?
46	linear, transverse, m	white to tan	1	NA
47	linear, transverse	grey blue-black	1	NP
48	linear, step, transver	cream and blue-grey	1	NP
49	transverse, longitudi	white - tan	1	NP
50	transverse, longitudi	tan - pale brown	2	F?; NA
51	step, transverse, line	tan - pale brown	1	NP
52	mosaic and root like	cream - grey/blue	2	F?; NP
53	step, transverse, line	cream	1	F?
54	linear, transverse	tan - brown	1	NP
55	linear, transverse, ste	white/tan - brown	1	F??
56	spiral, curved, linear,	white-tan	1	M?
57	NA	white	1	NP
58	linear, transverse, sp	white-blue	1	NP
59	linear, transverse, sp	cream to pale brown	1	NP
60	linear, transverse, cu	white-cream	1	F??
61	transverse. Linear, cu	white-pale brown	2	NP
62	transverse, linear	light brown	1	M?
63	patina, transverse, cu	white - pale brown	1	F??
64	linear, transverse, cu	white - pale brown	1	F???
65	linear, transverse, cu	cream to pale brown	1	M?
66	curved, linear	cream to pale brown	1	F
67	longitudinal, curved,	cream - light brown	2	NP
68	transverse	cream	1	NP
69	curved, transverse	cream to pale brown	1	NA
70	linear, transverse, ste	cream - blue/grey	1	NP
71	split, linear, transver	cream - blue/grey	1	NP
72	linear, transverse, ste	cream to tan	1	NP
73	linear, transverse, sp	cream	1	NP
74	linear, transverse, ste	white - cream	1	NP
75	NA	white-grey	1	NP
76	NA	white	1	NP
77	linear, transverse	white - tan	1	NP
78	NA	white - tan	1	NP
79	linear, transverse, br	white-grey	1	NP
80	transverse, linear	white-pale brown	2	F??; NA

Appendix 16.3: Main cremations spreadsheet

	G	H	I	J
81	NA	mid brown	1	NP
82	transverse, longitudinal	cream to pale brown	1	F???
83	transverse, patina, linear	cream to pale brown	1	NP
84	longitudinal, transverse	grey - pale brown	1	F???
85	crushed	pale brown-grey	1	NP
86	linear, transverse, curved	pale brown-grey	3	F???.NA;NA
87	curved, linear, step, linear	white-cream	1	M
88	linear, transverse, step	white-cream	1	F???
89	transverse, linear, step	tan-pale brown	1	M??
90	linear, transverse, step	cream-grey, pale brown	1	M
91	branched, linear, transverse	cream-tan	2	F??; NA
92	linear, transverse, step	cream-tan	2	M?; NP
93	linear, transverse, step	white-grey	1	NP
94	linear, transverse, step	tan-pale brown	1	np
95	branched, patina, linear	cream-pale brown	2	F??; NA
96	linear, transverse, step	tan-grey	1 OR 2	F??; NP
97	branched, mosaic, linear	tan-cream	2	NP;NA
98	transverse, step, linear	tan-pale brown	1	NP
99	linear, transverse	white-grey	1	np
100	linear, transverse	tan-pale brown	1	np
101	linear, transverse, step	cream-pale brown	1	np
102	linear, transverse, step	cream	1	np
103	NA	white	1	np
104	linear, transverse, mosaic	white-tan	1	np
105	NA	white	1	np
106	linear, curved, mosaic	cream-pale brown	1	F???
107	NA	white-tan	1	np
108	NA	white-tan	1	NA
109	transverse, linear	white-tan	1	NA
110	linear, transverse	white- pale brown	1	np
111	split, branched, linear	white-tan	1	M??
112	branched, V-shaped, linear	most brown, some white	1	F??
113			?	
114			?	

Appendix 16.3: Main cremations spreadsheet

	K	L	M
3	<b>AGE</b>	<b>Palaeopathology</b>	<b>No pots</b>
4	Y TO MA; 2 INFANTS	porosity and fibre bone to	cranium
5	ADULT AND CHILD	0	
6	20-30; YC	0	
7	28-38 MA	0	
8	20+; JUV	0	
9	Y TO MA	0	
10	18-20	0	
11	A; INFANT	0	
12	M TO OA	osteophytosis to spine and	ulna, S.N
13	20-24; 10-12	0	
14	A	0	
15	A	0	
16	2 Y TO MA; INFANT	0	0
17	YA	0	1
18	YA; JUV	0	1
19	MA	0	3
20	8 TO 12	0	0
21	15 - 18	0	0
22	12 TO 15	osteophytes and S.N.	1
23	A	0	0
24	M TO OA	osteophytes on axis and m	1
25	MA TO OA	osteophytes to spine	1
26	20+	0	0
27	NP	0	0
28	MA	TMJ	0
29	A	0	0
30	A	0	1
31	A	0	0
32	MA TO OA	0	1
33	ADOL	0	1
34	YA TO MA	0	1
35	A	0	0
36	A	0	1
37	A	0	0
38	CHILD	0	0
39	NP	0	1
40	NP	0	0
41	NP	0	0

Appendix 16.3: Main cremations spreadsheet

	K	L	M
42	OC TO ADOL	0	2
43	YA	0	0
44	YA	0	1
45	MA	0	0
46	JUV	0	0
47	adolesc	0	1
48	M TO OA	0	0
49	YA	0	1
50	YA; CHILD	0	0
51	YA	0	0
52	<u>2 ADULT</u>	?	0
53	MA	0	0
54	A	0	2
55	YA TO MA	TMJ	1
56	YA	0	0
57	NP	0	0
58	NEONATE	0	1
59	MA	0	0
60	YA TO MA	0	1
61	A/ADOL; YC	0	1
62	Y TO MA	0	0
63	MA	0	1
64	Y TO MA	0	1
65	Y TO MA	0	2
66	c.21	S.N.	1
67	Y TO MA	0	0
68	A	0	5
69	5 TO 8	0	0
70	ADOL	0	0
71	A	0	1
72	A	0	
73	A	0	
74	NP	0	
75	NP	0	
76	NP	0	
77	A	0	
78	NP	0	
79	YA	0	
80	Y TO MA; 7 TO 12	0	1

Appendix 16.3: Main cremations spreadsheet

	K	L	M
81	NP	0	1
82	MA TO OA	0	0
83	MA TO OA	0	2
84	YA	0	1
85	NP	0	0
86	Y TO MA; INFANT; OLDER	0	1
87	M TO OA	0	1
88	MA	0	0
89	Y TO MA	0	0
90	OA	0	0
91	OA; resid juv	0	0
92	MA	0	0
93	ADULT	0	1
94	adolesc	0	0
95	MA; YC	0	0
96	YA; ADOLESC	0	0
97	ADULT; C/ADOLESC	0	0
98	MA	0	0
99	np	0	0
100	np	0	1
101	adult	0	0
102	adult	0	0
103	np	0	0
104	np	0	0
105	np	0	0
106	MA TO OA	osteophytes on distal phal	0
107	adult	0	0
108	infant/YC	0	0
109	infant	0	1
110	adult	0	0
111	adult	0	0
112	MA	0	0
113		NP	
114		NP	

Appendix 16.3: Main cremations spreadsheet

	N	O	P	Q	R
3	<b>No objects</b>	<b>cranium</b>	<b>flat bone</b>	<b>vert</b>	<b>humerus</b>
4		133	0	55	0
5		5	0	0	0
6		13	3	3	0
7		89	21	42	0
8		2	0	1	0
9		92	16	42	9
10		3	5	2	0
11		9	6	3	0
12		218	14	51	103
13	1	130	57	60	0
14		7	0	0	0
15		3	0	2	0
16	0	102	26	12	0
17	0	19	4	0	0
18	1	160	57	29	92
19	1	19	4	3	0
20	0	40	17	4	0
21	1	34	0	79	15
22	0	0	0	30	0
23	0	4	0	0	0
24	0	103	3	9	0
25	0	135	11	12	20
26	0	2	0	0	4
27	0	10	4	0	0
28	1	101	0	8	34
29	0	14	0	0	0
30	0	32	0	0	0
31	0	68	0	0.5	25
32	1	131	23	11	10
33	0	69	63	19	41
34	2	56	0	0.5	13
35	2	28	0	0	0
36	1	219	16	82	73
37	1	43	0	0	0
38	1	5	0	0	0
39	0	16	0	0	0
40	0	3	0	0	0
41	1	7	0	0	0

Appendix 16.3: Main cremations spreadsheet

	N	O	P	Q	R
42	0	64	12	6	0
43	3	59	23	5	0
44	1	251	0	54	78
45	7	42	5	9	15
46	0	56	0	0	12
47	2	55	0	0	17
48	0	92	0	22	47
49	0	3	0	0	0
50	1	9	0	3	0
51	0	120	0	17	21
52	1	396	0	81	97
53	0	80	28	42	19
54	4	8	0	5	0
55	0	44	0	0	0
56	0	73	20	10	21
57	0	0	0	0	0
58	0	7	2	2	0
59	0	55	0	0	0
60	0	47	8	5	0
61	1	53	0	3	25
62	0	77	0	31	0
63	0	107	0	57	0
64	0	24	0	7	0
65	2	74	0	4	0
66	1	47	0	21	0
67	2	49	30	49	23
68	1	15	0	3	0
69	1	22	0	8	0
70	0	45	0	0	0
71	0	0	0	0	0
72		3	3	0	0
73		37	0	14	0
74		0	0	0	0
75		0	0	7	0
76		0	0	0	0
77		3	0	0	0
78		0	0	0	0
79		59	0	3	0
80	3	66	0	6	0

Appendix 16.3: Main cremations spreadsheet

	N	O	P	Q	R
81	0	0	0	0	0
82	1	160	0	10	0
83	2	100	0	0	0
84	0	37	19	2	0
85	0	4	0	0	0
86	0	120	26	41	0
87	0	60	48	10	20
88	4	142	31	10	17
89	2	289	13	40	17
90	0	53	0	5	13
91	0	51	29	2	46
92	0	299	22	35	56
93	0	9	0	0	0
94	0	95	34	5	11
95	1	189	0	17	4
96	0	6	4	0	0
97	0	155	0.5	37	54
98	2	66	28	10	20
99	0	0	0	0	0
100	0	3	0	0	0
101	0	9	0	5	0
102	1	11	0	0.5	0
103	0	0	0	0	0
104	0	5	0	0	0
105	0	0	0	0	0
106	0	96	17	9	20
107	0	5	0	0	0
108	0	0	0	0	0
109	0	2	0	0.1	0
110	0	6.9	0	0	0
111	0	27	0	0.3	0
112	0	13	4	11	9
113		0	0	0	0
114		0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	S	T	U	V	W
3	<b>teeth</b>	<b>sternum</b>	<b>clavicle</b>	<b>ribs</b>	<b>unidentified</b>
4	1	0	0	71	810
5	0	0	0	0	9
6	3	0	0	5	1009
7	0	0	0	21	384
8	4	0	0	7	830
9	0	0	0	17	147
10	1	0	0	5	290
11	0	0	0	3	23
12	0	2	0	45	376
13	0	4	0	88	443
14	0	0	0	0	0
15	1	0	0	0	0
16	0	0	0	13	229
17	0	0	0	12	9
18	0	0	0	54	71
19	0	0	0	2	9
20	0	0	0	19	31
21	0	0	0	0	10
22	0	0	0	0	10
23	0	0	0	0	5
24	0	0	0	0	7
25	0	0	0	23	195
26	0	0	0	1	50
27	0	0	0	7	<1
28	0.5	0	0	4	298
29	0	0	0	0	62
30	0	0	0	0	59
31	0	0	0	0	201
32	0	0	0	14	96
33	2	0	0	0	861
34	0	0	0	18	56
35	1	0	0	0	149
36	3	0	0	64	381
37	0	0	0	0	135
38	0	0	0	0	20
39	0	0	0	0	0
40	0	0	0	0	38
41	0	0	0	0	16

Appendix 16.3: Main cremations spreadsheet

	S	T	U	V	W
42	0	0	0	0	259
43	1	0	0	0	304
44	9	0	16	99	249
45	0	0	0	7	128
46	7	0	0	2	406
47	14	0	0	20	246
48	2	0	0	33	471
49	0	0	0	0	0
50	2	0	0	0	98
51	0	0	0	15	500
52	5	0	0	51	1303
53	0	0	0	9	828
54	0	0	0	0	35
55	0	0	0	6	230
56	0	0	0	21	570
57	0	0	0	0	16
58	0	0	0	0	53
59	0	0	0	1	151
60	0	0	0	0	106
61	0	0	0	12	44
62	0	0	0	16	359
63	0	0	0	0	126
64	0	0	0	0	81
65	0	0	0	0	50
66	0	0	0	33	256
67	0	5	7	384	387
68	0	0	0	0	17
69	0	0	0	0	70
70	0.5	0	0	16	615
71	0	0	0	0	17
72	1	0	0	0	50
73	0	0	0	9	126
74	0	0	0	6	143
75	0	0	0	0	228
76	0	0	0	0	83
77	0	0	0	0	221.5
78	0	0	0	0	154
79	0	0	0	0	32
80	0	0	0	0	348

Appendix 16.3: Main cremations spreadsheet

	S	T	U	V	W
81	0	0	0	0	28
82	0	0	0	7	300
83	0	0	0	0	315
84	0	0	0	0	0
85	0	0	0	0	0
86	0	0	0	2	48
87	7	0	0	16	470
88	9	0	0	15	1061
89	8	0	0	30	1034
90	5	0	0	4	704
91	2	0	0	5	514
92	1	0	0	24	795
93	1	0	0	0	185
94	1	1	0	4	542
95	2	0	9	11	782
96	1	0	0	0	85
97	3	0	0	38	548
98	2	0	0	14	1036
99	0	0	0	0	3.5
100	0	0	0	0	26
101	0.3	0	0	0	276
102	0.3	0	0	4	192
103	0	0	0	0	0.4
104	0.3	0	0	0	40
105	0	0	0	0	2
106		0	0	6	640
107	0.5	0	0	0	22
108	0.2	0	0	0	1
109	0.7	0	0	0	31
110	2	0	0	0	98
111	1.3	0	0	0.3	42
112	0.8	0	0	3	272
113	0	0	0	0	1
114	0	0	0	0	4

Appendix 16.3: Main cremations spreadsheet

	X	Y	Z	AA	AB
3	<b>upper limb</b>	<b>fibula</b>	<b>lower limb</b>	<b>maxil/mand</b>	<b>misc limb</b>
4	49	0	114	8	157
5	0	0	0	0	0
6	1	0	0	0	36
7	45	9	143	0	85
8	0	0	0	0	11
9	23	0	51	0	76
10	0	0	0	0	28
11	0	0	0	0	67
12	44	22	0	17	126
13	76	0	40	10	131
14	0	0	0	0	4
15	0	0	0	0	0
16	33	13	59	0	81
17	0	0	0	0	30
18	56	33	129	0	127
19	19	0	50	0	22
20	0	0	0	0	137
21	0	0	0	0	6
22	35	0	99	0	0
23	0	0	0	0	24
24	68	0	76	0	0
25	0	17	12	0	40
26	6	4	0	0	0
27	0	0	0	0	10
28	0	9	45	0	75
29	15	0	27	0	28
30	0	0	0	0	23
31	0	6	0	0	18
32	9	5	50	0	60
33	9	8	0	0	67
34	19	0	15	0	42
35	0	0	0	0	44
36	0	7	0	0	101
37	0	0	0	0	50
38	0	0	0	0	6
39	0	0	0	0	64
40	0	0	0	0	35
41	0	0	0	0	50

Appendix 16.3: Main cremations spreadsheet

	X	Y	Z	AA	AB
42	0	0	0	0	83
43	0	0	0	0	129
44	0	19	0	0	189
45	9	0	14	0	7
46	0	6	0	2	54
47	0	8	0	0	152
48	0	8	0	0	95
49	0	0	0	0	8
50	0	0	0	0	0
51	0	14	0	0	136
52	108	12	20	15	545
53	28	0	0	14	136
54	0	0	0	0	5
55	29	0	47	0	0
56	0	0	0	0	90
57	0	0	0	0	0
58	0	0	0	0	3
59	22	0	43	0	0
60	48	0	17	0	0
61	13	7	19	0	14
62	53	0	61	0	48
63	53	0	14	12	41
64	0	0	0	0	53
65	0	0	0	0	48
66	32	5	41	4	71
67	71	0	97	0	112
68	0	0	0	0	22
69	0	0	0	0	50
70	41	0	21	0	24
71	0	0	0	0	0
72	0	0	0	0	17
73	21	0	19	0	43
74	0	0	0	0	22
75	0	0	0	0	0
76	0	0	0	0	0
77	0	0	0	0	15
78	0	0	0	0	0
79	0	0	0	0	9
80	16	0	0	0	284

Appendix 16.3: Main cremations spreadsheet

	X	Y	Z	AA	AB
81	0	0	0	0	0
82	0	0	0	0	302
83	11	0	6	0	122
84	0	0	0	0	0
85	0	0	0	0	17
86	74	0	39	16	14
87	21	2	0	10	228
88	0	3	0	8	158
89	0	13	0	0	268
90	0	5	0	5	147
91	0	3	0	5	140
92	0	6	0	15	470
93	0	0	0	0	23
94	0	9	0	3	82
95	0	17	0	8	161
96	0	0	0	0	8
97	0	6	0	9	128
98	0	0	0	2	124
99	0	0	0	0	17
100	0	0	0	0	13
101	0	0	0	0	17
102	0	0	0	0	37
103	0	0	0	0	0
104	0	0	0	0	8
105	0	0	0	0	0
106	0	3	27		145
107	0	0	0	0	0
108	0	0	0	0	0
109	0	0	0	0	0
110	0	0	0	0	14
111	0	0	0	0	2.4
112	0	0	7	0	60
113	0	0	0	0	0
114	0	0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AC	AD	AE	AF	AH
3	<b>hand &amp; foot</b>	<b>articular</b>	<b>pelvis</b>	<b>scapula</b>	<b>residue</b>
4	14	66	0	10	0
5	0	0	0	0	0
6	5	2	0	0	75
7	9	?	38	7	74
8	5	0	0	0	54
9	4	7	14	4	0
10	1	2	0	0	0
11	7	7	0	3	0
12	27	0	75	15	378
13	16	69	58	11	0
14	0	0	0	0	0
15	1	0	0	0	0
16	6	25	12	9	0
17	0	0	0	0	0
18	0	16	48	9	0
19	0	0	0	0	0
20	4	0	0	7	0
21	0	0	56	16	0
22	2	0	6	2	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	18	7	1	0
26	1	0	0	0	0
27	0	0	0	0	0
28	1	12	6	0	0
29	0	0	0	0	0
30	0	0	0	0	0
31	0.5	0	3	2	0
32	5	8	13	6	0
33	4	17	21	2	0
34	2	0	5	1	0
35	0	0	0	0	0
36	33	24	85	12	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
41	0	0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AC	AD	AE	AF	AH
42	0	3	9	3	0
43	0	2	2	0	0
44	40	0	94	49	0
45	2	0	0	0	0
46	0.5	0	7	3	0
47	2	0	0	5	0
48	1	12	0	2	0
49	0	0	0	0	0
50	4	0	0	0	0
51	13	5	36	2	0
52	49	10	31	22	0
53	10	30	9	0	0
54	0	0	0	0	0
55	0	0	6	0	0
56	17	13	0	0	0
57	0	0	0	0	0
58	0	0	0	0	0
59	0.5	10	0	0	0
60	0	0	1	0	0
61	1	0	1	0	0
62	11	17	8	0	0
63	0	0	0	0	0
64	0	0	0	0	0
65	0	5	0	0	0
66	5	20	11	5	0
67	46	56	33	20	0
68	0	0	0	0	0
69	0	0	0	0	0
70	8	0	0	0	0
71	0	0	0	0	0
72	1	0	5	0	0
73	1	7	18	2	0
74	0	0	0	0	0
75	0	0	0	0	0
76	0	0	0	0	0
77	0.5	0	2	0	0
78	0	0	0	0	0
79	0.5	0	0	0	0
80	6	16	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AC	AD	AE	AF	AH
81	0	0	0	0	0
82	8	0	13	6	0
83	5	0	0	0	0
84	0	2	0	0	0
85	0	0	0	0	0
86	45	21	0	0	90
87	7	20	3	2	0
88	17	37	0	0	0
89	26	25	27	0	0
90	8	3	5	2	0
91	7	20	5	4	0
92	13	33	8	3	0
93	0	0	0	0	0
94	15	23	33	8	0
95	23	1	26	7	0
96	2	0	0	0	0
97	18	16	14	0	0
98	13	10	3	8	0
99	0	0	0	0	0
100	0	0	0	0	0
101	0	8	0	0	0
102	0.2	0	0	2	0
103	0	0	0	0	0
104	0	0	0	0	0
105	0	0	0	0	0
106	11	15	1	4.5	0
107	0	0	0	0	0
108	0	0	0	0	0
109	0	0	0	0	0
110	0	0	0	0	0
111	0	0	0	0	0
112	2	4	8	0	0
113	0	0	0	0	0
114	0	0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AI	AJ	AK	AL	AM	AN
3	<b>radius</b>	<b>ulna</b>	<b>patella</b>	<b>femur</b>	<b>tibia</b>	<b>animal</b>
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	21	31	0	0	0	0
8	0	0	0	0	0	0
9	9	14	0	0	0	0
10	0	0	0	0	0	0
11	0	0	3	0	0	0
12	0	0	0	187	116	0
13	0	0	0	0	0	0
14	0	0	0	0	0	0
15	0	0	0	0	0	0
16	0	0	3	0	0	0
17	0	0	0	0	0	0
18	8	0	3	174	73	20
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	31	21	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	10	9	0	51	8	0
26	0	6	0	0	0	0
27	0	0	0	5	0	0
28	9	10	4	49	12	0
29	0	0	3	0	0	0
30	0	0	0	0	0	0
31	13	14	0	36	24	0
32	6	7	0	0	0	0
33	0	10	0	44	0	0
34	0	0	0	21	27	0
35	0	0	0	0	0	0
36	36	26	0	83	6	0
37	0	0	0	0	0	0
38	0	0	0	0	0	0
39	0	0	0	0	0	0
40	0	0	0	0	0	0
41	0	0	0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AI	AJ	AK	AL	AM	AN
42	0	0	0	0	0	0
43	0	0	0	0	0	0
44	18	40	0	101	72	13
45	0	0	0	6	0	0
46	0	0	2	7	5	0
47	14	14	0	60	24	0
48	7	15	3	74	21	0
49	0	0	0	0	0	0
50	0	0	0	0	0	0
51	3	3	0	58	6	0
52	19	21	1	97	72	0
53	0	0	0	54	26	0
54	0	0	0	0	0	0
55	0	0	0	0	0	0
56	11	12	0	34	14	8
57	0	0	0	0	0	0
58	0	0	0	0	0	0
59	0	0	0	0	0	0
60	0	0	0	0	0	0
61	5	4	0	0	0	0
62	0	0	0	0	0	0
63	0	0	0	0	0	0
64	0	0	0	0	0	0
65	0	0	0	0	0	0
66	0	0	0	0	0	0
67	0	0	0	0	0	0
68	0	0	0	0	0	0
69	0	0	0	0	0	0
70	0	0	0	0	0	0
71	0	0	0	0	0	0
72	0	0	0	0	0	0
73	0	0	0	0	0	0
74	0	0	0	0	0	0
75	0	0	0	0	0	0
76	0	0	0	0	0	0
77	0	0	0	0	0	0
78	0	0	0	0	0	0
79	0	0	0	0	0	0
80	0	0	0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AI	AJ	AK	AL	AM	AN
81	0	0	0	0	0	0
82	0	0	0	0	0	0
83	0	0	0	0	0	5
84	0	0	0	0	0	0
85	0	0	0	0	0	0
86	0	0	4	0	0	0
87	0	0	8	58	36	0
88	7	4	0	27	18	9
89	18	23	0	83	43	0
90	8	8	0	22	18	0
91	12	6	0	25	47	0
92	21	19	4	43	35	0
93	0	0	0	0	0	0
94	5	10	0	25	26	0
95	9	21	4	56	24	2.5
96	0	0	0	0	0	0
97	2	9	0	6	7	0
98	3	2	0	14	4	1
99	0	0	0	0	0	0
100	0	0	0	0	0	0
101	0	0	0	0	0	0
102	0	0	0	0	0	0
103	0	0	0	0	0	0
104	0	0	0	0	0	0
105	0	0	0	0	0	0
106	7	16	0	6.5	14.5	0
107	0	0	0	0	0	0
108	0	0	0	0	0	0
109	0	0	0	0	0	0
110	0	0	0	0	0	0
111	0	0	0	0	0	0
112	9	4	0	0	0	0
113	0	0	0	0	0	0
114	0	0	0	0	0	0

Appendix 16.3: Main cremations spreadsheet

	AP
3	<b>charcoal</b>
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
34	0
35	2
36	1
37	4
38	7
39	0
40	0
41	0

Appendix 16.3: Main cremations spreadsheet

	AP
42	4
43	2
44	13
45	8
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	0
55	0
56	0
57	0
58	0
59	18
60	0
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	0
69	0
70	0
71	190
72	0
73	0
74	0
75	0
76	0
77	0
78	0
79	0
80	0

Appendix 16.3: Main cremations spreadsheet

	AP
81	0
82	0
83	0
84	0
85	0
86	0
87	6
88	9
89	1
90	1
91	1
92	1
93	0.3
94	6
95	0.5
96	1
97	1
98	3
99	0
100	0
101	0
102	0
103	0
104	0
105	0
106	46
107	0
108	0
109	0
110	0
111	0
112	0.3
113	643
114	455

### Appendix 16.3.1: Cremations MNI

Sex	Number
Female	29
Male	16
NP	66
NA	18
total	129

Age	Number
infants	8
children	14
adolescent	10
young adult	18
Y to Mid adult	15
Mid adult	13
M to Old adult	9
Old adult	2
not possible	41

Appendix 16.3.2: Cremations context

	A	B	C	D
2	site	cremation	barrow	cave
3	aglionby 25-1926.3	yes		
4	aglionby 25-1926.2	yes		
5	aglionby 15-1927.1	yes		
6	aglionby 15-1927.2	yes		
7	aglionby 39-1983.1	yes		
8	aglionby 39-1983.2	yes		
9	aglionby 39-1983.3	yes		
10	aglionby 15-1927.3	yes		
11	how hill thursby	yes		
12	greystoke 1992-46-7	yes	yes	
13	greystoke 1992-46-10	yes	yes	
14	greystoke 1992-48.8	yes	yes	
15	carrock fell	yes	yes	
16	kirkoswald	yes	yes	
17	holmrook	yes		
18	shieldknowe	yes	cairn	
19	broomrigg crem 1	yes	yes with >	
20	broomrigg crem 4	yes	yes with >	
21	broomrigg crem 3	yes		
22	broomrigg crem 7	yes	yes with >	
23	broomrigg crem 2	yes	yes with >	
24	green low	yes	cairn	
25	hindlow SE quad	yes	yes	
26	hindlow bateman dist	yes	yes	
27	hindlow main crem	yes	yes	
28	shuttleworth primary	yes	cairn	
29	shuttleworth pit satellite	yes	cairn	
30	shuttleworth scattered	yes	cairn	
31	whitelow crem 300 (L?)	yes	cairn	no
32	whitelow sec F	yes	cairn	
33	hades hill	yes	cairn	no
34	whitelow sec M	yes	cairn	
35	whitelow sec C	yes	cairn	
36	whitelow sec H	yes	cairn	
37	whitelow sec A	yes	cairn	
38	whitelow scattered (destroyed)	yes	cairn	
39	whitelow sec K	yes	cairn	
40	whitelow sec J	yes	cairn	

Appendix 16.3.2: Cremations context

	A	B	C	D
41	whitelow sec D	yes	cairn	
42	whitelow sec E	yes	cairn	
43	<u>whitelow sec G</u>	yes	cairn	
44	whitelow primary	yes	cairn	
45	green howe crem (5)	yes	yes	
46	green howe crem (10)	yes	yes	
47	green howe crem (4)	yes	yes	
48	castleton cairn	yes	cairn	
49	macclesfield (MM)	yes	yes	
50	cowlam crem 1	yes	yes	
51	cowlam crem 2	yes	yes	no
52	cowlam crem 3	yes	yes	
53	loose howe	yes	yes	
54	cold eaton	yes	yes	
55	pockley barrow crem	yes	yes	
56	pockley crem (4)	yes	yes	
57	herd howe	yes	yes	
58	ashford (21a)	yes	yes	
59	ashford (23a)	yes	yes	
60	noon hill	yes	cairn	
61	bearhurst	yes	yes	
62	beech hall	yes	?	
63	bell farm	yes	?	
64	betchton	yes	np	
65	cleulow cross	yes	cairn	
66	gallowsclough	yes	yes	
67	hounslow	yes	yes	
68	kelsall	yes	cairn	
69	Kirk Ireton	yes		
70	swarkeston (1)	yes	yes	
71	stanton moor 1	yes	yes	
72	stanton moor 2	yes	yes	
73	swarkeston 31 (a)	yes	yes	
74	swarkeston 31 (e)			
75	swarkeston 3			
76	swarkeston 31 (c)			
77	swarkeston 31 (d)			
78	swarkeston 31 (b)			
79	woodhouse end urned crem 1	yes	yes	

Appendix 16.3.2: Cremations context

	A	B	C	D
80	woodhouse end urned crem 3	yes	yes	
81	woodhouse end un-urned crem 1	yes	yes	
82	woodhouse end urned crem 2	yes	yes	
83	Mosley height urned C	yes	cairn	
84	Mosley height Un urned D	yes	cairn	
85	Mosley height urned A	yes	cairn	
86	church lawton north F18	yes	yes	
87	church lawton north F20	yes	yes	
88	<u>church lawton north F9</u>	yes	yes	
89	church lawton north F2	yes	yes	
90	church lawton F35	yes	yes	
91	church lawton F23	yes	yes	
92	church lawton F19	yes	yes	
93	Church lawton F27	yes	yes	
94	church lawton F33	yes	yes	
95	church lawton F28	yes	yes	
96	church lawton F24	yes	yes	
97	church lawton F14	yes	yes	
98	church lawton F5	yes	yes	
99	church lawton F3	yes	yes	
100	Church lawton F7	yes	yes	
101	church lawton F1	yes	yes	
102	church lawton F10	yes	yes	
103	church lawton F6	yes	yes	
104	church lawton F34	yes	yes	
105	Brackenber <13>	yes	cairn	
106	Brackenber <11>	yes	cairn	
107	Brackenber <5>	yes	cairn	
108	Brackenber <6>	yes	cairn	
109	Brackenber <12>	yes	cairn	
110	Brackenber <8>	yes	cairn	
111	Brackenber <10>	yes	cairn	

Appendix 16.3.2: Cremations context

	E	F	G	H	I	J
2	flat cemetery	other	cist	grave	wooden 'coff	urn
3	prob					yes
4	prob					yes
5	prob					yes
6	prob					yes
7	prob					yes
8	prob					
9	prob					
10	prob					yes
11	poss					yes
12						?
13						?
14						?
15						
16						yes
17	poss					yes
18						
19		small circle	under circle base			
20		small circle				
21		small circle				ass acc urn
22		small circle				
23		small circle				urn not cle
24						yes
25				surface		
26				surface		
27				surface		
28			under			
29						
30				surface scatter		
31	no			no	no	yes
32						yes
33	no			no	no	yes bones s
34						
35						yes
36						
37						
38						
39						
40						

Appendix 16.3.2: Cremations context

	E	F	G	H	I	J
41						yes
42						no
43						yes
44						
45						
46						yes
47						
48						yes
49						
50						
51	no	no	no	no	no	no
52						
53						
54						
55						
56						
57						yes
58						
59						
60						
61						yes
62						yes
63						
64						yes
65						yes
66						
67						yes
68						yes
69	yes					yes
70						yes
71						yes
72						yes
73						yes
74						
75						yes
76						
77						
78						
79						yes

Appendix 16.3.2: Cremations context

	E	F	G	H	I	J
80						yes
81						
82						yes
83			yes			yes
84			yes			
85			yes			yes
86						?
87						
88						
89						
90						
91						
92						?
93						
94						
95						
96						
97						
98						
99						?
100						
101						
102						
103						
104						
105						
106						
107						yes
108						?
109						
110						
111						

Appendix 16.3.2: Cremations context

	K	L	M	N
2	pit	bag	upright	inverted
3			np	
4			np	
5			np	
6			np	
7			np	
8	?			
9	?			
10	yes		np	
11				
12				
13				
14				
15	?			
16			side	
17				yes
18	yes			
19	yes			
20				
21	yes		on side	
22	yes			
23	as if in it			
24			np	
25				
26				
27				
28				
29	yes			
30				
31	yes	no		yes
32	yes			yes
33	separate	no		
34	yes			
35	yes			yes
36	yes			
37	yes			
38	yes			
39	yes			
40	yes			

Appendix 16.3.2: Cremations context

	K	L	M	N
41	yes			yes
42	yes			
43	yes		yes	
44	yes			
45	yes			
46	yes			yes
47	yes stone lined			
48			np	
49	?			
50	yes			
51	yes	no	na	na
52	yes			
53				
54				
55				
56				
57	?			
58	?			yes
59	?			yes
60	yes			
61	yes		yes	
62				yes
63				
64				yes
65				yes
66	yes- bag sh	poss?		
67				
68	yes			yes
69			np	
70	yes		np	
71			np	
72			np	
73			np	
74				
75			np	
76				
77				
78				
79	ditch base		yes	

Appendix 16.3.2: Cremations context

	K	L	M	N
80				yes
81	yes			
82				yes
83				
84	yes	poss		
85				yes
86	yes			
87	yes	yes		
88	yes	yes		
89	yes			
90	yes			
91	yes			
92	yes			
93	yes			
94	yes			
95	yes			
96	yes			
97	yes			
98	yes			
99	yes			
100	yes			
101	yes			
102	yes			
103	yes			
104	yes			
105	yes			
106	yes			
107	yes			yes
108	yes			
109	yes			
110	yes			
111	yes			

Appendix 16.3.2: Cremations context

	O	P	Q	R
2	artefacts	material	complete/frag	burnt/unburnt
3	urn			
4	collared urn			
5	collared urn			
6	collared urn			
7	pot sherds			
8	charcoal			
9	none			
10	collared urn			
11	collared urn, sherds basket ware			
12				
13				
14				
15	animal bone			yes
16	urn, bronze pin			
17	urn, animal bone			bone burnt
18	none			
19	none			
20	jet bead			
21	acc vess			
22	none			
23	none			
24	collared urn, acc vess, flint knife. flint			
25	none			
26	none			
27	bronze awl		yes	burnt
28	none			
29	collared urn sherds		frag	
30	charcoal			
31	collared urn, flint blade, acc vess		broken flint	
32	collared urn			
33		flints, urn		some of flint
34	fish vert			
35	collared urn, chert knife		knife deliberately brok	
36	clay stud			
37	flint knife	flint		burnt
38	acc vess			
39	none			
40	none			

Appendix 16.3.2: Cremations context

	O	P	Q	R
41	collared urn		yes	
42	flint flake, bone pin, clay stud		pin broken	pin burnt
43	urn, flint, animal bone		damanged	burnt flint
44	fish vert, flint, bronze awl		broken awl	burnt flint
45	none			
46	pot, flint, flint knife			burnt flints
47	none			
48	collared urn			
49	flint knife			
50	none			
51	>	plano convex knife		
52	none			
53	urn, axe hammer, bronze dagger, bronze pin, pygmy vessel, f			
54	dagger rivet, food vessel			
55	animal bone			
56				
57	collared urn			
58	flints			
59	flints			
60	?			
61	collared urn and lid			
62	collared urn			
63				
64	collared urn, acc vess, bone pin			
65	collared urn burnt flint			
66	bone pin and bead			yes
67	4 urns acc vess, flint flake			
68	collared urn, boars tusk, piece bronze			
69	collared urn			
70	collared urn			
71	collared urn			
72	food vess			
73	sherd			
74				
75	sherd			
76				
77				
78				
79	clay stud, flint			

Appendix 16.3.2: Cremations context

	O	P	Q	R
80	pot			
81	flint tool			yes
82	with inv acc vessel, flint knife, animal bone			knife burnt
83	food vessel		fragmented	
84	flints			
85	pot			
86	urn			
87	flint, bone pin, perf axe, animal bone			yes
88	flint and flint knife			
89	none			
90	none			
91	none			
92	base of urn			
93	none			
94	burnt flint, poss knife, animal bone			yes
95	none			
96	none			
97	bone pin, animal bone			yes
98	none			
99	pot			
100	none			
101	bone pin			yes
102	none			
103	none			
104	none			
105	none			
106	none			
107	pot			
108	none			
109	none			
110	none			
111	none			

Appendix 16.3.2: Cremations context

	S
2	associations
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	mouth of urn covered with sandstone slab
17	
18	pit ground burned,charcoal
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	burial marked by small boulder
30	
31	acc vess filled with clean clay
32	
33	nts burnt, one not
34	charcoal
35	charcoal and pyre debris
36	
37	
38	charcoal
39	charcoal
40	charcoal

Appendix 16.3.2: Cremations context

	S
41	charcoal
42	
43	
44	charcoal
45	
46	
47	
48	
49	
50	
51	
52	
53	int
54	
55	
56	
57	
58	
59	
60	
61	urn was in ash filled cremation pit
62	
63	
64	
65	
66	clay cap over central mound
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	

Appendix 16.3.2: Cremations context

	S
80	
81	
82	
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84	
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91	
92	
93	
94	
95	
96	
97	
98	
99	
100	
101	
102	
103	
104	
105	charcoal
106	
107	charcoal
108	
109	
110	
111	

**Appendix 16.3.3: Correlation of cremations sex, age with objects**

Females	Bone pin	Pot	Beads	Bronze awl	Axe	Flint knife
YA	2	2	1	0	0	0
Y -MA	0	5	0	0	0	0
MA	1	1	0	2	1	0
M - OA	0	1	0	0	0	0
Males	Bone pin	Pot	Beads	Bronze awl	Axe	Flint knife
YA	1	0	0	0	0	0
Y -MA	1	1	0	0	0	1
MA	0	0	0	0	0	0
M - OA	0	3	0	0	0	1

Females	Studs	Animal bones	Misc flint
YA	1	1	1
Y -MA	1	1	1
MA	0	2	3
M - OA	0	0	1
Males	Studs	Animal bone	Misc flint
YA	0	0	1
Y -MA	0	1	1
MA	0	0	0
M - OA	0	0	0

#### Appendix 16.4: Health prevalence

Sex/age group	Number	%
Females + cribra	7	16%
Females - cribra	37	84%
Males + cribra	5	5%
males - cribra	92	95%
Juv + cribra	2	9%
Juv- cribra	24	91%
Adolesc + cribra	1	17%
Adolesc - cribra	5	83%
Sex/age group	Number	%
Females + LEH	12	37%
Females - LEH	20	63%
Males + LEH	24	32%
Males - LEH	50	68%
Juv + LEH	1	25%
Juv - LEH	3	75%
Sex group	Number	%
Females + SN	3	50%
Females - SN	3	50%
Males + SN	5	45%
Males - SN	6	55%
Total m + spines	11	
Total f+ spine	6	
NP	1	
Females + caries	2	6%
Females - caries	30	94%
Males + caries	5	7%
Males - caries	69	93%
NP	2	
Periodontal		
Females + perio	9	28%
Females - perio	23	72%
Males + perio	33	45%
Males - perio	41	55%

np	1
----	---

Illness/place	Number individuals	%
Derbyshire	44	
With cribra	1	2%
No crib	43	98%
LEH	2	12%
No LEH	15	88%
Caries	1	6%
No caries	16	94%
AM- loss	2	12%
No AM- loss	15	88%
SN	3	30%
No SN	7	70%
Abscess	2	12%
No abscess	15	88%

Yorkshire	MNI 153	
With cribra	12	8%
Without crib	141	92%
LEH	36	37%
No LEH	61	63%
Caries	10	10%
No caries	87	90%
AM- loss	20	21%
NO AM-loss	77	79%
SN	5	42%
No SN	7	58%
Abscess	6	6%
No abscess	91	94%

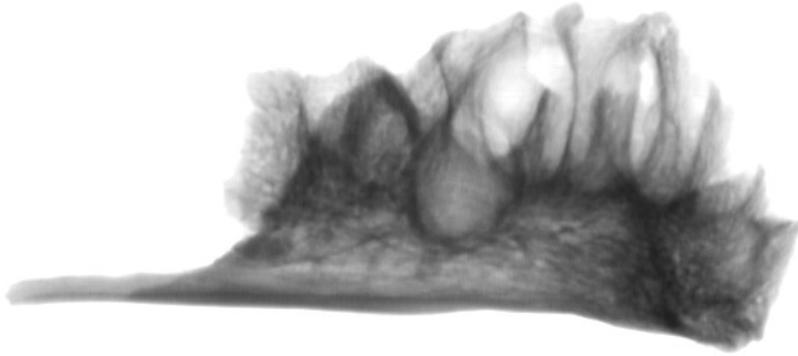
## **Appendix 16.4.1: Other disease**

### Tumours

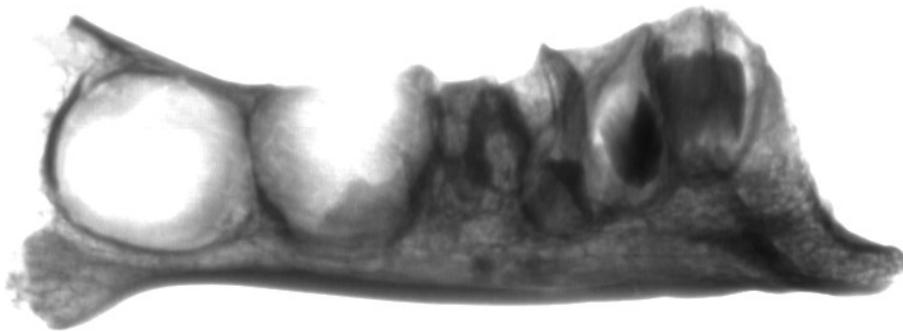
Tumours are another palaeopathology which there is little evidence for in the Bronze Age, although exceptions discussed in the literature are Gristhorpe man (Melton et al. 2010) and Osteomas are overgrowths of bone which form in the periosteum, they are small and common and are often found on the frontal bone of the skull (Waldron 2009, 171). A button osteoma is seen on an adult male aged around 30-40 from Cherry Burton, Yorkshire.

Such lesions are benign, it is highly unlikely that this individual felt any effects (Eshed et al 2002). This is a classic example of a button osteoma, being small and extremely well delineated.

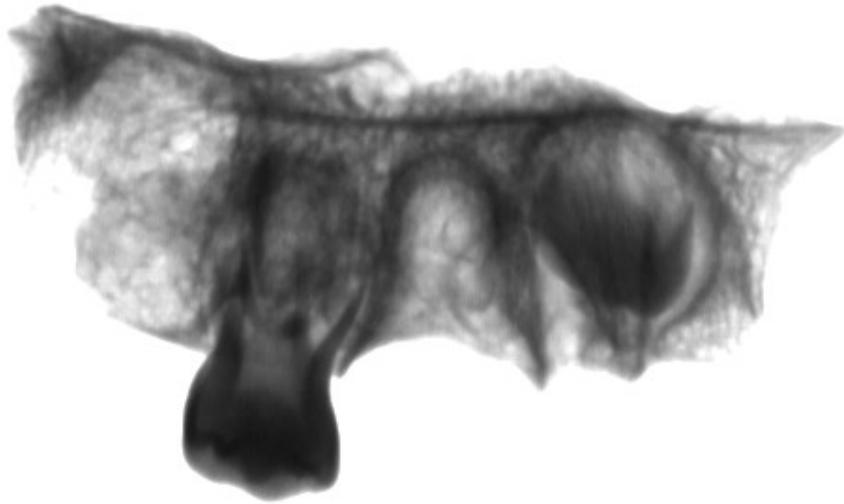
**Appendix 16.4.2: X-Ray images**



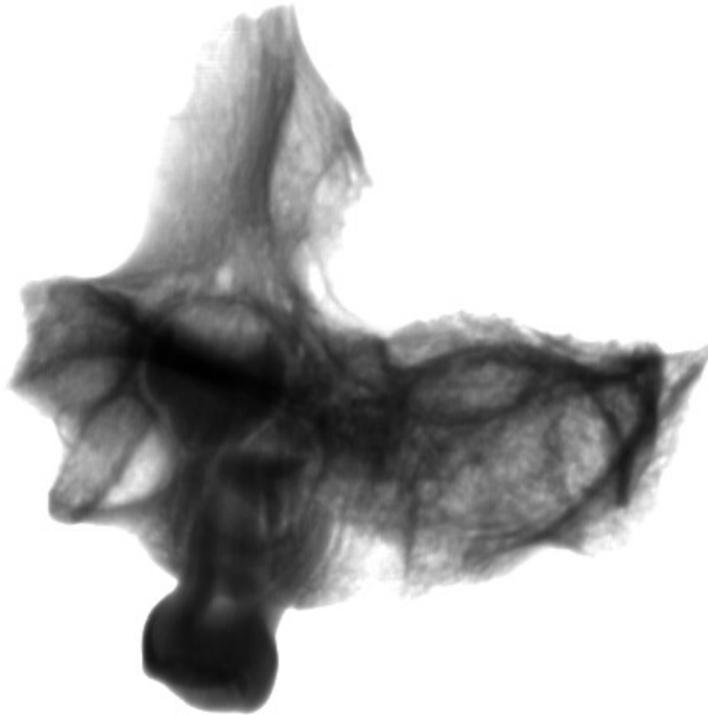
Siggett 2 Mandible A



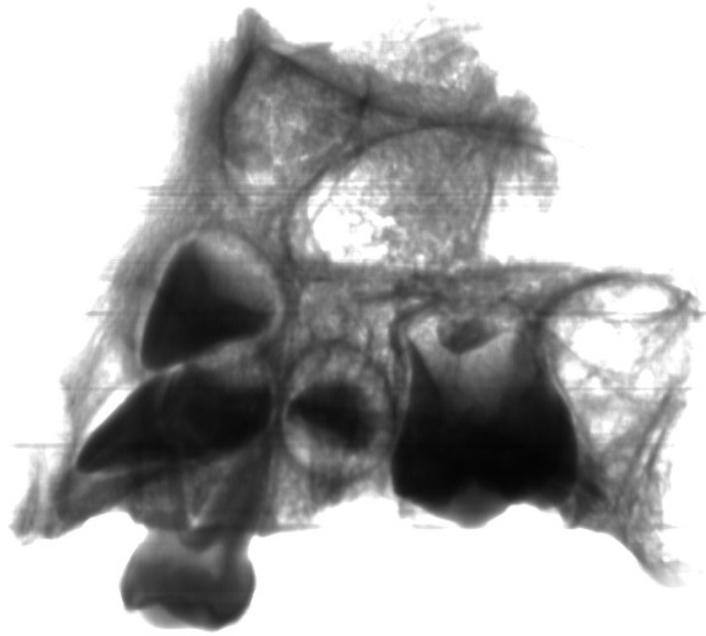
Siggett 2 mandible D



Siggett 2 Maxilla B



Siggett 2 maxilla C



Child Siggett

Appendix 16.5: Dental pathology

	A	B
7	dental pathology - detail	
8	<b>Burial &amp; site</b>	<b>Age (dental/sutures)</b>
10	Green Howe 14	30- 40
14	Green Howe 7	24-30
15	Green Howe 13	18-22
16	Green Howe 8	15-17
18	Green Howe 12	25-35
19	Haddon Grove	20-30
21	Grange Mill	NP
23	Folkton	NP
24	Folkton	adult
25	Cowlam 3, 1	40-50
26	Cowlam	NP
27	Cowlam	40s
28	Cowlam	40-50
29	Cowlam	25-30
30	Cowlam	MA
36	Siggett barrow	20-30
48	Hindlow scatter 2	Adolescent
52	Hindlow 'old man'	30-40 +
53	Hindlow 8	17-25
54	Hindlow 1	20-30
55	Hindlow 3	20-25
56	Hindlow 2	40-50
58	Hindlow 4	35-50
59	Megdale	18-22
60	Megdale	35-50
61	Megdale	24-35
62	Megdale	30-40
63	Liff's Low 1	20-30
65	Liff's Low F (2)	adolesc/YA
68	Stoop Barrow	20-30
69	Arbor Low	MA
70	Loose Howe	adult
71	4.039 Alport, Derbs	YA?
72	4.0457 YORKS	NP
73	4.0451(Folkton)	16-20
74	4.0452 folkton	20-24

Appendix 16.5: Dental pathology

	A	B
75	4.0454 folkton	40-55
76	4.0455 folkton	M2=45+
77	4.0456 folkton	18-22
78	E11.3 102 sherburn	MtoOA
79	E11.3 103 Sherburn	16-20
80	E11.3 104 Sherburn	12 to 18
81	<b>E11.3 105 sherburn</b>	20-30
84	E11.3 108 Potter brampton	20-30
85	E11.3 109 Ganton	40-55+
86	E11.3 111 Potter brampton	18-22
87	E11.3 112 ganton	20-24
88	E11.3 113 Ganton	YA-MA?
89	E11.3 114 Ganton	45-55
90	E11.3 89 castle carrock	35-40
91	E11.3 90 ashfell, kirkby ste	35-45
92	E11.3 91 welburn	YmidA-MA
93		
94	E11.3 93 langton wold	25-35
95	E11.3 94 langton wold	40-50+
96	E11.3 95 langton wold	OA
97	E11.3 96 Hesleton wold ha	24-30
98	E 11.3 97 hesleton wold	20-30
99	E11.3 98Sherbrun wold	YA-MA
100	11.3 99 sherburn	40-50
101	E11.3 100 Sherburn wold	MA?
102	E11.3 101 Sherburn	MA?
103	E11.3 115 Ganton	YA-MA
104	E11.3 116 GANTON	30-35
105	E11.3 117 Ganton	24-30
106	E11.3 118 ganton	35-45
107	E11.3 119 Ganton	40-45
108	E11.3 120 Willerby wold	30-40
109	E11.3 121 WILLERBY WOLD	40-55
110	<b>E11.3 122 Willerby wld</b>	45-55
111	<b>E11.3 123 willreby wold</b>	20-24
112	<b>E11.3 124 willerby wold</b>	OA
113	E11.3 125 Helperthorpe	40-50
114	E11.3 126 Weaverthorpe	YA TO MA

Appendix 16.5: Dental pathology

	A	B
115	E11.3 127 Weaverthorpe	40-50
116	E11.3 128 Weaverthorpe	30-35
117	E11.3 129 Weaverthorpe	40-55
118	E11.3 130	MA
120	<b>E11.3 132 Weaverthorpe</b>	35-40
121	<b>E11.3 133 Weaverthorpe</b>	OA
122	<b>E11.3 134 weaverthorpe</b>	45-55
123	<b>E11.3 135 weaverthorpe</b>	15-18
124	<b>E11.3 136 Weaverthorpe</b>	24-30
125	E11.3 138 weaverthorpe	35-40
126	E 11.3 139 Weaverthorpe	ADOL/YA
127	E11.3 140 Helperthorpe	45-55
128	E11.3 141 Helperthorpe	50+
129	E11.3 142 Cowlam	40-50
130	E11.3 143 Cowlam	35-40
131	E11.3 144 Cowlam	40-50
133	<b>E11.3 146 Cowlam</b>	40-50
134	E11.3 147 Cowlam	12 to 18
135	E11.3 148 Cowlam	35-40
136	E11.3 149 Cowlam	20-24
137	E11.3 150 Cowlam	45-55+
138	E11.3 151 Cowlam	45-55
139	<b>E11.3 152 Cowlam</b>	MA
140	e11.3 153 Cowlam	40-50
141	E11.3 154 Rudstone	20-30
142	E11.3 155 Rudstone	40-50
143	E11.3 157 Rudstone	45-55
144	E11.3 158 Rudstone	30-35
145	E11.3 159 Rudstone	45-55
146	E11.3 161 Rudstone	MA
147	<b>E11.3 162 Rudstone</b>	40-50
148	E11.3 163 Rudstone	OA
149	E11.3 164 Rudstone	OA
150	E11.3 165 Rudstone	45-55
151	E11.3 166 Rudstone	35-40
152	E11.3 167 Rudstone	OA
153	E11.3 168 Rudstone	YA TO MA
154	E11.3 169 Rudstone	45-55
155	E11.3 170 Rudstone	OA

Appendix 16.5: Dental pathology

	A	B
156	E11.3 171 Rudstone	45-55
157	E11.3 172 Rudstone	ADOL/YA
158	E11.3 173 Flixton (elf horse)	MA
159	E11.3 175 Flixton	35-40
160	E11.3 176 Flixton	16-20
161	E11.3 177 flixton/folkton	45-55
162	E11.3 178 Flixton/folkton	16-20
163	e11.3 179 Flixton/folkton	ADOLESC
164	<b>E11.3 180 Flixton/folkton</b>	16-20
165	<b>e11.3 181 Flixton, folkton</b>	45-55
166	<b>E11.3 182 Flixton, folkton</b>	45-55
167	<b>E11.3 183 Flixton,folkton</b>	45-55
168	e11.3 184 Cherry burton, g	35-40
169	E11.3 186 Goodmanham	40-45
170	E11.3 187 Goodmanham	18-22
171	E11.3 188 Goodmanham	45-55
172	E11.3 189 Goodmanham	MA TO OA
173	E11.3 190 Goodmanham	18-22
174	<b>E11.3 191 Goddmanham</b>	35-40
175	E11.3 192 Goodmanham	35-40
176	E11.3 193 Goodmanham	30-35
177	E11.3 194 Goodmanham	45-55
178	E11.3 195 Goodmanham	30-35
179	<b>E11.3 196 Goodmanham</b>	35-40
180	E11.3 198 Goodmanham	YA
181	<b>E11.3 199 Goodmanham</b>	30-35
182	<b>E11.3 200 Goodmanham</b>	18-22
183	E11.3 201 Goodmanham	35-40
184	E11.3 202 Goodmanham	35-40
185	E11.3 203 Goodmanham	NP
186	E11.3 204 Goodmanham	40-45
187	E11.3 205 Goodmanham	OA
188	E11.3 206 Goodmanham	YA
189	E11.3 208 Goodmanham	OA
190	E11.3 209 Goodmanham	YA
192	E11.3 211 Goodmanham	MA?
193	E11.3 212 Goodmanham	20-24
194	E11.3 213 Goodmanham	YA
195	E11.3 214 Goodmanham	40-50

Appendix 16.5: Dental pathology

	A	B
196	E11.3 215 Goodmanham	NP
197	E11.3 216 Goodmanham	YA
198	E11.3 217 Goodmanham	20-24
199	E11.3 218 Londesborough	YA
200	E11.4 233 Crosby Garrett, Y	MA
201	E11.4 235 Moorhouse, Pen	18-22
202	E11.4 239 Old byland yorks	20-24
203	E11.4 140 Cist burial malto	18-22
204	E11.4 241 Bridlington yorks	Y TO MA
205	E11.4 Langton, gainford yo	OA
206	E11.4 243 Long how, grind	np
207	RCS 4.03.4 North Deighton	45-55

Appendix 16.5: Dental pathology

	C	D	E	F	G
7	ADULTS	Upper R			
8	Dental overview	I1	I2	C	PM1
10	LEH, periodontal, calc				
14	LEH	LEH 2			
15	Calculus				
16	none				
18					
19	none				
21	none				
23	NP				
24	NP				
25	LEH; calc; periodontal			LEH 1	
26	none				
27	none				
28	none				
29	none				
30	none				
36	none				
48	NP				
52	Calculus				
53	peri-apical abcess				
54	periodontal				
55	periodontal				
56	periodontal				
58	caries, abcess				
59	none				
60	periodontal				
61	none				
62	none				
63	none				
65	LEH		LEH 1		
68	none				
69	none				
70	NP				
71	periodontal and plaque on lower M2-3				
72	NP				
73	perio on mand				
74	mod perio thru, LEH			LEH - 3	LEH 1

Appendix 16.5: Dental pathology

	C	D	E	F	G
75	mild perio thru, LEH	LEH 1	LEH 1		
76	periodontal, resorb to R Ms				
77	mild perio				
78	NP				
79	small am calc ling surf				
80	none				
81	LEH, mild perio, plaq to C	LEH 1	LEH 1	LEH 2	LEH 1
84	none				
85	abcess? Perio				
86	plaq to CEJs				
87	calc to CEJs				
88	NP				
89	peri ap gran & abcess				
90	calc LM2-3, RM3, MAND R11 resorb				
91	serious plaque, resorb are re				
92	NP				
93					
94	perio				
95	perio, comp erup, abcess, carious lesion				
96	NP				
97	mild perio				
98	none				
99	NP				
100	mild perio, caries lesion				
101	NP				
102	NP				
103	NP				
104	overcrowding, caries?,				
105	slight perio				
106	poss abcess, mild perio				
107	plaq to CEJs				
108	plaq to CEJs, mild-mod perio				
109	mild-mod perio				
110	none				
111	mild perio, plaq to CEJs, LEH			LEH 1	
112	NP				
113	mild perio, LEH	LEH 2	LEH 3	LEH 3	
114	NP				

Appendix 16.5: Dental pathology

	C	D	E	F	G
115	neo like wear, LEH				
116	none				
117	none				
118	endentulous				
120	LEH				
121	NP				
122	mod perio				
123	LEH			LEH 1	
124	mild perio, calc to CEJs, LEH				
125	LEH				
126	NP				
127	AM loss resorb, root caries, peri ap gran				
128	oss, abcess?				
129	mod perio, calc to CEJs, care				
130	none				
131	mild perio, calc to CEJs, LEH				
133	mod perio, LEH			LEH 1	
134	none				
135	calc to CEJs				
136	none				
137	none				
138	almost endentulous, perio severe				
139	NP				
140	mild to mod perio, calc to CEJs, LEH				
141	mild perio, LEH				
142	peri ap gran, perio		peri ap g		re
143	mild perio				
144	mild perio				
145	am loss, large calc deposit				
146	NP				
147	am loss, LEH				
148	NP				
149	NP				
150	mod perio				
151	mod perio				
152	NP				
153	NP				
154	calc and resorb				
155	almost endentulous				

Appendix 16.5: Dental pathology

	C	D	E	F	G
156	calc				
157	NP				
158	NP				
159	mod perio, caries				
160	none				
161	calc and resorb				
162	none				
163	NP				
164	LEH				
165	peri ap gran, resorb, mod to sev perio, LEH				
166	root gran, caries am res, mod perio				
167	am res ? LEH	LEH 1	LEH 1	LEH 1	
168	LEH				
169	calc to CEJs, LEH	LEH 1	LEH 1	LEH 1	
170	slight calc to CEJs, LEH				
171	crowding, comp erup, calc to ling mand CEJs				
172	NP				
173	oss, abcess?				
174	am res, mod perio, LEH				
175	none				
176	LEH			LEH 1	
177	abcess				
178	LEH			LEH 1	
179	no 3rd Ms, LEH	LEH 1			
180	NP				
181	LEH	LEH 2			
182	LEH			LEH 1	
183	none				
184	am res, LEH				
185	mild perio, no teeth but not endentulous				
186	LEH				
187	NP				
188	NP				
189	NP				
190	NP				
192	NP				
193	LEH			LEH 2	
194	NP				
195	mod perio, abcess, pei ap re		re		

Appendix 16.5: Dental pathology

	C	D	E	F	G
196	am loss of molars and resorb - no teeth				
197	NP				
198	leh				
199	NP				
200	mand has resorb and no teeth, of R molars AM loss				
201	?				
202	IEH				
203	am res, caries, calc	LEH 2	LEH 1	LEH 2	
204	NP				
205	NP				
206	NP				
207	NP				

Appendix 16.5: Dental pathology

	H	I	J	K	L	M
7					Upper L	
8	PM2	M1	M2	M3	I1	I2
10						
14					LEH 1	
15						
16						
18						
19						
21						
23						
24						
25						
26						
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48						
52						
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73						
74						

Appendix 16.5: Dental pathology

	H	I	J	K	L	M
75						
76						
77						
78						
79						
80						
81	LEH 1	LEH 1			LEH 1	LEH 1
84						
85						
86						
87						
88						
89						
90						
91			large Ca	large Ca		
92						
93						
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104						
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107						
108						
109						
110						
111						
112						
113		LEH 1			LEH 2	LEH 1
114						

Appendix 16.5: Dental pathology

	H	I	J	K	L	M
115						
116						
117						
118						
120						
121						
122						
123						
124						
125						
126						
127						
128						
129				Cl side		
130						
131						
133	LEH 1		LEH 3			
134						
135						
136						
137						
138						
139						
140						
141						
142						
143						
144						
145						
146						
147					re	
148						
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150						
151						
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153						
154						
155						

Appendix 16.5: Dental pathology

	H	I	J	K	L	M
156						
157						
158						
159						
160						
161		Ca	ca			
162						
163						
164						
165		LEH 1	LEH 1			peri ap g
166						
167					LEH 1	
168						
169						
170						
171						
172						
173						
174						
175						
176						
177						
178						
179					LEH 1	
180						
181						
182					LEH 1	
183						
184						
185						
186						
187						
188						
189						
190						
192						
193					LEH 2	
194						
195						LEH 1

Appendix 16.5: Dental pathology

	H	I	J	K	L	M
196						
197						
198			LEH 1			
199						
200						
201						
202						
203						LEH 1
204						
205						
206						
207						

Appendix 16.5: Dental pathology

	N	O	P	Q	R	S
7						
8	C	PM1	PM2	M1	M2	M3
10						
14						
15						
16						
18						
19						
21						
23						
24						
25	LEH 1					
26						
27						
28						
29						
30						
36						
48						
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73						
74						

Appendix 16.5: Dental pathology

	N	O	P	Q	R	S	
75							
76							
77							
78							
79							
80							
81	LEH 2	LEH 1	LEH 1	LEH 2	LEH 1		
84							
85							
86							
87							
88							
89							
90							
91							
92							
93							
94							
95			peri ap abccarious lesion between M1 and PM				
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111	LEH 2						
112							
113	LEH 1						
114							

Appendix 16.5: Dental pathology

	N	O	P	Q	R	S
115	LEH 1	LEH 1				
116						
117						
118						
120						
121						
122						
123	LEH 1					
124						
125	LEH 1	LEH1				
126						
127						
128				re abcess		
129						
130						
131						
133	LEH 2	LEH 1	LEH 1	LEH 1	LEH 1	
134						
135						
136						
137						
138						
139						
140		LEH 1	LEH 1			
141						
142						
143						
144						
145						
146						
147		re				
148						
149						
150						
151						
152						
153						
154						
155						

Appendix 16.5: Dental pathology

	N	O	P	Q	R	S
156						
157						
158						
159						
160						
161						Ca
162						
163						
164						
165	LEH 1		peri ap g			
166					gran & caries	
167						
168						
169	LEH 1				LEH 1	
170						
171						
172						
173						
174						
175						
176						
177						
178						
179						
180						
181	LEH 1	LEH 1				
182	LEH 3					
183						
184						
185						
186						
187						
188						
189						
190						
192						
193						
194						
195						

Appendix 16.5: Dental pathology

	N	O	P	Q	R	S
196						
197						
198						
199						
200						
201						
202						
203	LEH 1	LEH 1				
204						
205						
206						
207		re				

Appendix 16.5: Dental pathology

	T	U	V	W	X	Y
7	Lower R					
8	I1	I2	C	PM1	PM2	M1
10	LEH 1	LEH 1				
14						
15						
16						
18						
19						
21						
23						
24						
25		LEH 1	LEH 2			
26						
27						
28						
29						
30						
36						
48						
52						
53						
54						
55						
56						
58						
59						
60						
61						
62						
63						
65						
68						
69						
70						
71						
72						
73						
74			LEH 1			LEH 1

Appendix 16.5: Dental pathology

	T	U	V	W	X	Y
75			LEH 2			
76						Resorbed
77						
78						
79						
80						
81		LEH 1				
84						
85						
86						
87						
88						
89						abcess
90	re					
91						re
92						
93						
94						
95	M2					
96						
97						
98						
99						
100						
101						
102						
103						
104						
105						
106						
107						
108						
109						
110						
111			LEH 1			
112						
113	LEH 1		LEH 1			
114						

Appendix 16.5: Dental pathology

	T	U	V	W	X	Y
115						
116						
117						
118						
120	LEH 1	LEH 1				
121						
122						
123						
124	LEH 1	LEH 1				
125	LEH 1	LEH 1				
126						
127						Root Cl
128						
129						
130						
131						
133			LEH 1	LEH 2	LEH 2	
134						
135						
136						
137						
138						
139						
140		LEH 1	LEH 1	LEH 1	LEH 1	
141			LEH 2			
142						
143						
144						
145						large Ca
146						
147	re	re		LEH 1	LEH 1	
148						
149						
150						
151						
152						
153						
154						
155						RE

Appendix 16.5: Dental pathology

	T	U	V	W	X	Y
156				Ca ling	Ca ling	Ca ling
157						
158						
159						
160						
161						
162						
163						
164	LEH 1					
165	re					re
166						re
167	part re					
168			LEH 2	LEH 1		
169	LEH 1	LEH 2	LEH 2			
170						
171						
172						
173						
174		LEH 1	LEH 1	LEH 1	LEH 1	
175						
176						
177			abcess peri ap			
178						
179	LEH 1					
180						
181	LEH 1	LEH 1	LEH 1			
182			LEH 2			
183						
184					RE	
185						
186						
187						
188						
189						
190						
192						
193						
194						
195	re	re	re			re abcess

Appendix 16.5: Dental pathology

	T	U	V	W	X	Y
196						
197						
198						
199						
200						
201						
202	LEH 2	LEH 2	LEH 1			
203						
204						
205						
206						
207	worn to ro	worn to ro	worn to root			caries

Appendix 16.5: Dental pathology

	Z	AA	AB	AC	AD	AE
7			Lower L			
8	M2	M3	I1	I2	C	PM1
10			LEH 2	LEH 2	LEH 2	
14						
15						
16						
18						
19						
21						
23						
24						
25					LEH 2	
26						
27						
28						
29						
30						
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63						
65						
68						
69						
70						
71						
72						
73	Pe/Ca	Pe/Ca				
74						

Appendix 16.5: Dental pathology

	Z	AA	AB	AC	AD	AE
75						
76	Resorbed	almost Re				
77						
78						
79						
80						
81				LEH 1	LEH 1	LEH 2
84						
85						
86						
87						
88						
89	re	re				peri-ap g
90		ca				
91	re					
92						
93						
94						
95						
96						
97						
98						
99						
100		Carious les on occ surf				
101						
102						
103						
104		carious / enamel defect				
105						
106						
107						
108						
109						
110						
111					LEH 2	
112						
113				LEH 1		
114						

Appendix 16.5: Dental pathology

	Z	AA	AB	AC	AD	AE
115						
116						
117						
118						
120		LEH 1	LEH 1		LEH 2	
121						
122						
123						
124			LEH 1		LEH 2	
125					LEH 1	
126						
127	re	re				
128						
129						
130						
131					LEH 2	
133	LEH 1				LEH 2	LEH 1
134						
135						
136						
137						
138	RE	RE				
139						
140						
141						
142						
143	re					
144						
145		re				
146						
147	re		re			
148						
149						
150						
151						
152						
153						
154		Ca		re	LEH1	
155	RE	RE				

Appendix 16.5: Dental pathology

	Z	AA	AB	AC	AD	AE
156	Ca ling	Ca ling and buc				
157						
158						
159						
160						
161						
162						
163						
164						
165	re	re	re			
166						
167			part re	part re		
168					LEH 1	
169			LEH 1		LEH 1	
170					LEH 1	LEH 1
171						
172						
173						
174	re	re			LEH 2	
175						
176						
177						
178					LEH 3	
179			LEH 1	LEH 1	LEH 1	
180						
181						LEH 1
182				LEH 2	LEH 2	LEH 1
183						
184			LEH 1	LEH 1	LEH 1	
185						
186					LEH 1	
187						
188						
189						
190						
192						
193						
194						
195			re	re		peri ap g

Appendix 16.5: Dental pathology

	Z	AA	AB	AC	AD	AE
196						
197						
198						
199						
200						
201						
202			LEH 3	LEH 3	LEH 1	
203						
204						
205						
206						
207		calc	worn to ro	worn to ro	worn to ro	ling calc

Appendix 16.5: Dental pathology

	AF	AG	AH	AI
7				
8	PM2	M1	M2	M3
10				
14				
15				
16				
18				
19				
21				
23				
24				
25				
26				
27				
28				
29				
30				
36				
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52				
53				
54				
55				
56				
58				
59				
60				
61				
62				
63				
65				
68				
69				
70				
71				
72				
73			Pe/Ca	Pe/Ca
74				

Appendix 16.5: Dental pathology

	AF	AG	AH	AI
75				
76				
77				
78				
79				
80				
81				
84				
85		Abcess		
86				
87				
88				
89				
90			ca	ca
91		re		
92				
93				
94				
95				
96				
97				
98				
99				
100				
101				
102				
103				
104				carious/ en
105				
106				poss abces
107				
108				
109				
110				
111				
112				
113				
114				

Appendix 16.5: Dental pathology

	AF	AG	AH	AI
115				
116				
117				
118				
120				
121				
122				
123			LEH 1	
124				
125				
126				
127	re	peri ap g		
128				
129	re			
130				
131			LEH1	
133	LEH 2	LEH 1		LEH 1
134				
135				
136				
137				
138	RE	RE	RE	
139				
140				
141				
142				
143				
144				
145				
146				
147	LEH 1	LEH 1	LEH 1	
148				
149				
150				
151				
152				
153				
154				
155				

Appendix 16.5: Dental pathology

	AF	AG	AH	AI
156			re	calc on ling
157				
158				
159		caries betw	caries between	
160				
161	re	re		
162				
163				
164				
165				re
166		caries		
167	LEH 1			
168				
169				
170	LEH 1			
171				
172				
173				
174			re	re
175				
176				
177				
178		LEH 1		
179				
180				
181				
182				
183				
184	re			
185				
186				
187				
188				
189				
190				
192				
193				
194				
195				

Appendix 16.5: Dental pathology

	AF	AG	AH	AI
196				
197				
198				
199				
200				
201				
202		LEH 2	LEH 1	
203				
204				
205				
206				
207	ling calc	ling and bu re		re

### Appendix 16.6: Non-metric traits

As discussed in Chapter 7, non-metric traits are variations in anatomy which have been interpreted as indications of genetic distance and relatedness (Tyrell 2000). The inhumation sample only shows general non-metric traits which are common in both Neolithic and Early Bronze Age populations

Non-metric trait	Number
Sternum foramen	1
Shovel upper 2 <sup>nd</sup> incisor	10
Shovel upper 1 <sup>st</sup> incisor	4
Shovel shaped upper canine	1
Metopic suture	3
Humerus septal aperture	1
Calcaneus double facet	1
Double occipital condyle foramen	3

Table 72: Number of individuals with non-metric traits

Out of 203 inhumations, only 17 were not possible to assess for non-metric traits. The most common trait is shovel shaped upper incisors, particularly to the upper lateral incisors which has a five percent prevalence within the inhumation sample. Shovel shaped upper central incisors are less common and only have a two percent prevalence. The other traits which were found have a prevalence of one percent or less. These do not indicate any patterns of relatedness, they are common to the population.

**Appendix 16.7: Dates from radiocarbon analysis and artefacts**

Area	Site	2500-2050	2050-1500	C-14 range	Object	I/C
East/Yorkshire	Green Howe	X	X	2294-1696 bone	FV	I & C
	Cowlam 3		X		FV	I
	Sherburn 9		X		FV	I
	Sherburn 13		X		FV	I
	Ganton 21		X		FV	I
	Langton 2		X		CU	I
	Heslerton Wold 4		X		FV	I
	Willerby 38		X		FV	I
	Rudstone 63		X		FV	I
	Rudstone 66	X			B	I
	Flixton, Elf Howe		X		FV	I
	Folkton 70		X		CU	I
	Folkton 71		X		FV	I
	Goodmanham 94		X		FV	I
	Goodmanham 97		X		FV	I
	Goodmanham 93		X		FV	I
	Goodmanham 113	X	X		B, FV	I
	Goodmanham 114		X		FV	I
	Goodmanham 115	X	X		FV, Basket E	I
	Goodmanham 118		X		FV	I
Goodmanham 121		X		CU	I	
West/Derbyshire	Hindlow	X	X	2915-1518 bone		I & C
	Stanton Moor 1		X		CU	C
	Stanton Moor 2		X		FV	C
	Swarkestone		X		CU	C
	Liff's Low	X			B	I
West/Lancashire	Whitelow		X	2072-1743 bone	CU	C
	Moseley Height		X	1880-1610 bone	FV	C
	Shuttleworth		X	2050-1730 bone	CU	C
	Noon Hill		X	2210-2020 charc		C
	Hades Hill		X	2040-1870 bone		C
West/Cheshire	Church Lawton N	X	X	2115-1691 bone	B, FV	C
	Woodhouse End	X	X		B, FV	C
	Kellsall		X		CU	C
	Cleulow Cross		X		CU	C
	Bearhurst		X		CU	C
North/Cumbria	Castle Carrock 163	X			B	I

	Moor House		X		FV, AC	I
	Brackenber		X		CU	C
	Aglionby		X		CU	C

**Appendix 16.8: XRF data on cremation slag from CLN**

	element	F20c	F20a (40)	F20b	F20a (60)	Average
1	Si	1038	5971	9310	6131	5612.5
2	P	4764	13094	4582	13968	9102
3	Ar	15706	14260	15823	13648	14859.25
4	K	1	1672	1841	1404	1229.5
5	Ca	100311	325806	134041	316884	219260.5
6	V	1	63	1	591	164
7	Mn	90899	378613	128092	323461	230266.3
8	Fe	79603	185533	162488	138763	141596.8
9	Cu	2259	5524	2341	2127	3062.75
10	Zn	3730	5273	3745	2495	3810.75
11	Rb	213	576	2038	225	763
12	Sr	3136	8499	5903	9	4386.75
13	Zr	1032	5121	8390	6	3637.25
14	Rh	4077	10457	10028	7	6142.25
15	Rh	23477	23177	22328	25771	23688.25
16	Pd	4058	7018	7457	7	4635
17	Pd	1	2	1	12	4
18	Ba	243	481	442	0	291.5
19	Ba	6378	16306	11110	15045	12209.75
20	Ta	431	1612	1060	1075	1044.5
21	Ta	0	0	0	0	0

No.	Element	F18b	F18a	Average
1	Si	3142	17003	10072.5
2	P	5364	2974	4169
3	Ar	15332	14814	15073
4	K	948	7413	4180.5
5	Ca	113261	62611	87936
6	V	1	740	370.5
7	Mn	139131	310671	224901
8	Fe	61388	92771	77079.5
9	Cu	2619	4863	3741
10	Zn	4339	5858	5098.5
11	Rb	693	2998	1845.5
12	Sr	3136	7476	5306
13	Zr	1360	2317	1838.5
14	Rh	4328	11798	8063
15	Rh	23836	23749	23792.5

16	Pd	4199	9317	6758
17	Pd	1	1	1
18	Ba	209	231	220
19	Ba	6840	9844	8342
20	Ta	848	1289	1068.5
21	Ta	0	0	0

No.	Element	F9a
1	Si	3308
2	P	523
3	Ar	16716
4	K	330
5	Ca	7077
6	V	1
7	Mn	84146
8	Fe	22579
9	Cu	1169
10	Zn	446
11	Rb	137
12	Sr	332
13	Zr	552
14	Rh	3363
15	Rh	22556
16	Pd	3491
17	Pd	1
18	Ba	37
19	Ba	2660
20	Ta	549
21	Ta	0

## **Appendix 16.9: Hindlow in press paper**

### ***Is it possible to access identity through the osteoarchaeological record? Hindlow: a Bronze Age case study.***

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#### ***Abstract***

Different forms of identity have often been understood in terms of binary oppositions. Within archaeology this can be seen in studies which attempt to differentiate between identities using similarity and difference. This is particularly noticeable in studies of burial sequences within round barrows (Last 1998; Mizoguchi 1993) where later burials over time are thought to be referencing earlier burials which were used as a symbolic resource. This is inferred from the similarities or differences in aspects of the mortuary process such as position, direction of the body and grave-goods. A case study of a British Bronze Age mortuary site is used to question how we might examine aspects of identity through burial process and osteology.

#### ***Background***

Previous discussions of identity in archaeology have usually been derived from artefacts, at times bypassing the human remains to discuss the grave-goods without relating them to the deceased (Brück 2004; Healy and Harding 2004; Jones 2002; Shennan 1975). The archaeological study of identity (especially within Bronze Age literature) has often been centred on the status of the dead, usually inferred from the number and rarity of artefacts. In contrast, osteological studies have been based on biological indications of physiological stress to indicate status and so on. Such indications include cribra orbitalia, stature, periostitis, enamel hypoplasia, and other palaeopathological evidence which can be very informative to our understanding the lives of past peoples. For example, cribra orbitalia is an area of porosity which occurs in the roof of the orbit and may indicate a mineral deficiency or metabolic disorder (Walker *et al.* 2009). Enamel hypoplasia occurs when there is interruption to the development of the tooth enamel (which can be seen as a defect on the tooth) for example due to infection, birth trauma or low birth weight (Waldron 2009, 244). These kinds of indications of health are important as they can tell us about episodes of ill-health during the life-course.

Osteological studies have focused on finding aspects of identity which are ‘statistically significant’ (e.g. Robb *et al.* 2001). Overall, empty demographic data or individual case studies are meaningless without discussion of the deceased within the mortuary context. Both these approaches, while useful and interesting, fail singly as these forms of evidence are often interpreted out of context.

#### ***Examining aspects of identity through burial process and osteology***

Different forms of identity have often been understood in binary opposites, for example, agency vs structure, the individual vs the social, and the self vs the other. These things are defined by their opposites and lead to a very black and white view which cannot explain uncertainty or change

(Hockey and James 2003, 13). Within archaeology this can be seen within studies which attempt to differentiate between identities, using similarity and difference. This is particularly noticeable in studies of burial sequences within round barrows (Last 1998; Mizoguchi 1993) where later burials over time are thought to be referencing earlier burials; this is inferred from the similarities in aspects of the mortuary process such as position and direction of the body. Within social theory, Jenkins (1996, 4) and Hockey and James (2003, 13) criticise this structured duality as a 'snap-shot' of something which is really a process, working on many levels by thoughts or actions. Jenkins (1996) suggests creating a synthesis between the two opposites, understanding identity as a process of being or becoming so a person's identities are never final. This means that identity can be understood as a process of events which occur over the life-course.

Osteologically visible processes could include age and the life-course and events which affect the body such as illness, trauma and certain activities. Archaeologically visible identity processes may include the mortuary process, gender roles and status while osteologically visible identity processes could be argued to represent the deceased in a biological sense.

Archaeologically visible processes may be said to be more obviously representative of the mourners and perhaps their relationships with the dead, as they are the active participants in the mortuary rite (Parker Pearson 1999). However, Sørensen (2009, 111) has discussed how the dead can affect the behaviour of the living and in this way manipulate the mourners and have power over the mortuary rite; the bereaved are 'moved to move' (Sheets-Johnstone 1999, 275).

There are numerous choices which can be made throughout the burial process: most notable of these is the choice of inhumation or cremation. Choices which are considered in this study are the layering of burials and mound phases and the disturbance of earlier burials. These burial choices may then be linked with osteological aspects of the deceased such as age, sex and disease.

### ***Hindlow round cairn, Derbyshire***

Hindlow, an Early Bronze Age round cairn in Derbyshire (NGR SK836917), was first investigated by Bateman in 1845 and in the 1950s a rescue excavation was carried out by Ashbee and Ashbee (1981), who discovered the burials of around 21 individuals. Four of these were articulated and in stratified sequences with earlier disturbed burials (see figure 1). The human remains have recently been analysed for Minimum Number of Individuals, age, sex, palaeopathology, and life histories by Walsh (n.d.) as part of an on-going PhD project. The results of this analysis, together with the re-evaluation of the Ashbees' report, have raised chronological issues concerning both the sequence at Hindlow and the relationships between burials.

Previous reliance on the model of primary burials followed by secondary burials seems to be problematic as this idea developed from the activities of antiquarians (Greenwell and Rolleston 1877; Bateman 1848) and has been incorporated into more recent research (Mizoguchi 1993; Barrett 1990). The idea of primary/secondary burial often does not agree with the evidence or explain the more complex phases of burials at various sites, for example at Deeping St Nicholas (French 1994) and Barrow Hills (Barclay and Halpin 1998). The sequence at Hindlow also seems to contradict this model as Bateman never found a central, primary burial and it is possible that there

was in fact no primary burial in the centre of this barrow. It is therefore apparent that there are other sites where the sequence is not 'typical'.

The human remains from Hindlow were represented by at least seven adult males, five neonatal infants and at least four adult females, although these were earlier in the sequence and more fragmented. All age groups were represented in the assemblage. Palaeopathological evidence included indications of osteoarthritis and joint degeneration of the spine, which together probably indicate strenuous activity, probably farming. Other indications of disease included linear enamel hypoplasia, periostitis, osteoporosis, and mandibular abscess.

Pre-cairn activity is evidenced by a possible early cremation, discovered near the centre of the cairn by Bateman. The initial cairn was associated with two areas of burial: one of which included the remains of two juveniles, which were found among the loose stones at the base of the cairn and on the ground surface (Ashbee and Ashbee 1981, 15).

Also early in the sequence was Burial 1A (a juvenile aged c.10) which was under Burial 1 (an adult male, aged 20–30). Burial 1 had indications of infection on his skull, was laid with his legs slightly flexed and at his feet was a cremation. This cremation, accompanied with a bronze awl, probably represented the remains of a woman and it is unknown whether it was deposited before or after Burial 1 (see figure 2).

Associated with the second phase of cairn construction was Burial 2 which was laid onto the larger stones of the primary cairn, only c.15cm below the turf in the southeast quadrant. Underneath the legs of Burial 2 were the remains of an infant. Also associated with this phase was a second bone scatter which included the remains of an adult (Burial 8), an adolescent and an infant. The inhumations which were found by Bateman were apparently near the surface and were perhaps stratigraphically comparable with Burial 2.

Burial 3, a man aged 35–50, was laid in a flexed position, facing the opposite way as Burial 4 and it seems possible that Burials 3 and 4 were deposited together.

At Hindlow, Burials 1, 3 and 4 were deposited in a way which disturbed earlier bodies. It is possible that this was done on purpose. In some Bronze Age studies it has been shown that certain graves were marked, perhaps in order to avoid or return to them, as part of protracted burial rites (Woodward 2002, 25). The continued deposition of bodies in the main burial area seems to show knowledge of the placement of these burials. It may be possible that this area was left open for some time. The returning to and disturbance of earlier burials may indicate a need to connect the older deceased with the more recent deceased which could be argued to be positive or negative. A positive connection could be interpreted as an affirmation of belonging to a particular social group. The negative alternative would perhaps be the purposeful destruction of the older remains, which are replaced with preferred bodies for whatever social or political reason.

## ***Conclusion***

At Hindlow the living seem to have returned to one area and disturbed earlier burials with later ones. This could indicate remembrance of the earliest dead in a positive way, to re-affirm group and individual identity. Alternatively, the oldest burials may have been purposefully disturbed as a way of asserting a different identity. This may be made visible from the sequence and practice of barrow burial and construction and osteological indications of life history. These ideas could be interpreted with barrow building as a visible construction of group identity. The community identified with each other through their relationship with the barrow (Holtorf 1998). The people who used Hindlow as a burial site, related their group to the barrow, it was a fixed place in their landscape. As a place for the dead the barrow formed a history, known or mythological which could be referred to as a place of influence, where the dead could be revered, manipulated or avoided. The monument remains apart from daily life, but has longevity which enables a community connection so the site is returned to; the cairn becomes a mnemonic of social identity through time.

***Post-script***

Of the c. 21 individuals within the Hindlow assemblage a sample from each of the main contexts was radiocarbon dated (see table 1). This included three of the articulated individuals, two of the cremated individuals and three scattered individuals. Initial radiocarbon results indicate that the earliest use of the site was during the Neolithic, further burials then occurred throughout the Bronze Age. The main difference to the original hypothesised sequence was the lateness of Burial 4 which had been thought by the Ashbee’s to be among the earliest burials. These results will be published in full at a later date.

OXA	Sample number	Burial	Dates	Cal BC (95.4%)
25385	6	Bateman cremation	4244±32BP	2915–2703
25384	5	Scatter 1	3783±32BP	2335–2057
25380	1	Burial 1	3682±32BP	2193– 1963
25383	4	Burial 8	3617±32BP	2119–1890
25382	3	Burial 2	3565±31BP	2022–1777
25386	7	Main cremation	3564±33BP	2022–1776
25387	8	Burial 5	3523±32BP	1936–1753
25381	2	Burial 4	3312±30BP	1681–1518

Table 1: Radiocarbon dates of a number of burials from Hindlow round cairn.

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## Appendices 16.10: Mortimer and Greenwell data

Mortimer burial positions (Mortimer 1905)

direction of head	R side	L side	on back	on chest	unknown	total
n	14	16	8	0	4	42
nnw	4	3	0	0	0	7
nw	6	2	3	0	3	14
wnw	1	0	1	0	0	2
w	45	17	13	0	7	82
wsw	2	0	1	0	1	4
sw	13	2	3	0	2	20
ssw	4	1	2	1	1	9
s	20	8	12	0	3	43
sse	4	0	0	0	0	4
se	5	9	6	0	1	21
ese	3	1	1	0	0	5
e	41	25	9	1	8	84
ene	0	3	0	1	0	4
ne	12	12	6	0	1	41
nne	4	4	3	0	0	11
<b>total</b>	<b>178</b>	<b>103</b>	<b>68</b>	<b>3</b>	<b>31</b>	<b>383</b>

Group number	Name	Total in group	MNI
1	towthorpe	26	67
2	wharram percy	10	12
3	aldro A	9	27
	aldro B	6	6
	aldro C	8	7
	aldro D	6	8
	aldro E	5	2
4	acklam	15	24
5	Hanging grimston	19	28
6	painsthorpe wold	19	50
7	garrowby wold	19	48
8	calais wold	16	25
9	riggs	14	18
10 (mostly historic)	fimber	3	4
10a	life hill	7	9

11	garton slack	36	120
12	driffield	9	15
13	huggate wold	18	28
14	huggate and warter	15	22
15	blanch	26	19
ungrouped	helperthorpe 'A'	1	0
	Kemp howe/cowlam	1	0
	cowlam cross	1	?
	227	1	2
	280 marton	1	3
	281 hedon howe	1	6
	284	1	8
<b>Total</b>		<b>293</b>	558

Greenwell burial positions

direction of head	r side	l side	total
n	8	11	19
nnw	3	3	6
nw	12	6	18
wnw	6	1	7
w	20	5	25
wsw	7	1	8
sw	16	3	19
ssw	4	5	9
s	11	8	19
sse	1	5	6
se	3	18	21
ese	1	9	10
e	13	24	37
ene	1	4	5
ne	6	15	21
nne	0	4	4
<b>total</b>	<b>112</b>	<b>122</b>	<b>234</b>

**Appendix 16.11: Child burial data (Kinnes and Longworth 1895)**

site	described as	burial	alone	with adult	side	Place	artefacts
Heslerton 4	child	1	X		R	central grave	none
Heslerton 6	adolesc	1	x		left	centre	none
sherburn 11	infant and child	1		x	na	np	fv
sherburn 12	adolesc and child	3	x but 2		ad on r, ch on l	central grave	fv and flint knife
gantton 16	infant	1		x	left	on surface	bone pin behind infant head
gantton 21	child	1	x		left	surface	fv
gantton 21	child	3	x		left	nr 2	none
gantton 21	adolesc	8		x	r	np	fv
gantton 21	infant	9	x			np	none
gantton 21	infant	11	x			in hollow	none
gantton 22	adolesc	2	x		l	surface	none
gantton 23	adolesc	2	x		r	surface beneath flint blocks	fv
gantton 25	child	1	x		crem	surface	flint
gantton 26	adolescent	2	x		r	30cm e of crem	arrowhead
gantton 26	child	4	x		r	np	
gantton 26	child	7	x		np	np	
willerby 33	child	1	x		l	central grave	none
willerby 33	child	3	x			central grave at head of 2	none
willerby 33	infant	5		x		central grave at back of 2	none
willerby 33	child	7		x		central grave on legs of 6	none
willerby 34		3	1	x	all l	np	fv
helpertorp 41	child	1		x	both r	at centre	arrowhead with adult
weaverthorp 43	child	2	x			above surface	none
weaverthorp 43	child	4	x			np	none
weaverthorp 43	child	8	x		l	np	none
weaverthorp	child	9	x			np	none

rpe 43							
weavertho rpe 43	child	10	x		r	np	none
weavertho rpe 43	child	11	x		r	np	none
weavertho rpe 45	child	1	x			on surface	none
weavertho rpe 45	infant	2	x			in hollow	fv
weavertho rpe 46	infant	3	x			np	none
weavertho rpe 46	child	4	x			np	none
weavertho rpe 47	adoles	3	x			shallow grave nr centre	none
weavertho rpe 47	adolesc	5	x			on surface	none
Cowlam 56	child	2		x	scattered	fill of central grave	none
Cowlam 57	child x2?	8		?	l	surface	none
Cowlam 57	child	9	x		r	above surface	none
Cowlam 58	adolescent	3	x		r	on surface	none
Cowlam 59	child skull	2	x		np		stone chisel
Rudston 61	child	1	x		l	above surface	none
Rudston 62	child	3	x		l	above surface	none
Rudston 63	infant	2	x		r	in hollow	none
Rudston 63	child/adoles	5	x		r	above surface	none
rudston 63	infant	7	x		l	above surface	none
Rudston 67	child	6	x		r	above surface	none
Rudston 67	child	7	x		r	above surface	none
Rudston 67	child	8	x		np	above surface	none
Rudston 67	child x2	10	x		l	above surface	flint flakes
Rudston 67	child x2	11,12	x		np	above surface	none
Rudston 67	infant	14		x	l	end of wood lined hollow	none
Rudston 67	child	15	x		np	above surface	fv

Rudston 68	child	2	x		np	surface	none
Rudston 68	child	4	x		l	surface	none
Folkton 70	child	1	x		np	on surface	fv
Folkton 70	infant x2	2,3	x		np	on surface	cu, fv
Folkton 70	child	4	x		np	on surface	none
Folkton 70	adolescent	7	x		r	on surface	none
Folkton 70	child	9	x		l	above surface	fv
Folkton 71	adolesc	1	x		l	above surface	none
Folkton 71	infant	2	x		np	above surface	
Folkton 71	adolescent	5	x		r	above surface	none
Folkton 71	child	11	x		np	above surface	none
Goodman ham 89	child	10	x		r	on surface	none
Goodman ham 89	child and adolesc	12	x		extended	in grave	flints, cu
Goodman ham 92	child	3	x		r	central hollow	knife
Goodman ham 111	child	3	x		l	on surface	acc cup
Goodman ham 111	child	4	x		l	on surface	bone pin
Goodman ham 111	adolescent	7	x		r	on surface	none
Goodman ham 111	child	8	x		np	on surface	none
Goodman ham 114	child	2		x	np	on surface	none
Goodman ham 114	child	3	x		r	in central grave	fv
Goodman ham 118	adolescent	1	x		r	base of central grave	fv
Goodman ham 119	adolescent	1	x		r	central grave	fv
Goodman ham 121	child	4	x		np	above surface	
Goodman ham 121	adolescent	6	x		r	central grave	jet necklace



## 17. Appendices part 2: bone reports

### 17.1 Analysis of remains at Grosvenor Museum, Chester

*Site:* Cleulow cross

This site is a cairn and stone circle which was excavated by Sainter in 1871 (Rowley 1982), finds included flints which have also been burned.

*Deposit type:* Urned cremation deposit

*Weight:*

<2mm: 29g

<5mm: 41g

<10mm: 123g

10mm>: 266g

Unidentified: 256g

Lower limb: 33g

Upper limb: 22g

Misc limb: 61g

Hand/foot: 5g

Articular surfaces: 10g

Pelvis 7g

Vertebrae: 11g

Cranium: 37g

Scapula: 5g

Maxilla/mandible: 4g

Ribs: 23g

*Size*

Minimum: 4.08mm

Maximum: 81.97mm (limb)

Cranial thickness range: 3.20 to 4.01mm, cortical thickness of the upper limb: 3.63mm; lower limb: 4.80mm.

Scapula – glenoid height: 18.38mm

### *Taphonomy*

The colour of the remains was predominantly pale brown though some pieces were buff, cream or white; the fractures and cracks were predominantly transverse.

### *Inventory*

Identifiable elements included: ribs and vertebrae, two fibular heads, some hand and foot bones, one right zygomatic, one left petrous portion, one left maxilla fragment with the nasal aperture.

### *MNI*

This deposit is representative of one individual which was thought by Sainter to be a child (Rowley 1982).

### *Age*

A mandibular molar root has an open foramen at the root apex, the cranial sutures are very open and well delineated. There was a piece of pubic symphysis but this was too damaged to be of use for aging. All the epiphyses which are present (ribs, vertebrae, phalanges, fibula and distal femur) are fused. The epiphyseal fusion indicates an adult, the open foramen of the molar root indicates a younger adult, root completion occurs around 21 years (Whittaker 2000, 86).

### *Sex*

The remains are very gracile and small, this individual is probably a female; the glenoid height falls into the female range (Bass 2005, 123).

### *Palaeopathology*

Several vertebral bodies had raised edges and there was one vertebral body with a possible lytic lesion. The lesion was small and oval and near the margin of the vertebral body.

### *Site: Bearhurst*

The tripartite food vessel which held the cremated remains was covered with a 'lid' made from another vessel (Rowley 1982).

*Deposit type:* Urned cremation deposit

*Weight:*

<2mm: 38g

<5mm: 20g

<10mm: 190g

10mm>: 421g

Unidentified: 359g

Upper limb: 53g

Articulations: 17g

Vertebrae: 31g

Foot/hand: 11g

Lower limb: 61g

Pelvis: 8g

Skull: 77g

Ribs: 16g

Misc limb: 48g

*Size*

Minimum: 15mm

Maximum: 68.32mm

Cranial thickness: 6.88mm

*Taphonomy*

The remains were all light brown in colour and fractures and cracks were mostly transverse.

*Inventory*

Identified elements included: the acetabulum, scapula, several vertebrae including the 2<sup>nd</sup> cervical, a left patella, one mandibular condyle, one coronoid process (very large and pointed), one mental protuberance, one proximal radial head, a petrous temporal and a piece of ulna with the brachial tuberosity.

*MNI*

This deposit represents one individual.

*Age*

This is an adult, the cranial sutures were open. The two root fragments had fully closed apices, this was a young to middle adult.

#### *Sex*

Due to the size and robusticity of the elements, this individual was probably a male (M?).

#### *Site: Bell farm*

#### *Weight*

<2mm: 7g

<5mm: 7g

<10mm: 56g

10mm>: 80g

Unidentified: 81g

Limb: 43g

Cranial: 19g

Axial: 7g

#### *Size*

Minimum: 3.37mm

Maximum: 43.17mm (limb), 46.21mm (rib)

#### *Taphonomy*

The remains are mostly pale brown with around 5% being white. The fracture and crack morphology is a combination of longitudinal and transverse, sometimes both are interwoven within fragments.

#### *MNI*

Only one individual is represented by this deposit, there were not many identifiable fragments.

There was one tooth root fragment which was undiagnostic.

The open cranial sutures perhaps indicate a young to middle adult. There was one identifiable piece of orbital margin which was very thin and scored at a '2', this may be a female (??).

#### *Site: Kelsall / Morrie's Nurseries*

Found in 1950 by Mr G Leach, the urn was tripartite and was found inverted. The urn was around 10 inches high, 7 inches in diameter and 3 and  $\frac{3}{4}$  at the base. It was decorated with shallow incised lines in an irregular chevron pattern (1952).

Boars tusk fragments from this burial weighed 13g, this also seems to have been cremated, some pieces have a polished appearance.

*Deposit type:* urned cremation deposit

*Weight*

<2mm: 4g

<5mm: 15g

<10mm 29g

10mm>: 78g

Unidentified: 70g

Axial: 4g

Limb: 40g

Cranial: 16g

*Size*

Maximum: 70.43mm

Cranial thickness: 4.6mm; limb cortical thickness: 6.44mm; 6.66mm

*Taphonomy*

The larger pieces of this deposit are light brown or cream, as the size of the pieces increases the colour is predominantly cream or grey. The morphology of the fractures and cracks is curved transverse on the long bones and ribs.

*Inventory*

Identifiable fragments included: an unfused distal femur/talus, a right patella, one piece of orbit, pieces of mandible, one right temporal, one petrous portion and an unfused humeral epiphysis.

The identified dentition mostly consisted of forming teeth, these included:

- one upper 2<sup>nd</sup> premolar, 5.5-7.5 years but likely at 5.5 end of this range
- one lower 1<sup>st</sup> premolar, which was damaged.

- one lower incisor (2<sup>nd</sup> left?) root open,  $\frac{3}{4}$  of root complete = 7.5 years
- one piece of root, upper incisor –  $\frac{1}{2}$  to  $\frac{3}{4}$  of the root complete = 7.5 years

#### *MNI*

The remains are representative of one juvenile individual; however, some pieces are quite thick (see measurements above).

#### *Age*

From the development of the dentition and the epiphyseal fusion the individual was around 5-8 years of age-at-death.

#### *Site: Beech hall*

*Deposit type:* urned cremation deposit

#### *Weight*

<2mm: 9g

<5mm: 8g

<10mm: 51g

10mm>: 360g

Unidentified: 136g

Cranium: 107g

Misc limb: 41g

Upper limb: 53g

Lower limb: 14g

Mandible: 12g

Axial: 57g

#### *Size*

Minimum: 5.31mm

Maximum: 107.66mm (limb); 54.58mm (cranium)

Gejvall measurement 1b: 7.91mm

Breadth of ascending ramus: 33.32mm

#### *Taphonomy*

The remains range in colour from cream to light brown, some cranial pieces are white, there is also some pale green staining perhaps indicative of copper – on the skull. The fracture and crack morphology was different to the other assemblages as it included a wide amount of variation including, tranverse, patina (even on long bones) and also some interesting spalling - curving, longitudinal.

#### *Inventory*

The fragments which were identifiable included: a left and a right mandibular condyle, one right petrous portion, one scapula, one right distal radial end and a clavicle. A small piece of pubic symphysis was also identified, this had a smooth surface with no ridges, fine grain and some lipping on the border.

#### *MNI*

The deposit is representative of one adult.

#### *Age*

Using Suchey-Brooks criteria puts this individual into phase 3-4 which gives a rough age of around 30-40 years. Cranial sutures are open though there are some changes to the shape of suture edges, this minimal closure indicates a middle adult.

#### *Sex*

The one piece of orbit was indeterminate for sex estimation, the mandibular ramus wide but not very tall. There were no large muscle attachments and the limbs were gracile. This is a probable female??

*Site:* Hounslow/ **glead hill cob**

Three different urns, see photos

Deposit type: urned cremation deposit

2 different possible contexts (though this is un-clear) one from the base of urn (382) and what will be referred to as 383.

#### *Weight (382)*

<5mm: <1g

<10mm: 6g

10mm>: 43g

Unidentified: 17g

Cranium: 12g

Limb: 20g

Axial: 3g

#### *Weight (383)*

<5mm: <1g

<10mm: 9g

10mm>: 94g

Unidentified: 22g

Cranium: 13g

Axial: 10g

Articulations: 4g

Lower limb: 30g

Upper limb: 19

Misc limb: 10g

#### *Size (both)*

Minimum: 6.54mm

Maximum: 59.56mm (limb)

382: cortical thickness – radius: 2.28mm; lower limb: 5.22mm

#### *Taphonomy*

The colour of both sets of remains is buff to sandy, the fracture and crack morphology is mostly transverse.

#### *Inventory*

Within 382, of the limb fragments, 80% is identifiable as upper limb. Within 383, the lower limb pieces are all probably femur and there are also fragments of humerus and ulna. There was also part of the axis (odontoid process) and a mandibular condyle which is quite small.

#### *MNI*

The MNI of this site depends on whether this is one deposit or two. The two together could be representative of one individual as there are no visible repetitions.

#### *Age*

All the remains are adult

#### *Sex*

382: quite small and gracile – though not much to base this on

383: well defined linear aspera, but otherwise not especially masculine.

Overall this is one or two adults of indeterminate sex.

#### *Site: Betchton*

Probable flat burial site

Found 1928 in 1 large urn with 1 small incense cup and a bone pin

*Deposit type:* urned cremation deposit

#### *Weight*

<2mm: 2g

<5mm: 1g

<10mm: 9g

10mm>: 150g

Unidentified: 50g

Cranial: 74g

Axial: 4g

Limb: 48g

Articulations: 5g

#### *Size*

Maximum: 52.52mm (cranium); 64.83mm (limb)

#### *Taphonomy*

The colour of the remains is mostly pale to mid-brown with some cream pieces, there was one piece of cranium with charred diploe. The fracture and crack morphology demonstrates a mixture of crisscrossed transverse and longitudinal, and some diagonal and coned fractures.

### *Inventory*

There was not much which was identifiable, other than general cranial and limb-fragments there was a piece of scapula.

### *MNI*

The deposit represents one adult individual.

### *Age*

The open cranial sutures perhaps indicate a young to middle adult.

### *Sex*

The rugosity of the cranial fragments indicates a probable male (?).

### *Site: Woodhouse end round barrow*

*Deposit type:* both urned and un-urned cremation deposits

### Urned cremation 1

Also included in this deposit was the distal epiphysis of a pig radius. This had also been cremated? It had a patina crack pattern and was pale brown in colour.

### *Weight*

<2mm: 2g

<5mm: 9g

<10mm: 465g

10mm>: 264g

Unidentified: 348g

Cranium: 66g

Misc limb: 284g

Upper limb: 16g

Hand/foot: 6g

Axial: 6g

Articulations: 16g

### *Size*

Minimum: 2mm

Maximum: 39.17mm (cranium)

Cranial thickness 4.59mm, 2.69mm and 1.41mm (the latter is squamous temporal/parietal).

### *Taphonomy*

The colour of the remains is light/mid brown with a small amount of white, both transverse and patina cracks and fracture patterns were observed.

### *Inventory*

Identifiable fragments included: two glenoid fossae (one much smaller than the other), one piece of humerus, fragments of radius and ulna, two pieces of distal femur, a fragment of distal humerus, two radial heads (fused), five pieces of adult phalanges (three proximal and two distal) and one adult (described as juvenile in the report) odontoid process/dens of axis. There was also one proximal humerus/femur, this is probably the piece described in the report as unfused but it is just fragmented and mud encrusted.

Identified as juvenile remains were: two proximal phalanges with unfused proximal ends, two other small pieces (possible phalanges/ meta c/p), one piece of long bone, probably a distal femur, which is unfused and one piece of possible juvenile sphenoid.

### *MNI*

This deposit is made up of two individuals, most is that of an adult.

### *Age*

The adult remains – open cranial sutures indicate an adult of young-middle adulthood. From the unfused proximal phalanges and distal femur the juvenile individual was in late childhood, between 7-12 years of age (Schaefer et al 2009).

### *Sex*

The adult limb fragments are quite small and gracile, there is also one right orbit fragment which was scored at 3. This individual may have been a female???

### Urned cremation 3

This was a very small amount of 28g, the fragments were unidentified and mid-brown in colour.

#### Un-urned cremation 1

##### *Weight*

<2mm: 4g

<5mm: 13g

<10mm: 282g

10mm>: 510g

Unidentified: 300g

Cranium: 160g

Limb: 302g

Pelvis: 13g

Scapula: 6g

Vertebrae: 10g

Ribs: 7g

Hand/foot: 8g

##### *Size*

Minimum: 3.12mm

Maximum: 49.44m (cranium), 57.51mm (limb)

Scapula, glenoid height: 29.13mm

Gejvall measurement 1b: 11.45mm

##### *Taphonomy*

The colour of these remains was cream to light brown with some red soil staining and again the observed cracks and fracture patterns were transverse and patina.

##### *Inventory*

The identified fragments included: a zygomatic process from the temporal which was quite thin and gracile, a right petrous portion, a left orbit, two pieces of alveoli (mandibular/maxilla), a mandibular condyle, a piece of occipital, one right zygoma and a peice of scapula. There was also an amount of identifiable pelvis which included: a left iliac crest, an ischial tuberosity, part of the auricular surface (not enough to age), acetabulum and a left pubic symphysis.

Identifiable teeth included: one canine, one incisor, one upper 2<sup>nd</sup> premolar?, one upper 1<sup>st</sup> premolar?, three other root pieces, one upper molar, two other molars.

#### *MNI*

This deposit represents one individual

#### *Age*

A complete pubic symphysis was identified, this was assessed using Suchey-Brooks; in both the male and female categories it was in phases 4 and 5 giving a rough age of around 35-50. The closed cranial sutures may put this individual into the older end of this range? All molars are well worn, aged at around 33-45 using Brothwell (1981; 1989) and Lovejoy (1985).

#### *Sex*

A piece of orbit and glabella was scored at 2, the mandibular condyle was of good size, the articular surfaces were small. The glenoid height of the scapula falls into the female range (Bass 2005, 123). This individual may have been female (F?)

#### Urned cremation 2

This deposit also included 5g of identified dog remains, including metapodials and possible cranium. These fragments were more cream in colour compared to the rest of the deposit and had been cremated as demonstrated by the patina pattern of cracks.

#### *Weight*

<2mm: 3g

<5mm: 16g

<10mm: 286g

10mm>: 252g

Unidentified: 315g

Misc limb: 122g

Upper limb: 11g

Lower limb: 6g

Cranium: 100g

Hand: 5g

### *Size*

Minimum: 4mm

Maximum: 68.58mm (limb)

### *Taphonomy*

The remains were cream to light brown in colour and transverse and patina cracks and fractures were observed.

### *Inventory*

Identifiable fragments included: one piece of occipital, a right petrous temporal, two pieces of mandible, two pieces of humerus, two parts of radius, two parts of ulna, a piece of tibia and one end of a proximal humerus.

### *MNI*

There are no repetitions this is likely to be one individual

### *Age*

The cranial sutures are closing indicating a middle to mature adult.

### *Sex*

The left orbit was scored at 4, a superciliary ridge (right) including orbital foramen was scored at 4. Overall the cranial pieces are generally masculine, however the limb bones (especially the radius and ulna are extremely gracile, indicating a female.

The hand bones (most of one complete hand) are also quite small and indicate a female.

## 17.2: Analysis of the Church Lawton remains

**F18** – urned

### *Weight*

<1mm: 250g

<5mm: 205g

<10mm: 309g

10mm>: 576g

Juvenile: 10g

Miscellaneous flat bone: 48g

Unidentified: 470g

Miscellaneous limb: 228g

Femur: 58g

Humerus: 20g

Tibia: 36g

Fibula: 2g

Ribs: 16g

Cranium: 60g

Vertebrae: 10g

Hand and foot: 7g

Lower arm: 21g

Articular: 20g

Patellae: 8g

Miscellaneous bone with blue stains: 19g

Pelvis: 3g

Scapula: 2g

Unburnt: 2g

Conjoining limb: 35g

Teeth: 7g

Charcoal: 6g

Mandible and maxilla: 10g

Trabecular: 1g

### *Size*

Maximum: 70.96mm (limb); 32.73mm (cranium)

Minimum: 2.41mm

The remains are white-cream in colour, lots of fragments have pale blue staining. Fracture patterns include mosaic, curved, linear, step; one piece of limb is highly warped. The skull is more highly fragmented than the rest of the body.

### *Inventory*

Numerous fragments of undiagnostic flat bone, small fragments of vertebrae, couple of pieces of pelvis, mandibular condyle and part of body, 2 distal pedal phalanges, one lunate, one hook of hamate, one triquetral, two pisiforms, one sesamoid bone, numerous parts of metacarpal/tarsal ends, 5 parts of manual phalanges, 2 parts of cuneiforms, one left and right patellae (left has cremation slag on the surface).

Possible fragments of juvenile cranium,

Adult skull includes 2 parts of right orbit, 2 parts of squamous parietal, one part sphenoid/ethmoid, numerous parts flat bits of cranium, one right mastoid (scored at 3), one root of zygomatic arch, one part of right maxilla. 2 parts of radial head, 3 parts of distal femur surface with blue staining, identifiable fragments of femur, tibia, humerus and fibula.

### *MNI*

One adult

One possible juvenile represented by thin cranial fragments?

### *Age*

Adult – sutures are partially or fully fused = M to O adult

Juvenile?

### *Sex*

Occipital protuberance scored at 4, quite a robust skull, the orbital margin was rounded and scored at 4, the frontal was low and sloping.

### *Teeth*

Root foramen are open

2 molars with crowns a second and a third – see sheets for wear

4 other parts of molar root

3 premolar roots and a premolar crown which is worn flat  
2 lateral lower incisors with flattened crowns  
1 upper lateral incisor

## **F20**

### *Weight*

<1mm: 148g

<5mm: 333g

<10mm: 426g

10mm>: 660g

Burnt flint: 5g

Unidentified: 1061g

Colouration: 2g

Charcoal: 2g

Animal: 9g

Miscellaneous limb: 158g

Cremation slag: 9g

Bone pin: 2g

Fibula: 3g

Femur: 27g

Cranium: 142g

Maxilla and mandible: 8g

Articular bone: 37g

Radius: 7g

Ulna: 4g

Flat miscellaneous bone: 31g

Vertebrae: 10g

Rib: 15g

Teeth: 9g

Hand and foot: 17g

Humerus: 17g

Tibia: 18g

### *Size*

Maximum: 62.52mm (cranium)

Minimum: 1.48mm

The remains are white-cream in colour with a small amount of grey fragments. Fractures are linear, transverse, step, spiral, branched and mosaic.

#### *Inventory*

Cranial bones identified include two mandibular fossae, a left petrous portions and part of a right frontal, part of the sphenoid or ethmoid, two parts of maxilla and 2 parts of mandible (1 alveolar and one ascending ramus). Also five fragments of distal manual phalanges (1 thumb) which have osteophytes, a 1<sup>st</sup> metatarsal and five shafts of metacarpal/tarsal. Also 6 intermediate manual phalanges and 3 proximal manual phalanges. One proximal part of femur, 3 parts of distal femur, part of the proximal humerus and a proximal ulna articular surface.

Teeth include

Numerous root fragments – 9 molar roots, 2 upper central incisors, one lower central incisor, 3 lateral incisors and 2 premolar roots.

#### *MNI*

1 adult

#### *Age*

Adult

Sutures indicate partial but significant fusion = MA

#### *Sex*

Right supra-orbital margin scored at 2

#### **F9**

#### *Weight*

<1mm: 96g

<5mm: 242g

<10mm: 642g

10mm>: 959g

Pelvis: 27g  
Articular bone: 25g  
Unidentified: 1034g  
Fibula: 13g  
Humerus: 17g  
Cranium: 289g  
Radius: 18g  
Vertebrae: 40g  
Miscellaneous flat bone: 13g  
Ulna: 23g  
Tibia: 43g  
Ribs: 30g  
Femur: 83g  
Hand and foot: 26g  
Charcoal: 1g  
Cremation slag: 1g  
Blue stained: 1G  
Teeth: 8g  
Miscellaneous limb: 268g

*Size:*

Maximum: 73.06mm (limb); 48.53mm (cranium)

Minimum: 2,90mm

The remains are tan to pale brown in colour, fracture patterns are transverse, linear, step, spiral, mosaic, circling and branched.

*Inventory*

One mandibular fossa, manganese staining on the skull? A left supra-orbit with the foramen, various parts of alveoli from mandible and maxilla. A distal end of a radius, various parts of all the limbs, hook of hamate and part of a lunate parts of the pelvis including the greater sciatic notch and ilium. Articulations of tibia and humerus, there are lots of hand and foot bones including a distal thumb phalanx also there were 6 distal manual phalanges and 3 distal pedal

phalanges. All types of vertebrae are represented and include atlas, axis with odontoid and the facet.

Teeth = several unidentifiable fragments

2 upper central incisor roots

3 parts of lateral incisors

2 parts of premolar roots

7 parts of molar roots which includes 2 upper 3<sup>rd</sup> molar and a lower M1

#### *MNI*

One adult

#### *Age*

Sutures are significantly fused but lots are still visible

The root foramina are still open

#### *Sex*

The cranium is quite thick and rugged

#### **F19**

##### *Weight*

<1mm: 86g

<5mm: 17g

<10mm: 64g

10mm>: 48g

Unidentified: 99+86g

Cranium: 9g

Miscellaneous limb: 23g

Teeth: 1g

Charcoal: 0.3g

##### *Size*

Maximum: 75.16mm (limb); 29.45mm (cranium)

Minimum: 3.54mm

The remains are fractured in linear, transverse and spiral patterns and are white-grey in colour.

*MNI*

1 adult

*Age*

NP

*Sex*

NP

**F14**

*Weight*

<1mm: 158g

<5mm: 346g

<10mm: 449g

10mm>: 393g

Unidentified: 1036g

Humerus: 20g

Femur: 14g

Vertebrae: 10g

Miscellaneous limb: 124g

Tibia: 4g

Ulna: 2g

Cranium: 66

Pelvis: 3g

Ribs: 14g

Hand and foot: 13g

Teeth: 2g

Articular bone: 10g

Mandible and maxilla: 2g

Radius: 3g

Charcoal: 3g

Scapula: 8g

Miscellaneous flat bone: 28g

Animal: 1g

#### *Size*

Maximum: 67.10mm (limb); 45.65mm (cranium)

Minimum: 1.66mm

The remains are tan to pale brown in colour and are fractured in transverse, step, linear, spiral, split (flat bones show separation of the two surfaces) and mosaic patterns.

#### *Inventory*

Significant identified fragments include: 1 radial head, 2 petrous portions (left and right), part of the internal occipital protuberance, 1 part of humeral head, one femoral head, possible one piece of bone pin, 2 mandibular condyles, 2 parts of scapula, 6 parts of metatarsal/carpal shaft, 4 distal manual phalanges, 1 hallux distal phalanx, lots of partial intermediate and proximal phalanges.

Parts of all the main limb bones are represented, however the limbs are quite fragmented and there is not a large amount of them identifiable.

15 fragments of teeth including 1 pm root, 3 parts of M root and one part I root. Part of one probable molar crown which is the side portion and has no occlusal surface.

#### *MNI*

1

#### *Age*

Adult – cranial sutures show full fusion of the internal cranium and significant fusion of the external cranium.

#### *Sex*

NP but manual phalanges are small

**F10** – Hardly any bone, the remains are white in colour

<5mm: 0.1g

<10mm: 0.3g

All unidentifiable

**F6***Weight*

<1mm: 3g

<5mm: 3g

<10mm: 22g

10mm>: 20g

Unidentified: 40g

Miscellaneous limb: 8g

Cranium: 5g

Teeth: 0.3g

*Size*

Maximum: 40.24mm (limb); 33.27mm (cranium)

Minimum: 1.57mm

The remains are white-tan in colour and are fractured in linear, transverse and mosaic patterns. There are two fragments of tooth root, 1 is probably a premolar and the other a molar.

**F34**

2g of mostly dust with tiny fragments of white bone.

**F7***Weight*

<1mm: 45g

<5mm: 29g

<10mm: 128g

10mm>: 106g

Unidentified: 231 + 45g

Miscellaneous limb: 17g

Cranium: 9g

Articular bone: 8g

Vertebrae: 5g

*Size*

Maximum: 54.81mm (limb); 29.88mm (cranium)

Minimum: 2.03mm

The remains are cream to pale brown in colour and are fractured in linear, transverse and spiral patterns.

There are 4 fragments of teeth: 2 undiagnostic parts of roots, 2 molar roots – with peri-apical foramina fused.

*MNI*

1

*Sex*

NP

*Age*

Adult

**F1**

*Weight*

<1mm: 31g

<5mm: 11g

<10mm: 87g

10mm>: 113g

Unidentified: 161+31g

Bone pin: 0.7g

Vertebrae: 0.5g

Ribs: 4g

Scapula: 2g

Cranium: 11g

Teeth: 0.3g

Hand: 0.2g

Miscellaneous limb: 37g

*Size*

Maximum: 36.49mm (limb); 29.39mm (cranium)

Minimum: 1.82mm

The remains are cream in colour with fractures in linear, transverse, spiral, branched and mosaic patterns.

Teeth – two roots: 1 incisor and 1 part PM ?

*MNI*

1

*Sex*

NP

*Age*

Adult

**F5**

*Weight*

<5mm: 0.5g

<10mm: 4g

10mm>: 16g

Miscellaneous limb: 17g

Rest is unidentified

*Size*

Maximum: 59.28mm (limb)

Minimum: 1.92mm

The remains are white-grey in colour and are fractured in linear and transverse patterns.

*MNI*

1

*Sex*

NP

*Age*

NP

**F3**

*Weight*

<5mm: 0.5g

<10mm: 14g

10mm>: 22g

Miscellaneous limb: 13g

Cranium: 3g

Unidentified: 26g

*Size*

Maximum: 43.28mm (limb); 24.27mm (cranium)

Minimum: 1.46mm

The remains are tan to pale brown in colour and are fractured in linear and transverse patterns.

*MNI*

1

*Age*

NP

*Sex*

NP

**F27***Weight*

<1mm: 156g

<5mm: 90g

<10mm: 218g

10mm>: 476g

Unidentified: 542g

Maxilla and mandible: 3g

Hand and foot: 15g

Charcoal: 6g

Radius: 5g

Ulna: 10g

Humerus: 11g

Femur: 25+8g

Vertebrae: 5g

Miscellaneous limb: 82g

Sternum: 1g

Pelvis: 33g

Unfused: 1g

Misc flat: 34g

Scapula: 8g

Articular boen: 23g

Teeth: 1g

Cranium: 95g

Tibia: 26g

Fibula: 9g

*Size*

Maximum: 60.43mm (limb); 41.32mm (cranium)

Minimum: 1.96mm

The remains are tan to pale brown in colour with some grey-black fragments. Fracture patterns were linear, transverse, stepped, curved, spiral and branched.

### *Inventory*

Parts of the femur identified were – 2 parts of distal condyle and 2 capits. There were 2 parts of humeral trochlear and a part of the head; 3 parts of proximal tibia and a few parts of the shaft; a few phalanges, part of a talus and one hallux (mt1). Of the skull there was a right petrous portion (large), one internal frontal crest and 3 parts of mandible and maxilla.

### *MNI*

1

### *Age*

No visible fusion of the cranial sutures and surviving tooth roots seem fully formed. This is a younger adult.

### *Sex*

NP

### **F33**

#### *Weight*

<1mm: 104g

<5mm: 104g

<10mm: 359g

10mm>: 830g

Unidentified: 782g

Blue stain: 3g

Animal: 2.5g

Teeth: 2g

Juv: 0.5g

Charcoal: 0.5g

Hand and foot: 23g

Vertebrae: 17g

Cranium: 189g

Mandible and maxilla: 8g

Pelvis: 26g

Fibula: 17g

Femur: 56g  
Tibia: 24g  
Humerus: 4g  
Ribs: 11g  
Clavicle: 9g  
Radius: 9g  
Scapula: 7g  
Ulna: 21g  
Patella: 4g  
Articular bone: 1g  
Miscellaneous long bone: 161g

#### *Size*

Maximum: 47.94mm (cranium); 111.79mm (limb)  
Minimum: 2.93mm

The remains are cream to pale brown in colour with some grey fragments and some blue staining to the cranium. Fractures are branched, patina, linear, step and transverse. There is blue staining to a femoral distal condyle.

#### *Inventory*

2 parts of clavicle, one part occipital, 2 mandibular condyles, lots of fragments with sutures, a couple of pieces of mandible/maxilla with alveolar bone, one mandibular condyle, 2 pelvic auricular surfaces, 2 parts of scapula, 1 articular part of the talus, 2 distal ends of ulna, one proximal part of articular ulna, half of a patella, two parts of distal humerus, two parts of humeral head, one proximal tibial surface, several fragments of distal femoral condyles and one part of the proximal head.

Animal: one part ovis astralagus and another part of animal bone.

#### Teeth

Juvenile: molar crown and incisor roots

An adult incisor root

#### *MNI*

1 Adult

1 younger child?

*Age*

Cranial sutures – partial fusion MA?

*Sex*

Feminine cranial bones – gracile, small mandibular condyle. One part of occipital which is quite thin and a root of the zygo-temp arch which is small and feminine.

**F24**

<1mm: 71g

<5mm: 74g

<10mm: 360g

10mm>: 552g

Unidentified: 548g

Miscellaneous limb: 128g

Articular bone: 16g

Teeth: 3g

Humerus: 54g

Maxilla and mandible: 9g

Vertebrae: 37g

Ulna: 9g

Unfused: 2g

Pelvis: 14g

Cranium: 155g

Ribs: 38g

Tibia: 7g

Miscellaneous flat bone: 0.5g

Hand and foot: 18g

Femur: 6g

Fibula: 6g

Charcoal: 1g

Radius: 2g

*Size*

Maximum: 61.35mm (cranium); 90.02mm (limb)

Minimum: 2.68mm

The tan to cream in colour with some brown fragments (mostly vertebrae and some cranium).

Fracture patterns are branched, mosaic, linear, spiral, transverse, stepped and curved.

#### *Inventory*

Right supra orbital margin (v small and gracile) with 2 foramen, several fragments of sphenoid, one part occipital, one left zygomatic, one left mandibular condyle and coracoids, part of right zygomatic, 5 fragments of distal femoral condyle, one part other mandibular ramus, 4 parts alveolar bone, one petrous portion, 2 radial heads, 2 humeral trochlear, one fibular end, 5 distal manual phalanges (including 1 thumb), 2 Mc, another part of a distal manual phalanx-smaller than the others.

#### Teeth

3 incisor roots

2 premolar roots

2 molars

#### *MNI*

2?

3 unfused pieces – radius 2 prox and 1 distal

All other limb parts are fused

#### *Age*

Sutures are short and not well developed – child/adolescent?

#### *Sex*

Very gracile but probably is an older child or younger adolescent – cranial bones are quite thin

#### **F28**

#### *Weight*

<1mm: 29g

<5mm: 24g

<10mm: 34g

10mm>: 17g

Miscellaneous limb: 8g

Unidentified: 85g

Charcoal: 1g

Hand and foot: 2g

Teeth: 1g

Cranium: 6g

Miscellaneous flat bone: 4g

#### *Size*

Maximum: 34.36mm (cranium); 23.22mm (limb)

Minimum: 2.88mm

The remains are tan to grey in colour and fractures are linear, transverse, step and spiral.

#### *Inventory*

1 foot distal phalanx, 3 distal manual phalanges and 2 intermediate, 3 fragments of cranium

7 fragments of tooth root ends

#### *MNI*

1 adult

#### *Age*

Cranial sutures show significant fusion

#### *Sex*

NP

#### **F23**

#### *Weight*

<1mm: 107g

<5mm: 60g

<10mm: 502g

10mm>: 1275g

Distal femur: 15g  
Proximal tibia: 9g  
Fibula: 6g  
Femur: 43g  
Distal humerus: 3g  
Proximal humerus: 5g  
Humerus: 48g  
Tibia: 35g  
Miscellaneous limb: 470g  
Articular bone: 33g  
Radius: 21g  
Colouration: 1g  
Charcoal: 1g  
Unidentified: 795g  
Cranium: 299g  
Patella: 4g  
Teeth: 1g  
Hand and foot: 13g  
Ribs: 24g  
Pelvis: 8g  
Scapula: 3g  
Vertebrae: 35g  
Miscellaneous flat bone: 22g  
Mandible and maxilla: 15g

#### *Size*

Maximum: 62.87mm (cranium); 78.56mm (limb)

Minimum: 2.67mm

The remains are mostly cream-tan in colour with some grey-black fragments and some blue staining. Around a third of the cranium is grey. Fracture patterns are linear, transverse, branched, spiral and mosaic.

#### *Inventory*

There are numerous cranial bones, 4 supra orbital margins (2 pairs) with parts of the frontal bones. There are 5 petrous portions (2 pair and 1 possible juv). One left is possibly juvenile but difficult to be certain due to breakage. There are two mastoid processes, numerous fragments with sutures, one part of frontal with sinus, 2 right zygomatics, one juvenile frontal/occipital, one small facial bone (animal/juv?), 2 adult parts of frontal crest, several pieces of mandible and maxilla, numerous fragments of all limb bones, 1 radial head, one distal radius, 4 shafts of mc/t, 2 parts of scaphoids and one lunate, one distal manual phalanx, 4 partial intermediate manual phalanges, four proximal manual phalanges, 5 parts of pedal proximal phalanges.

Teeth: 1 lower I2, 1 lower I1, two parts of molars – one being an upper and the other a 3<sup>rd</sup> upper M. Also 1 upper central I or a C, one other lower I from a different individual – open root foramen.

#### *MNI*

2 adults

#### *Age*

Cranial sutures – partial fusion and some significant.

#### *Sex*

Supra-orbital areas – one scored at 3, another scored at 4 = M? Is quite thick and robust. A petrous portion appears large and male, mastoids are scored at 2/3.

#### **F35**

##### *Weight*

<1mm: 97g

<5mm: 44g

<10mm: 308g

10mm>: 473g

Unidentified: 514g

Residual juv: 0.5g

Hand and foot: 7g

Charcoal: 1g

Teeth: 2g

Scapula: 4g  
Vertebrae: 2g  
Miscellaneous flat bone: 29g  
Pelvis: 5g  
Articular bone: 20g  
Ribs: 5g  
Cranial: 51g  
Ulna: 6g  
Maxilla and mandible: 5g  
Femur: 25g  
Miscellaneous limb: 140g  
Radius: 12g  
Fibula: 3g  
Humerus: 46g  
Tibia: 47g

#### *Size*

Maximum: 38.99mm (cranium)  
Minimum: 3.45mm

The remains are cream-tan in colour, fracture patterns are branched, linear, transverse, spiral, also there was one warped humerus shaft.

#### *Inventory*

Articular bones include: 4 parts of distal femoral condyles, one part of proximal ulnar surface, 3 parts distal humerus, 3 parts proximal tibia and 2 parts of distal tibia, 2 parts of talus, various pieces of hand and foot.

Seven parts of phalanges and one complete distal manual phalange, one left petrous portion, one part of occipital, 4 parts of maxilla/mandible with alveoli and one part of mandibular ramus. All limbs are represented.

Teeth – 3 parts of molars, one canine, one lower central incisor, one lower lateral incisor.

#### *MNI*

1 adult

*Age*

1 adult

Residual juv?

Cranial sutures – complete fusion and some obliteration

*Sex*

F?? Gracile skull and long bones

**F2**

*Weight*

<1mm: 64g

<5mm: 161g

<10mm: 467g

10mm>: 321g

Teeth: 5g

Proximal ulna: 2g

Vertebrae: 5g

Distal radius: 2g

Hand and foot: 8g

Fibula: 5g

Miscellaneous limb: 147g

Tibia: 18g

Ribs: 4g

Ulna: 6g

Unidentified: 704g

Cranium: 53g

Radius: 6g

Mandible and maxilla: 5g

Femur: 22g

Scapula: 2g

Humerus: 13g

Pelvis: 5g

Charcoal: 1g

Articular bone: 3g

### *Size*

Maximum: 69.84mm (limb); 29.51mm (cranium)

Minimum: 2.72mm

The remains are pale cream, grey, pale brown and grey-blue/black (small amounts of last) in colour. Fractures are linear, transverse, spiral and branched.

### *Inventory*

1 part mandible, 4 fragments of mandible/maxilla, some have parts of tooth roots in the sockets, 1 left supra orbital which has a notch and foramen, 2 petrous portions (left and right), one mandibular fossa, one squamous bone of the parietal/temporal, one internal frontal crest, one part of a zygoma, several fragments of cranium with sutures, one distal radius, one proximal ulna, four phalanges, parts of a calcaneum and 2 tali, several fragments of vertebrae and pelvis, one scapula glenoid, one part of the humeral head, one part of a femoral head, one part of a distal femoral condyle. Most of the limbs are too fragmented to identify from the cross-section

### *Teeth*

6 molar fragments

A few parts of incisor roots, one possible juv molar root and two parts of premolars.

### *MNI*

1 adult

### *Age*

Cranial sutures show full fusion and partial obliteration

### *Sex*

Supra orbital area (L) is scored at 4 = M?

### **17.3: Analysis of the remains from Tullie House museum, Carlisle.**

#### **The inhumations**

Site: **Aglionby/waterloo hill**

Acc: 53-1938

#### *Inventory*

Representing the cranium there was: one piece of cranium, one other frontal piece with possible metopic suture; a possible orbit bone and one fragment of right temporal bone with mandibular fossa (smaller than the specimen from 15-1927).

Of the post-cranial remains there were six pieces of undiagnostic bone, though two of these probably represent upper limb, there were also three foot bones including, a right navicular, a left talus and a left calcaneus.

*MNI*: 1 adult (not possible to age, not possible to sex).

#### *Animal remains*

sheep/deer? Incisors

#### *Taphonomy*

The remains are heavily eroded – perhaps more so than 15-1927

Site: **Aglionby, waterloo hill**

Acc: 15-1927

#### *Inventory*

These remains were mostly bones from the skull; there was one complete occipital bone which was fragmented around the foramen magnum and fused to part of sphenoid (includes clivus and sella turcica). Also there was a right temporal (squamous part not surviving and no zygomatic arch) a left temporal – surviving parts includes the petrous portion-, a right mandibular fossa a right mandibular condyle and part of the ramus, the right gonial angle of mandible, part of the left side of the mandible and part of the right side of the maxilla with the 2<sup>nd</sup> molar. Also there were some pieces of cranial bone with sutures, one with parietal sutures fused but clearly visible – has the parietal foramina and part of the lambda.

Of the post-cranial remains there was a piece of clavicle (the right-lateral half) with pronounced muscle attachments for conoid ligament and deltoid muscle.

There was an atlas (in 3 parts), an axis (almost complete except for transverse processes), there were 3 other cervical vertebrae (probably C3-5) with some porosity on vertebral body surfaces, also a coronoid process and a piece of pelvis.

#### *Dentition*

1 2<sup>nd</sup> right maxillary molar

1 1<sup>st</sup> right maxillary molar

1 2<sup>nd</sup> right maxillary premolar

1 2<sup>nd</sup> left maxillary molar

1 1<sup>st</sup> left maxillary molar

1 2<sup>nd</sup> left maxillary premolar

1 mandibular molar (lower 1<sup>st</sup>? left) which shows the most wear

Generally the teeth are more worn on the right upper maxilla

All 3<sup>rd</sup> molars are present and one mandibular 2<sup>nd</sup> premolar

See dental chart for details on wear.

#### *Palaeopathology*

There is linear enamel hypoplasia on mandibular 3<sup>rd</sup> molars, the linear EH is c.  $\frac{1}{4}$  or  $\frac{1}{3}$  of the way up the crown from the CEJ. From the position of the EH on the teeth, the event (physiological stress or infection) occurred around 13.5 to 15.5 years (Al Qahtani 2009) or 11-12 years (Ubelaker 1989).

There is porosity around external acoustic meatus (vascularisation?)

#### *Non-metric traits*

There is a condylar canal on the right occipital facet

#### *Age*

There is fusion of the spheno-occipital synchondrosis which usually occurs by age 25.

#### Dental age

Using the Brothwell method; the maxilla gives an age of 17-25 years, the mandible gives an age of 25-35 years. Using the Lovejoy et al (1985) method, the maxilla gives an age of around 30-40 years, the mandible gives an age of 40+

#### *Sex*

This individual is quite muscular, the occipital bone is quite large and flat (may be due to taphonomy) but otherwise not especially masculine and the nuchal area was scored at 3/4. The right mastoid is damaged but quite narrow, the mandibular condyle is quite large so overall this is possibly a male?? It is definitely a robust individual.

#### *Taphonomy*

There is lots of damage, probably from excavation or disturbance and there is lots of erosion to the fracture margins and thinner edges of elements, this is probably due to sand, there is some root etching also.

#### Site: **Shieldknowe**

Acc: 95-1977 bag 'C'

The remains of unburnt bones from the central cist

This is 6g of very undiagnostic small fragments

#### Site: **Sheildknowe**

Acc: bag 'B'

Unburnt bone from the central cist in close association with food vessels

13g of very undiagnostic small fragments

Both of these Shieldknowe deposits consist of barely surviving bone, possibly due to the soil acidity and erosion.

#### **The cremations**

#### Site: **Aglionby, waterloo hill**

Acc: 25-1926.3

#### *Weight*

<2mm: 372g

<5mm: 66g  
<10mm: 283g  
10mm>: 806g

Cranium: 133g of which 15g is definite juvenile cranium

Ribs: 71g

Vertebrae: 55g

Hand and foot: 14g

Mandible: 8g

Upper limb: 49g

Scapula: 10g

Teeth: 1g

Lower limb: 114g

Misc limb: 157g

Articular pieces: 66g

Juvenile post-cranial remains: 24g

Unidentified: 810g

#### *Size*

Maximum: 78.68mm (limb); 43.82mm (cranium)

Minimum: 3.32mm

#### *Taphonomy*

The limb bones were pale-brown to cream in colour, the cranial bones were mostly white/grey and the juvenile bones were white. Fracture patterns were transverse and longitudinal on the limb bones and patina on the cranial bones.

#### *Inventory*

The remains included: a piece of orbit/frontal (juv?) a part of alveolar process, an adult zygoma (R), pieces of parietal, temporal, a left sphenoid, some juvenile cranial pieces. One radial head (18.33mm), one part of auricular surface, a proximal ulna, three pieces of proximal tibial surface, an acetabulum, a distal articular humeral end, a femoral head, a patella, three parts humeral head, a distal ulna, five parts distal femoral condyles and one juvenile humeral proximal epiphysis.

Mandibular fragments included; the internal mandibular eminence with condyle, one piece mandibular ramus (R), one mandibular condyle L

Vertebrae – all sorts are represented including; one thoracic vertebrae with schmorl's node on inferior surface, two pieces of atlas which are small and possibly juvenile as there is a piece of axis which is much larger and adult.

One piece of infant cervical vertebra, a piece of infant lumbar vertebra and one piece of thoracic vertebra transverse process, also a possible part of an infant fibula. The juvenile remains are very fragmented but represent at least one individual; one young infant and from the cortical thickness of some fragments also one older infant or young child.

A possible piece of animal bone

#### *Dentition*

1 part of a deciduous molar

1 part of a crown- probable 1<sup>st</sup> molar which is still forming. The crown is  $\frac{3}{4}$  complete – ubelaker method gives an age of around 1-2 years; AlQahtani (2009) gives an age of around 2.5-3.5 years.

1 root which is probably from an upper incisor

1 deciduous medial left upper incisor

1 upper premolar root

2 other fragments which may be deciduous – a possible other incisor and another fragment of molar

Also there were several other non-diagnostic fragments.

#### *MNI*

three petrous portions represent one adult and one probable juvenile, the other juvenile fragments may indicate two juveniles overall.

#### *Palaeopathology*

There are several pieces of cranial bone with possible fibre bone also some porosity but might be just vascularisation

#### *Age*

The adult has some cranial sutures which are open and some which are partially closed which would put this individual in the range of young-middle adult.

The forming crown mentioned in the dental inventory is  $\frac{3}{4}$  complete. Using the Ubelaker method gives an age of around 1-2 years; AlQahtani (2009) gives an age of around 2.5-3.5 years.

Site: **Aglionby, waterloo hill**

Acc: 25-1926.2

*Weight*

<10mm: 7g

10mm>: 7g

Cranial: 5g

Alveolar bone: 1g

Misc: 8g

*Size*

Maximum: 28.73mm (limb); 28.61mm (cranial)

Minimum: 6.59mm (limb); 8.20mm (cranial)

*Taphonomy*

Some of the fragments are not cremated (20%) the rest are sand-pale brown in colour.

*Inventory*

This deposit is a very small amount of mostly undiagnostic fragments of limb, rib and cranium.

The pieces which appear un-cremated are cranial and alveolar bones.

*Age*

There is an adult premolar which has very slight wear, some cranial bones appear juvenile with open sutures (1.56mm – 2.34mm in thickness).

*MNI*

These remains may represent an adult and a child or perhaps one older child?

Site: **Aglionby, Waterloo Hill**

Acc: 15-1927.1

*Weight*

<1mm: 77g

<5mm: 620g (50% charcoal, dirt and grit)

<10mm: 391g

10mm>: 77g

Unidentified: 1009g

Residue: 75g

Ribs: 5g

Vertebrae: 3g

Hand/foot: 5g

Miscellaneous flat bones: 3g

Articular fragments: 2g

Cranial bones: 13g

Radius: 1g

Miscellaneous limb: 36g

Juvenile limb and ribs: 3g

Teeth: 3g

*Size*

Maximum: 34.71mm (misc flat bone); 52.50mm (limb)

Minimum: 2.80mm

*Taphonomy*

The remains were cream to pale brown in colour. There were only very small fragments surviving, of the limb shafts usually only a quarter of the shaft circumference survived. Fracture patterns included crush to the vertebrae, and longitudinal and transverse to the limbs with some spiral and stepped fractures.

*Inventory*

Two fragments of adult radial head, ten small fragments of metacarpal/tarsal which are mostly heads, one possible sesamoid bone or part of a juvenile carpal, three distal manual phalanges, seven parts of other phalanges probably all manual, a hook of hamate. There are around 30

cranial fragments of which only two are thick enough to be adult, the rest are definitely juvenile, there was one piece of alveolar bone. There were several rib fragments, a few small fragments of undiagnostic vertebrae and one piece of atlas. The surviving limb fragments are undiagnostic and there are a few juvenile pieces, there are two pieces of undiagnostic articular bone. Also there is a possible unfused distal part of a tibial diaphysis, two possible scapula glenoids which appear juvenile.

There were 33 tooth fragments

1 possible premolar root

1 lower incisor

1 upper 2<sup>nd</sup> incisor

4 parts of the upper molar root which is curved and circular (1 may be deciduous)

2 parts of the upper molar root which is flatter and is two fused roots

1 part of half a lower molar root

2 upper premolar roots

1 other part molar root

1 dentine crown – probable molar

Other undiagnostic fragments

#### *MNI*

These remains represent one adult and one juvenile, though there may be more individuals, it is not really possible to be certain due to the levels of fragmentation; this depends also if this is a residue from a cremation pyre.

#### *Age*

The cranial fragments appear to be from an older infant or early stage young child (c.2-3 years) but this is a rough estimation.

Dentine crown of probable molar is worn = at least 20 years old, possibly could be 24-30+ but cannot narrow the tooth down any further.

Site: **Aglionby, Waterloo Hill**

Acc: 15-1927.2

#### *Weight*

<1mm: 39g

<5mm: 33g  
<10mm: 218g  
10mm>:815g

Vertebrae: 42g  
Pelvis: 38g  
Articular parts: g  
Cranium: 89g  
Lower limb: 143g  
Unidentified: 384g  
Hand/foot: 9g  
Scapula: 7g  
Miscellaneous limb: 85g  
Ribs: 21g  
Radius: 21g  
Ulna: 31g  
Miscellaneous upper limb: 45g  
Fibula: 9g  
Miscellaneous flat bone: 21g  
Residue: 74g

#### *Size*

Minimum: 3.59mm  
Maximum: 89.03mm (limb); 52.22mm (cranium)

#### *Taphonomy*

The remains were mid-brown to light-grey in colour, there were also some small black fragments of unidentified bone. The fracture patterns of the limbs were transverse, longitudinal and stepped.

#### *Inventory*

There were 21 pieces of vertebrae including one near complete lumbar body with osteophytosis, the rest were mostly thoracic vertebrae with some parts of cervical. There were several pieces of pelvis including ischium, ilium and part of the auricular surface (not enough to age) and also a left pubic symphysis. The articular parts represented 3 parts of

proximal tibia, six fragments of distal femur, one probable scapular glenoid and some undiagnostic articular fragments. There was a left orbit and zygoma, a piece of internal occipital protuberance, part of the frontal crest, a squamous temporal, a piece of mandibular coronoid, piece of mandible with incisor roots and around 20 other cranial fragments. Of the limbs, all of the elements are represented, there are particularly well preserved parts of ulna, the rest is not very diagnostic. There were also part of the dens of the axis, part of a radial head and several pieces of phalanges and metacarpal/tarsal.

#### *MNI*

One adult individual

#### *Age*

The left pubic symphysis gives an age of around 28-38 using the suchey-brooks stages (3/4 mean).

The cranial sutures – most appear partially closed which would put this individual in the range of young to middle adult.

#### *Sex*

The orbit and zygoma create a square orbit, the orbital margin is quite rounded and was scored at 4. Overall this may be a male individual.

Site: **Aglionby, Waterloo Hill**

Acc: 39-1983.1

#### *Weight*

<1mm: 58g

<5mm: 608g

<10mm: 239g

10mm>: 8g

Residue: 54g

Unidentified: 830g

Vertebrae: 1g

Hand/foot: 5g

Cranial bone: 2g

Limb: 11g

Ribs: 7g

Teeth: 4g

#### *Size*

Maximum: 40.39mm (rib)

Minimum: 1.29mm

#### *Taphonomy*

The remains were tan to mid-brown in colour, with some white cranial fragments, fracture patterns included crush, transverse and longitudinal.

These remains are highly fragmented – need to check if this is part of another deposit, if separate it may be a residue.

#### *Inventory*

A couple of parts of vertebrae, three distal manual phalanges, an intermediate manual phalanx and two proximal manual phalanges; a distal and medial pedal phalanx, a hook of hamate and several parts of very fragmented metacarpal/tarsal.

There were 20 fragments of teeth

1 dentine crown of an upper premolar, possible wear on one side

1 lower 1<sup>st</sup> incisor

Part of a root upper incisor/premolar

1 canine, upper?

1 upper 3<sup>rd</sup> molar –root apices closed

1 possible juvenile molar

Part of an upper molar root

1 possible lower canine

A root of an incisor, probably lower 1<sup>st</sup>

1 part of a curled up molar root (probably M3)

2 tips of roots

Other fragments are undiagnostic

*MNI*

Possibly one adult, one juvenile??

*Age*

The adult has a minimum age of 20 from the closed root apices.

*Sex*

Not possible

Site: **Aglionby, Waterloo Hill**

Acc: 39-1983.2

*Weight*

<1mm: 45g

<5mm: 11g

<10mm: 128g

10mm>: 406g

Cranium: 92g

Rib: 17g

Vertebrae: 42g

Pelvis: 14g

Articular bone: 7g

Scapula: 4g

Upper limb: 23g

Miscellaneous flat bone: 16g

Hand/foot: 4g

Miscellaneous limb: 76g

Lower limb: 51g

Humerus: 9g

Radius: 9g – with white bits

Ulna: 14g

Juvenile: 5g

Unidentified: 147g

### *Size*

Minimum: 2.82mm

Maximum: 69.69mm (limb); 49.99mm (cranium)

### *Taphonomy*

The remains are pale brown to grey in colour with some tan, fracture patterns were longitudinal, transverse, stepped there are a few pieces with very straight transverse breaks which conjoin – probably snapped –during excavation?

### *Inventory*

Various pieces of vertebrae from all areas of the spine, part of the axis. Parts of the pelvis – mostly trabecular bone, part of a pubic symphysis (too damaged to age), two parts of glenoid-scapula, part of acetabulum, part of distal humerus, few pieces of phalanges, one piece of first metacarpal, three parts of probable humerus, three parts of radius and other white pieces, three parts of ulna. The cranium is quite well represented with three pieces of maxilla, occipital, parietal and sphenoid also represented, there is also one edge of an orbit and a part of zygoma. There is one part of temporal with the root of zygoma (R) and one right petrous portion. There are six pieces of possible juvenile limb and one possible unfused end.

### *MNI*

1 adult

some juvenile fragments (residual?)

### *Age*

the cranial sutures are partially fused throughout which means this is likely to be a young-middle adult.

### *Sex*

scapula height (R) 37.73mm

Bass (1995) has 37+ as being male, this is only one indication so does not mean that this is definitely a male.

Site: **Aglionby, Waterloo Hill**

Acc: 39-1983.3

### *Weight*

<1mm: 167g

<5mm: 174g (50% dirt/grit)

<10mm: 128g

10mm>: 42g

Unidentified: 290g

Limb: 28g

Cranial bone: 3g

Teeth: 1g

Phalanx: 1g

Miscellaneous flat bone: 5g

Articular bone: 2g

Vertebrae: 2g

Ribs: 5g

### *Size*

Minimum: 1.25mm

Maximum: 29.23mm (limb); 28.51mm (cranium)

### *Taphonomy*

The remains are tan-brown though some of the brown colouration is due to mud still adhering to the bone. There are some pieces which are white/blue in colour on the internal surfaces.

Fracture patterns included transverse, longitudinal with some spiral and curved; most limb fragments are a quarter of circumference or less.

### *Inventory*

The remains are mostly undiagnostic, there is a phalanx, some parts of rib, vertebrae, cranium and limb bone were identified generally. There were two fragments of teeth including a lower molar (2/3) and part of another molar root.

### *MNI*

Nothing to indicate more than one individual

*Age*

Adult – molar tooth root apice still has an open foramen so may be younger than 20.

*Sex*

Not possible

Site: **Aglionby, Waterloo Hill**

Acc: 15-1927.3

*Weight*

<1mm: 6g

<5mm: 2g

<10mm: 19g

10mm>: 106g

Hand/foot: 7g

Articular bone: 7g

Patellae: 3g

Vertebrae: 3g

Ribs: 3g

Unidentified: 23g

Miscellaneous flat bone: 6g

Scapula: 3g

Cranium: 9g

Limb: 67g

*Size*

Minimum: 3.50mm

Maximum: 74.66mm

*Taphonomy*

The remains were white to pale grey/brown – even distribution of these throughout, there was one piece of limb with a circle shaped copper stain. The limb shaft fragments were usually

less than a quarter of the circumference. Fracture patterns included curved, stepped, spiral, split, longitudinal and transverse.

The remains were highly fragmented and mostly undiagnostic

#### *Inventory*

Part of a right talus, three parts of metacarpal/tarsal, part of a humeral head, part of a distal femoral condyle, three parts of patellae (quite small), one petrous portion, the limb bones were mostly not identifiable though there were two pieces of probable femur.

#### *MNI*

1 infant femur (residual)

The other remains appear to be adult but quite small.

#### *Age*

One infant

One adult?

#### *Sex*

Not possible

Site: **How Hill, Thursby**

Acc: 48-1964.1

#### *Weight*

<2mm: 373g

<5mm: 89g

<10mm: 150g

10mm>: 1209g

Cranium: 218g

Mandible: 17g

Miscellaneous flat bone: 14g

Humerus: 103g

Radius/ulna: 44g

Scapula: 15g

Miscellaneous limb: 126g

Sternum: 2g

Residue: 378g

Unidentified: 376g

Vertebrae: 51g

Hand: 5g

Foot: 20g

Femur: 187g

Tibia: 116g

Fibula: 22g

Pelvis: 75g

Ribs: 45g

Hand/foot: 3g

#### *Size*

Minimum: 2.51mm

Maximum: 85.68mm (cranium); 131.73mm (limb)

#### *Taphonomy*

The remains were orange/brown – the orange is staining? On the vertebrae, ribs and proximal femur (iron??) there was also some green copper staining.

Fracture patterns included transverse, longitudinal splitting, curved and quite a lot of warping.

#### *Inventory*

There was a large amount of remains, lots of large fragments – well preserved as included mid-part of the hyoid.

Cranium included nuchal area, part of frontal crest, the cranial fragments were quite thin, one left part of orbit, part of the foramen magnum, external auditory meatus, parts of the sphenoid and parietal, five parts of the mandible – the biggest piece has parts of the tooth root in alveoli. Four fragments of maxilla and a transverse process of the left zygomatic.

Left and right femoral head and neck, three fragments of distal femur condyle, two proximal tibiae, a distal end of a fibula two other possible fragments of fibular ends? One humeral head, a radial head, numerous fragments of humeral shaft, five fragments of scapula including two parts of glenoid, two metatarsal 1, one almost complete, one proximal half, one distal pedal

phalanx, part of one other pedal phalanx, one distal end of a metatarsal, part of articular surface of a talus, four parts of metacarpal and part of a capitates, one distal manual phalanx, two intermediate manual phalanges, one part of calcaneus, one distal end of a tibia, various shaft fragments of femur, tibia and humerus and a couple of fragments of fibula. Many vertebrae fragments, 3 lumbar bodies, 5 parts thoracic bodies, 3 parts cervical bodies, one axis (dens and shoulders), one part of the atlas (facet for dens), several other small parts of facets and transverse processes- mostly of cervical vertebrae, two parts of undiagnostic vertebral bodies, two parts of acetabulum, 2 parts auricular surface, various parts of iliac crest and part of a pubic symphysis. Part of alveolar bone, piece of sphenoid wing, parts of mastoids, part of mandibular condyle, part of a petrous portion, part of an ossified ligament or side part of the hyoid and a left zygomatic.

### *Pathology*

A lumbar body has osteophytosis, on one side the osteophytes protrude antero-lateral, there is also a small lytic lesion on the superior surface – probable schmorl's node.

Also there are osteophytes on the margin of a distal ulna.

### *MNI*

One adult individual

### *Age*

Cranial sutures – lambdoid suture is fused and partially obliterated

Pubic symphysis only the inferior half survives

The osteolphytes may indicate an older adult

### *Sex*

Nuchal area scored at 4

Left mastoid (incomplete) scored at 4

Left orbit is quite damaged maybe score at 3

Strong temporal line from over the orbit.

These features make this a possible male M?

Site: **Greystoke moor**

Acc: 1992-46-7

### *Weight*

<2mm:136g

<5mm: 18g

<10mm: 230g

10mm>: 814g

Misc flat bone: 57g

Unidentified: 443g

Hand and foot: 16g

Ribs: 88g

Cranium: 130g

Vertebrae and sacrum: 64g

Pelvis: 58g

Articular pieces: 69g of which 10g is humerus, 18g is femur and 10g is tibia

Lower limb: 40g

Upper limb: 76g

Maxilla: 5g

Mandible: 5g

Scapula: 11g

Misc limb: 131g

Animal?/juvenile: 8g

### *Size:*

Maximum: 48.23mm (cranium); 101.04mm (limb)

Minimum: 5.76mm

### *Taphonomy*

Fracture patterns are mostly transverse and longitudinal with some small limb fragments in curls. The more well preserved elements include; vertebrae, ribs, pelvic bones, limb, cranium and hand/foot.

### *Inventory*

There is part of an axis which might be juvenile, the superior articular surface is not very built up. There is one lumbar vertebra with a raised area on the posterior of inferior surface.

There are two pieces of sacrum; one has the sacroiliac joint of ala (adult), the other is part of an unfused body which is not fused on the inferior surface joint the age depends which one it is but is probably 3 or 4 which fuse at age 12 to puberty.

There are three pieces of proximal tibia, one piece of distal tibia, two parts of distal humerus (trochlear), four parts of distal femur, three parts of humeral head, three parts of femoral head, a navicular, a possible epiphysis, a glenoid (scapula L), a part of an acetabulum, two petrous portions (adult L and R) which are quite large, a maxilla, two zygomatic bones, one left temporal arch/glenoid fossa with green staining, part of a sphenoid, a piece of occipital which is quite gracile, a part of a left orbit, one L ramus, one with foramen, one other piece of left mandible with socket for canine and 2<sup>nd</sup> incisor, three other pieces of maxilla with tooth loss after death but some erosion of the alveolar margins prior to death. A humerus shaft- distal end, one clavicle shaft, one radius shaft, two ulna proximal ends, one part of proximal femur, some parts scapula, an auricular surface, and parts ilium and ischium. Hand and foot bones include; a scaphoid, a lunate, an intermediate cuneiform and various other parts of meta c/p and 5 phalanges.

Also one tooth root broken off a molar and one piece of mandibular ramus.

#### *Metrical analysis*

Radial head measurements

17.93mm

18.32mm

#### *MNI*

2 individuals

1 adult – represented by two adult proximal radial ends

1 juvenile – represented by a distal right radial end

#### *Age*

Cranial sutures – open – partial fusion

Auricular surface smooth – young no visible porosity

Rib end – smooth surface, scalloped wavy edges, surface has a small pit no billows or ridges = likely c.20-24 years

Overall the adult is young and likely to have been around 20-24 years.

The juvenile is only represented by one bone, fusion of the distal radius occurs from 14-20 years of age; this is definitely younger than 14 and an older child probably around 10-12 years.

*Sex* – not possible

part of a left orbit scored at 2

Site: **Greystoke moor**

Acc: 1992-46-10

*Weight*

<10mm: 2g

10mm>: 11g

Cranium: 7g

Limb: 4g

Size

Maximum: 40.21mm (cranium)

Minimum: 10.19mm

*Taphonomy*

Fracture patterns are longitudinal and transverse with curving

*MNI*

One adult individual represented

Site: **Greystoke moor**

Acc:1992-48.8 cremation from collared urn

*Weight*

<2mm: 183g

<5mm: 253g

<10mm: 149g

10mm>: 6g

Cranium: 3g

Hand/foot: 1g

Vertebrae: 2g

Teeth: 1g

Also 47g stones/dirt taken from <5mm

#### *Size*

Maximum: 19.22mm

Minimum: 1.93mm

#### *Taphonomy*

The remains were pale brown to tan in colour, the teeth were white/blue. The remains were fractured transverse, longitudinally and crushed; these remains were mostly unidentifiable.

#### *Inventory*

There was one part of possible proximal femur, one part of possible distal humerus and some pieces of hand/foot bones and vertebrae. There were six fragments of tooth roots and three fragments of tooth crown.

#### *MNI*

These remains are representative of one individual

#### *Age*

These are the remains of an adult

One root has an open foramen (probably an upper incisor or canine).

#### *Sex*

There is nothing to indicate sex though the hand/foot elements are small.

Site: **Carrock fell**

Acc:21-1935-4/5/6

#### *Weight*

<2mm: 85g

<5mm: 58g (50% stones)

<10mm: 94g

10mm>: 383g

Unidentified: 229g

Ribs: 13g

Misc flat bone: 26g

Misc limb: 81g

Articular pieces: 25g – of which 7g is femur

Hand and foot: 6g

Vertebrae: 12g

Pelvis: 12g

Scapula: 9g

Patella: 3g

Cranium: 102g

Fibulae: 13g

Upper limb: 33g

Lower limb: 59g

#### *Size*

Minimum: 1.33mm

Maximum: 47.77mm (cranium); 105.85 (limb)

#### *Taphonomy*

The remains were white-tan stained with pale brown dirt, fracture patterns were longitudinal, transverse and some curving where long bones narrowed at fractured ends. A number of long bone edges were worn.

#### *Inventory*

There was one acetabulum, a proximal and distal femur, a piece of hallux, a part of the talus, two parts of phalanges, a lunate, a hook of hamate, four pieces of pelvis, part of the auricular surface (non-diagnostic for age), a patella, two pieces of teeth, various vertebrae and the dens of axis, several pieces of fibula, two pieces of ulna, parts of the sphenoid, a radial tuberosity, a zygoma, a piece of alveolar bone. There are also two left petrous portions of the temporal bone.

### *MNI*

The two left petrous portions of the temporal bone represent two adults. There are also some possible juvenile remains (small part phalange) and also a juvenile or animal upper rib?

### *Age*

The cranial sutures are fused on the inside of the occipital/lambda but generally there is partial fusion overall.

If the rib is juvenile (not animal) this would be an infant

### *Sex*

There is one piece of orbit which has a sharp margin, scored at 1= F. As this is only one indication of sex it is not definite.

Site: **Kirkoswald**

Acc: 39-1970

### *Weight*

<5mm: 1g

<10mm: 14g

10mm>: 63g

Cranium: 19g

Limb: 30g (of which 4g is distal femoral condyle)

Ribs: 12g

Miscellaneous flat bones: 4g

Unidentified: 9g

### *Size*

Maximum: 74.52mm

Minimum: 4.10mm

### *Taphonomy*

The remains are mostly tan in colour with some that are pale brown, there is some green staining on a rib. The remains are quite highly fragmented and mostly undiagnostic, rarely is

there a fragment which is more than a quarter of the shaft circumference. Fracture patterns include longitudinal, transverse, crush and spall.

#### *Inventory*

Two pieces of orbit, two pieces of distal femoral condyles, a part of an ulna and a part of a tibia, also one piece of what may be animal bone.

#### *MNI*

The remains represent one individual

#### *Age*

Not possible

Though this may be a younger individual from the cortical thickness of the limbs?

#### *Sex*

Not possible

One piece of orbit was scored at 2 which is F? but this is not enough to be certain.

Site: **Holmrook**

Acc: 16-1943

#### *Weight*

<2mm: 3g

<5mm: 2g

<10mm: 58g

10mm>: 1117g

Cranium: 160g

Miscellaneous flat bone: 57g

Tibia: 73g

Femur: 157g

Fibula: 33g

Articular femur: 17g

Lower limb: 129g

Grey limb: 29g

Humerus: 82g  
Articular humerus: 10g  
Ulna/radius: 56g  
Ribs: 54g  
Vertebrae: 29g  
Pelvis: 48g  
Hand/foot: 9g  
Scapula: 9g  
Patella: 3g  
Miscellaneous articular: 16g  
Miscellaneous limb: 127g  
Radius: 8g  
Unidentified: 71g  
Bonepin: 16g  
Animal bone: 20g

#### *Size*

Maximum: 108.24mm

Minimum: 5.59mm

#### *Taphonomy*

Some small areas have a black substance on them, the remains are quite variable in colour some are dark greyish brown distributed throughout, some limb fragments are grey and the rest is pale tan. The fracture patterns indicate an inefficient cremation as there are very large pieces, the fractures are both transverse and longitudinal.

#### *Inventory*

A left temporal with the mastoid, a left orbit, a left and right zygoma, a left mandibular condyle, a left petrous portion, a squamous temporal, an upper molar (2<sup>nd</sup>/3<sup>rd</sup>), a piece of left temporal, the frontal crest, a piece of the occipital with the internal eminence, lots of pieces of cranium with sutures, part of the proximal right femur with the trochanters, two femoral heads, two humeral heads, part of the distal femoral condyle, one part of the adult atlas, part of a juvenile atlas and possible juvenile axis, several parts of pelvis but nothing diagnostic, part of the left distal ulna, the corocoid of the scapula and one patella. Part of the distal half of a radius without the end, a long piece of fibula and 3 parts of rib.

*MNI*

One adult and also a child represented by a juvenile atlas

*Age*

The adult has a tooth root foramen with the root closing, there is partial fusion of the cranial sutures. This is a younger adult.

*Sex*

A mastoid process is scored at 1 = F, an orbit was scored at 2, the occipital bone is quite gracile. The adult remains are probably those of a female.

The internal occipital eminence is 7.30mm thick – seems very thin

Site: **Shieldknowe**

Acc: 95-1977 bag 'A' cremation hollow

*Weight*

<2mm: 3g

<5mm: 1g –mostly charcoal

<10mm: 9g

10mm>: 118g

Charcoal: 29g

Ribs: 2g

Miscellaneous flat bone: 4g

Upper limb: 19g

Lower limb: 50g

Cranium: 19g

Miscellaneous limb: 22g

Vertebrae: 3g

Unidentified: 9g

Animal bone – possible pin: 2g

*Size*

Maximum: 60.47mm (limb); 46.55mm (cranium)

Minimum: 3.34mm

### *Taphonomy*

The remains are white to tan in colour, with longitudinal, transverse and curved fracture patterns with splinters and spalling also.

### *Inventory*

Part of the femur with the linear aspera, a part of a fibula, parts of radius and ulna, three pieces of vertebrae including one part of axis with the body and dens which is quite small.

### *MNI*

One individual

### *Age*

One piece of cranium with the sutures fused and starting to obliterate, this is a middle-older adult.

Site: **Broomrigg 'circle C'**

### **Cremation 1**

#### *Weight:*

<2mm: 4g

<5mm: 8g

<10mm: 118g

10mm>: 149g

Miscellaneous flat bone: 17g

Scapula: 7g

Ribs: 19g

Unidentified: 31g

Vertebrae: 4g

Long bones: 137g

Cranium: 40g

Epiphyses and unfused: 30g

Hand/foot: 4g

*Size:*

Maximum: 66.00mm (limb); 25.48mm (patella); 27.17mm (cranium)

Minimum: 3.35mm (tooth); 1.80mm (bone)

*Taphonomy*

The remains are cream-tan and are an even consistency in colour, the limb bones are fractured transversely and longitudinally, some curved and spiral, the cranium has patina fracture lines. There are high levels of fragmentation the fibula shafts are distinguishable but most of the limb shafts are not very diagnostic.

*Inventory*

Remains included: part of the frontal crest, part of the sphenoid, a patella, four parts of alveolar bone including a part which is for incisors (juv), a fully formed dens which is fused (occurs around 12), a navicular, one part of an incisor, a proximal tibial epiphysis, a distal ulna and two proximal epiphyses of either femur/humerus. Also there were numerous fragments of articular parts, unfused epiphyses and un-fused diaphyseal ends.

*MNI:*

One individual

*Age*

Alveolar bone is juvenile, unfused femur/humerus epiphyses – occurs at age 14 onwards.

The sutures are open

Juvenile – this is an older child aged around 8-10 years, perhaps as old as 12.

**Cremation 4**

*Weight*

<2mm: 8g

<5mm: 2g

<10mm: 1g

10mm> 312g

Unidentified: 10g

Sacrum: 10g  
Vertebrae: 69g  
Undiagnostic limb: 6g  
Pelvis: 56g  
Scapula: 16g  
Femur: 31g (shaft); 19g (artic ends/epip)  
Tibia: 21g (shaft); 3g (epip)  
Humerus: 15g (shaft); 9g (artic)  
Cranium: 34g

*Size:*

Maximum: 99.02mm (limb); 46.41mm (cranium)

Minimum: 2.38mm

*Taphonomy*

Remains are mostly pale greyish-brown in colour, although the cranial fragments and other small fragments below 10mm are cream-white. Fracture patterns of the limb bones are longitudinal and transverse, appears to be a lot of damage from excavation.

*Inventory*

Proximal part of the right femur with the trochanters, three parts of the femoral head, one part of the humeral head, one part of the tibial plateau, two pieces of acetabulum, both glenoid fossae of the scapula, 15 vertebrae (mostly thoracic and lumbar), part of the frontal crest, the unfused wing of the sacrum, part of the iliac crest which is fused.

*MNI*

One adolescent individual

*Metrical analysis*

Left scapula

Length – 32.52mm

Width – 20.97mm

Bass gives the length of <34 as being female

Width <26 is female

### *Age*

#### Adolescent

The two ischial tuberosity just have partial fusion – fusion occurs at age 13-16

Unfused distal femoral epiphysis –fusion occurs at 16-20 for M and 14-19 for F

The iliac crest is also unfused – though there is a part which is fused (fuses at same age as above)

The sacral auricular surface is unfused this occurs at age 18-25

The glenoid fossa of a scapula is fused, this occurs at 15-18 years

The cranial sutures are open and some are partially fused

This is an adolescent aged around 15-18 years

### *Sex*

The measurements of the glenoid fossa may indicate this is a female?? Not sure how reliable this method is for individuals at this age.

### **Cremation 3**

#### *Weight*

<2mm: 4g

<5mm: 0.5g

<10mm: 0.5g

10mm>: 18g

Unidentified: 10g

Vertebrae: 30g

Scapula: 2g

Pelvis: 6g

Lower limb: 99g

Upper limb: 35g

#### *Size*

Maximum: 101.85mm (fibula)

Minimum: 3.91mm

#### *Taphonomy*

The remains are sand/tan in colour with 30% being pale brown/grey. Some pieces are complete in shaft circumference, some are split longitudinally and transverse. The fragments are almost all large this probably suggests more about the collection (for deposition or excavation?) than the pyre.

#### *Inventory*

One part of the proximal tibial condyle, one part of the distal femoral condyle, a part of radial diaphysis, a part of ulna diaphysis, a couple of pieces of vertebral body, a lumbar vertebra and a thoracic vertebral spinous process. Also there was a piece of scapula with part of the glenoid fossa, two pieces of phalange or mc/mt, one of which is a very long phalanx possibly animal? Also one left zygoma.

#### *MNI*

One individual

#### *Age*

Two pieces of unfused epiphysis of the left and right humerus – fusion occurs at age 14-19 (F), 16-21 (M).

The spinous process of the vertebra has a complete (fusion line still visible) apophysis – this fuses at puberty.

Overall this is an adolescent aged 12-15.

#### *Sex*

The individual has quite muscular humeral bones, the left zygoma is quite masculine it is deep and long. Maybe M??

#### *Palaeopathology*

The lumbar vertebra has possible schmorl's node on the superior surface and also on the inferior surface and osteophytosis on the side of the body. There is also another piece of vertebra with some lipping and another with a possible lesion.

#### **Cremation 3A**

Represented by 1 manual, proximal intermediate phalanx (2g)

#### **Cremation 7**

*Weight*

<2mm: 1g

<5mm: 0.5g

<10mm: 0.5g

10mm>: 31g

Unidentified: 5g

Limb: 24g

Cranium: 4g

*Size*

Maximum: 64.41mm

Minimum: 2.58mm

*Taphonomy*

The remains are tan in colour though the edges of the limb bones are white due to post-depositional breakage. Fracture patterns are longitudinal and transverse with some curving.

*Inventory*

One piece of cranium, several pieces of limb shaft fragments of both the upper and lower limb.

*MNI*

One individual

*Age*

Probably adult

*Sex*

Not possible

**Cremation 2**

*Weight*

<10mm: 2g

10mm>: 273g

Upper limb: 68g

Lower limb: 76g

Patella: 5g

Vertebrae: 9g

Phalanx: 1g

Flat bone: 3g

Cranium: 103g

Unidentified: 7g

#### *Size*

Maximum: 85.24mm (limb); 67.89mm (cranium)

Minimum: 2.36mm

#### *Taphonomy*

The remains are pale brown in colour though some skull fragments are white-ish; fracture patterns are transverse, longitudinal and curved.

#### *Inventory*

An axis, the head of a femur, two other parts of vertebrae, part of the sacrum, a phalanx, a patella, parts of the tibia (quite small in circumference) part of the radius, a mandibular fossa and a part of a zygoma.

#### *MNI*

One individual

#### *Age*

Adult

Cranial sutures – there is complete obliteration on the inside surface, and the sutures are starting to disappear on the outer surface. Possibly an older adult

#### *Sex*

Two parts of frontal bone conjoin making quite a small forehead with rounded orbital margins scored at 3/4 maybe M??

#### *Palaeopathology*

The axis with part of the facets and dens has osteophytes on the dens on the articular side where the atlas fits. The mandibular fossa has osteophytes.

#### **17.4: Analysis of the remains from Buxton Museum, Buxton**

Site: **Arbor low**

The remains consist of a cranium which consists of the frontal, parietals (with part of the left side absent), most of the occipital and temporals.

##### *Sex assessment*

Orbital margins '5'; glabella '3/4' and incomplete; nuchal crest '4'; mastoids are incomplete.

The cranium is small to medium in size, the forehead is quite flat. The base of the zygomatic arch is very strong, overall this is a most likely a male (M?).

##### *Age-at-death*

Bregma = '2' suture line is slightly visible on the internal surface

Anterior sagittal = '2'

Lambda – reconstruction in this area

Mid-lambdoid = (L) '1'

Overall this individual has significant closure of the sutures. It is difficult to be sure due to the extensive taphonomic alterations, but the individual is probably in the middle adult age range.

##### *Taphonomy*

The cranium is heavily eroded and varnished, the external table is highly eroded and has completely eroded in large areas on top of the cranium.

Site: **Green low** (cremated remains)

*Context* – collared urn

##### *Weight*

<2mm: 18g

<5mm: 9g

<10mm: 139g

10mm>: 445g

Ribs: 23g

Flat miscellaneous bone: 11g

Pelvis: 7g

Vertebrae: 12g

Articular bone: 18g

Scapula: 1g

Fibula: 17g

Radius: 10g

Ulna: 9g

Miscellaneous limb: 40g

Humerus: 20g

Femur: 51g

Miscellaneous lower limb: 12g

Tibia: 8g

Skull: 135g

Unidentified: 195g

#### *Size*

Minimum: 4.29mm

Maximum: 107.00mm (limb); 46.43mm (cranium)

#### *Taphonomy*

Fracture patterns are longitudinal, transverse and rounded; the remains of longbones are mostly half or less of the circumference and there are some spiral-spalled fragments.

#### *Inventory*

Cranial bones included- the edge of the glenoid fossa (quite small), part of a petrous portion, part of sphenoid with the foramen rotundum, part of the temporal with the root of the zygomatic, left and right orbital margins both with supra-orbital notches. Also there was part of the mandibular ramus, a part of a mandibular condyle and possibly a fragment of tooth enamel.

The limb fragments are not very identifiable, there are several fragments of humeral shaft and femur (femoral fragments being the largest surviving limb part) and a couple of fragments of tibial diaphysis. Also there were five fragments of fibula, six fragments of radius, two of ulna, parts of the acetabulum, a humeral head, a distal femoral articular surface and several other parts of articular surface, one fragment of scapula, 10 fragments of phalanges, one fragment of 1<sup>st</sup> metacarpal, two other parts of metacarpal/tarsal diaphyses.

Of the axial skeleton there were a couple of pelvic fragments including part of the pubic symphysis; the odontoid process of the axis, two small fragments of vertebral body of thoracic, one cervical body and a spinous process.

#### *MNI*

1 adult

#### *Age*

Using the cranial sutures there is some sagittal suture which is almost completely obliterated, and there is significant fusion throughout. This probably puts this individual in the middle adult age range.

#### *Sex*

The orbital margins are quite thin '2', the individual is not very robust and quite gracile. This may be a female but this is not certain due to the lack of traits overall. F?????

#### *Palaeopathology*

There were four pieces of cervical vertebrae articular facets which have osteophytes protruding transversely and the surfaces are expanded

#### Site: **Megdale** (Inhumations)

These remains do not have much contextual information; they have in the past been thought to be Bronze Age (Ward 1901). The remains include four crania of varying completeness, two maxillae, three mandibles and five limb bones.

Elements are named with either letter or number, the cranial remains were already labelled and the other elements have been assigned numbers to differentiate them.

#### **Skull A**

This specimen consists of the frontal, parietals, temporal bones and the occipital, there is also a separate right maxilla (*maxilla 2*) and most of zygomatic labelled as 'maxillary of Skull A' – which does appear to fit.

#### *Sex assessment*

Nuchal crest: 5

Supra-orbital ridge: 3

Supra-orbital margin: 5

Mastoid process: 4

Skull A also has well defined temporal lines and very square orbits; overall the features indicate a male individual.

#### *Age-at-death*

Cranial sutures

Bregma = significant closure '2'

Left side coronal obliterated = right still visible '2/3'

Mid = obliterated '3'

Lambda = some closure '1'

Mid-lambdoid = both sides have some closure with the line visible '1'

Overall suture closure indicates an adult in the age groups of middle to older adulthood.

Dental wear of *maxilla 2*

Using the Lovejoy (1985) method gives an age of around 35-50 years.

#### *Metrical analysis*

Ft-ft: 9.2cm; fmt-fmt: 10.6cm; n-b: 11.6cm; **eu-eu ;12.6cm; g-op: 18.99cm**; ba-o: 32.70mm

Maximum cranial breadth (eu-eu) x 100

Maximum cranial length (g-op) = 66.35

This is less than 74.99 which means that this person is narrow or long headed (dolichocephaly) this is more common within Neolithic populations, whereas Bronze Age individuals are usually round headed.

#### *Palaeopathology*

There is evidence of possible trauma – a fracture starts at the top of the frontal bone, towards the centre and has three radiating lines, the largest of which goes to the temporal. There is a more recent unpatinated spall, but the break does not appear recent. The internal surface of the fracture is hardly visible and is a very fine line.

The dentition of *maxilla 2* has moderate periodontal disease

#### *Notes*

The individual has zygomatic foramen and supra-orbital notches.

#### **Skull B**

This fragment consists of the frontal, most of the parietals and most of the occipital bone.

#### *Sex assessment*

Nuchal crest: 4

Supra-orbital ridge: 3

Orbital margins: 3

Skull B also has a sloping forehead, the individual is M? Probable male

#### *Age-at-death*

Cranial sutures

The sutures are all obliterated except the lambda to occipital ones which have minimal to moderate fusion on the external surface, but are not visible on the inside surface. This puts this adult in at least the middle adult group (30s).

#### *Metrical analysis*

g-op: 18.6cm

#### *Notes*

The right orbit has a supra-orbital notch; the left orbit has a supra-orbital foramen

#### **Skull C**

This fragment consists of the frontal bone and a small part of the adjacent parietal bones and part of the nasal.

### *Sex assessment*

Supra-orbital margin: 4

Glabella: 5

Skull C also has a very low sloping forehead and strong temporal lines overall this individual is a male.

### *Age-at-death*

Coronal and sagittal lines are fused in this small piece, these features are not enough to give a good age, but may indicate a middle adult.

### *Notes*

The left orbit has a supra-orbital notch and the right orbit has a supra-orbital foramen

The cranial fragment also includes part of the nasal bone which is quite large – this individual would have had a ‘roman’ nose

### ***Skull D***

This fragment consists of part of a right parietal which is probably from near the occipital end of the parietal.

This piece has a very thick diploe

11.44mm at the probable lambda, 9.45mm to the front of the fragment, the thickest part is 13.01mm at the parietal end where the meningeal lines are.

### *Taphonomy*

There are linear indentations – probably formed by a taphonomic process such as water percolation.

### ***Mandible 1***

This is a mostly complete mandible with no third molars or sockets for these, the first and second molars are present. The third molars appear to have either never existed or are unerupted.

Using the Lovejoy method gave an age of around 30-40 years.

Both 1<sup>st</sup> molars have hollowed lesions on the buccal half of the occlusal surfaces.

There is calculus around the CEJ (Cemento-Enamel Junction) of the molars.

The mental eminence is scored at '4' the symphysis height is medium; the ramus is short but broad. This mandible does not appear to go with any of the maxillae

### ***Maxilla 1***

This is a mostly complete right maxilla and zygoma, has a rounded orbit but not really enough features to assess sex. Using the Lovejoy method (1985) gives an age of around 24-35 years, but the teeth have un-even wear.

### ***Mandible 2***

This consists of the front portion of a mandible (and may go with *maxilla 1*)

There is calculus around the CEJ of the right 2<sup>nd</sup> premolar to the 2<sup>nd</sup> molar. The mental eminence is scored at '2/3'. There is linear enamel hyperplasia on the lower right canine which is two thirds up from the CEJ; using AlQahtani (2008) this would have occurred around the age of 2.5-4.5 years. The Lovejoy (1985) method gives an age of around 24-30 years, but perhaps best fitting into phase F which gives a narrower age of 30-35.

### ***Mandible 3***

This specimen consists of the left half and most of the front of a mandible

The mental eminence is scored at '4', the symphysis is quite large (but not extreme), the ramus is wide but short, the gonial angle is more than 90° and has minimal gonial flare, the 3<sup>rd</sup> molar has erupted.

There are two teeth present (molar – 1 and 2) which show minimal wear as the 3<sup>rd</sup> molar was erupted but lost peri-mortem, using the Lovejoy method (1985) this individual is aged at around 18-22.

## **Limbs**

### **1**

A femur shaft

This bone is very slim, small and gracile; it is a left femur and has unpatinated recent breaks.

This would have belonged to an adolescent or small individual

### **2**

An almost complete left tibia which has eroded patches on the medial shaft surface and unpatinated recent breaks with jagged white edges.

### **3**

A right femur missing the distal end

Maximum head diameter: 46.35mm, this may indicate a female individual

The femur has a recent break which is jagged and unpatinated

### **4**

The right distal half of a femur

The fracture surface is mostly old with a small amount of newer damage, the older surface is patinated and less jagged, and it is rough but regular and slightly spiral – may be a peri-mortem break

This bone also has numerous cut marks on the posterior surface of the distal end above the condyles; there are also some on the medial surface, one deep one goes slightly onto the medial surface. These cut marks are in a transverse direction; the cut-marks probably indicate the removal of remaining flesh, muscle or ligament after death. Muscles in this area include Semimembranosus, semitendinosus (both part of hamstring muscles), gastrocnemius, plantaris and, biceps femoris also goes over this area of thigh (Palastanga et al. 2006).

### **5**

A right femur which is complete except for the capit which is half broken and there is some damage to the edges of the trochanters and medial condyle.

Maximum femoral length: 446.5mm

#### *Stature*

The femur was measured in order to estimate stature the formulae of Pearson and Trotter were used.

Pearson

= $81.306 + 1.880 \text{ femur} \pm 3.3 \text{ cm}$

$81.306 + (1.880 \times 44.6) = 165.154\text{cm} \pm 3.3 \text{ cm (5'4)}$

Maximum= 168.454 (5'6)

Minimum= 161.854 (5'3)

Trotter

=61.41 + 2.38 femur ± 3.27 cm

$61.41 + (2.38 \times 44.6) = 167.558 \text{ cm} \pm 3.27 \text{ cm} (5'49)$

Maximum = 170.828 (5'6)

Minimum = 164.288 (5'39)

Both measurements indicate that this was a short individual of around 5 foot 4 inches in height.

There is erosion of the surface, on the distal third there are marks which were at first thought to be canid damage but appear to be due to erosion.

### MNI

Element	Number of elements	MNI
crania	4	4
maxillae	2	2
mandibles	3	3
Femora	4	4
Tibiae	1	1

Table 73. MNE and resulting MNI

These remains represent at least four individuals from the crania and femora but there may be five individuals with the differences in age.

Overall there are at least three male individuals (likely four) and a possible female or indeterminate individual.

Of the definite age estimations there is one male at 18-22 years of age, one at 35-50 years, another individual (F?/? ) at 24-35 years and at least one other male at around 30-40.

### Conclusion

The measurements of Skull A show that this is a dolichocephalic or narrow/long headed individual, the other cranial fragments are not complete enough to measure but also appear

narrow. This along with the cut marks on element 4, the cut-marked femur, may indicate that these individuals were of Neolithic date rather than Bronze Age. The practice of excarnation, or defleshing, of human remains is thought to occur in the Neolithic but it is not known in the Bronze Age. For example, cut-marks have been discovered during the re-analysis of human remains from West Tump long barrow (Smith and Brickley 2004, 18).

Unless more contextual evidence becomes available, further research towards clarifying this issue would be needed to discover what type of tool made the cut marks (by use of Scanning Electron Microscopy of the bone or a cast) and also C-14 dates and isotopes for diet would need to be obtained from the remains.

Skulls A, B and C all have similar supra-orbital notches and foramina, although there are differences in which side has the notch or foramen this may indicate some genetic proximity in this group of individuals, however these kinds of traits are quite common in Neolithic material and populations are likely to have been small (Smith and Brickley 2009, 92).

#### Site: **Stoop barrow**

These remains consist of a cranium and mandible, the cranium consists of the frontal, parietals, most of the temporal and part of the occipital.

#### *Sex assessment*

The mental eminence was scored at '5' also on the right side there is an extra notch to the side of the mental eminence.

The individual has a broad ascending ramus; the gonial angle is more than 90°, there is moderate gonial flare on the surviving left side, there is a strong internal mental eminence.

Symphysis height is 35.33mm, mandibular thickness (@ mid-base) is 10.74mm (R); 10.40mm (L). Features on the cranium which were used include: the orbital margin which was scored at '4', the left mastoid process scored at '3'; the right '4', the glabella was scored at '4'. Not much remains of the occipital area, the skull overall is large and the forehead is rounded. Overall these traits indicate that this is a male individual.

#### *Age-at-death*

Cranial sutures

Bregma = significant closure '2'

Anterior sagittal = minimal closure '1'

Lambda = '1'

Mid-lambdaoid = L and R significant closure '2'

The closure of the cranial sutures indicates that this is an adult within the young-middle age groups.

#### Dentition

Using the Lovejoy method (1985) this individual fits into phases D-E which gives an age of around 20-30 years.

#### *Taphonomy*

The cranium is heavily reconstructed and varnished, it is held together in places with cloth, wood and plaster/clay. The varnish makes it difficult to see the cranial bone surface, there appears to be heavy erosion on top of the cranium especially on the parietal bones. The left side has exposure of the diploe where the external table has completely eroded.

The surface of the mandible is weathered to the point where pieces of bone surface are starting to flake away. There is an area of green copper staining on the right side of the mandible, this is below the premolars and goes back to the second molar. A label on the inside of the mandible reads 'Stoop Barrow Sept 1894 coloured green by Bronze .....? The last word is difficult to read but may be clasp.

#### *Palaeopathology*

There may have been an apical granuloma beneath the left lateral incisor but due to reconstruction and varnish it is difficult to be certain.

On the inside of the mandible there are mandibular tori, on the left side this extends from the first premolar to the distal end of the first molar. It spans an area of 19.26mm by 15.30mm. There is also a torus on the left side which is not as large. The cause of mandibular tori is not really understood, it is classed as a non-metric trait. These traits are most often used to analyse biological distance between groups. Mandibular tori may be caused by genetics, environment or functional stress (Hassett 2006).

#### Site: **Thirkel Low**

These remains consist of a left femur

This femur was from the centre interment found with a stone axe in 1895, it has been varnished. It is mostly complete with no proximal end, the break does not appear old. There is damage and loss of surface to the distal end on the anterior surface and articular surfaces.

The femur is gracile

Site: **Liffs Low cairn/barrow**

In the 1930's the site was excavated by Mr Bridge who in 1983 deposited several boxes of finds with Buxton museum, which included the inhumations discussed in this report, a long necked beaker, a polished stone pendant and other finds. In the light of these finds the site was partially re-excavated in 1984 by Barnatt. During this excavation, pre-barrow features were found which included, 41 stake-holes, these are thought to represent a variety of temporary features.

Within the barrow, some pieces of cremated bone where skeleton 1 was deposited, these burials may have been placed together.

The barrow construction started with a central cist and primary barrow, followed by stone capping.

C-14 dates were only gained from pre-barrow and residual contexts, these resulted in early Neolithic dates. There was no evidence of the date of the barrow (Barnatt and Collis 1996).

**Key for visual inventory figures**

Blue = parts of elements present

Grey = parts which are represented but % present is uncertain due to fragmentation

Green = parts of elements present which are duplicated

**Skeleton 1**

*Inventory*

Cranium

Upper and left side of frontal, both parietals, left temporal, right orbital margin, complete mandible and maxilla, one right temporal (petrous portion), two occipital condyles (1 L and 1 R), a fragment of squamous parietal, one part of a temporal around the glenoid and part of the auditory meatus and the root of the zygomatic arch (R), two fragments of sphenoid, two incomplete zygomatic bones (left and right) which are small but thick. Also there are two juvenile petrous portions (1 left and 1 right).

Axial

Vertebrae include C-1, C-2, all the lumbar vertebrae and most others are represented by fragments. Various large parts of ribs are represented, the 1<sup>st</sup> ribs are identifiable, around 48 other rib fragments (including 1 rib end). The sacrum is represented by S-1, both the innominates are present and almost complete with missing pubic symphyses and fragmented iliums.

## Limb

Almost complete left and right humerii, clavicles, complete right radius, right ulna and left radius and ulna are missing the distal third. Almost complete left and right femora with damage to distal ends, half of a right patella, right tibia missing the ends, left tibia with damaged proximal end, incomplete left and right fibulae. Both scapulae are represented but only the glenoid and acromial process areas. Hand bones are mostly incomplete but include a left scaphoid, a first metacarpal, and proximal fragments of four other parts of metacarpals and six parts of proximal phalanges, two other manual phalanges. Two intermediate pedal phalanx and one proximal, left and right calcanei, left and right tali, left and right cuboids, cuneiforms, left navicular, left and right 1<sup>st</sup> metatarsals and five parts of other metatarsals.

A small box of undiagnostic fragments, 12 fragments of undiagnostic bone – either limb or pelvis

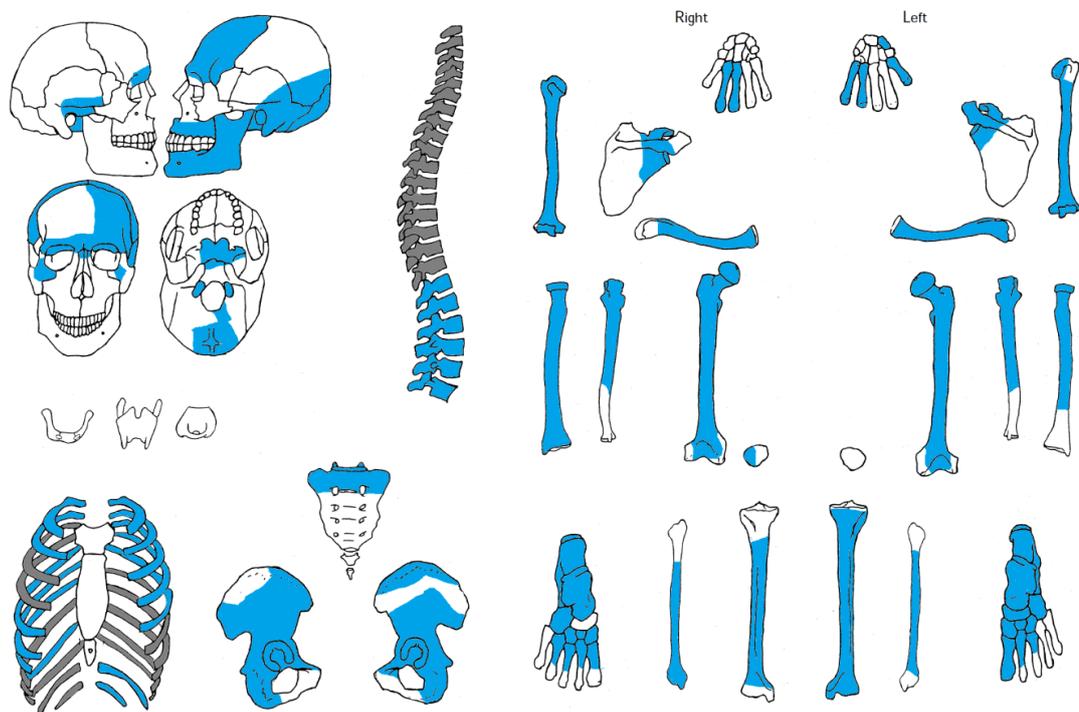


Figure 126: Visual inventory of Liffs Low, Skeleton 1

## MNI

There is one adult and also a perinatal individual is represented by two petrous portions of the skull.

## Sex assessment

Orbital margin: 3

Glabella: 3

Left mastoid: 3/4

Mental eminence: 4

Pre-auricular sulcus: 4

Sciatic notch: 5

As well as these features, the mandible is long and the sacral body is proportional to the alae. This individual also has a narrow, heart-shaped pelvic inlet and a high, narrow pelvis. The features of the skull are masculine but not extremely so, however the pelvic morphology is more obviously male. Overall this individual is scored as M – Male.

#### *Age-at-death*

The auricular surface is incomplete but using the Lovejoy et al. (1985) method on the pubic symphyses gives an age of around 25-29. From the dental wear using the Lovejoy (1985) method, the maxilla gives an age of around 20-30 years; the mandible gives an age of around 20-24. Using the Brothwell (1981) method the individual is aged from 17-25 years. There is also one rib end (İşcan and Loth 1986) at phase 1-2, this gives an age of around 17-23 years. Overall this individual is aged around 20-30 years.

The juvenile petrous portions represent one individual at around 34 prenatal weeks

The right is more complete

Pars petrosa length: 30.84mm = c. 34-36 prenatal weeks

Pars petrosa width: 13.92mm = c. 32-34 prenatal weeks

#### *Metrical analyses*

Scapula glenoid height: 41.40mm (L) – right is incomplete Bass >37 = M

Femoral head: 51.80mm (L) = Bass >47.5 as M

These measurements confirm that this individual is a male

#### *Taphonomy*

The remains are weathered and eroded, but are well preserved when compared to those of skeletons 2/3.

#### *Palaeopathology*

The mandibular condyle is higher on the left side but there has been some reconstruction, there is TMJ (Temporo-Mandibular Joint) disease on the condyles especially on the left condyle

which is expanded. Also there is marginal lipping to the odontoid process which may indicate osteoarthritis or 'wear and tear'.

The left arm has a healed fracture to the distal end, there is new bone formation and enlargement of the medial condyle and the area above the trochlear is misshapen in shape. The distal epiphysis seems to be displaced medially (towards the centre of the body).

There appears to be secondary osteoarthritis and a mass of new bone, would this have led to a loss of mobility in this arm?

The left ulna has an expanded and lipped proximal articular surface and there is also lipping to the edge of the adjoining radial head.

Could be a fracture or dislocation? – from a fall or a blow – may have occurred at juvenile age – before epiphysis had fused.

The secondary O.A. may indicate that the injury was present for some time?

The maxilla has no calculus but has a shovel shaped second left upper incisor. The mandible has calculus on the lingual surfaces around the CEJ of the left molars.

#### *Notes*

There are strong muscle markings on the humeral lateral and medial supracondylar ridges

The lateral ridge is brachioradialis which flexes the forearm and also extensor carpi radialis longus which extends the hand and abducts the hand with flexor carpi radialis.

Humeral diaphyseal max diameter R: 23.72mm; L : 22.03mm

#### *Conclusion*

Overall this is an adult male aged around 20-30, who had suffered an injury to his left distal humerus. With this individual were two petrous portions from the skull of a perinatal infant, whether the infant was associated with skeleton 1 or whether these were mixed in during or after excavation is unknown.

The original context of this skeleton is not certain but it was thought by Bridge to be associated with the beaker and pendant which would make it later than the cist burial found by Bateman.

#### **Skeleton 2/3 mixed**

These remains are of two individuals, both incomplete and not distinguishable from each other.

### *Inventory*

#### Cranium

Two temporal bones (left and right mastoid area), part of a petrous portion (L), a part of the glabella and a conjoining part of a left orbit, 14 fragments of highly eroded cranial bone.

A mandible and maxilla (of skeleton 3)

#### Limb

3 fragments of scapula including one left glenoid, 1 fragment of talus, a fragment of calcaneus (with double facet), a distal fragment of 1<sup>st</sup> metatarsal and one fragment of left navicular, half the diaphysis and distal end of the left humerus, the distal end of the right humerus, also part of another left distal humerus, two left proximal ulnae, most of the diaphysis and head of the left femur, head of another femur (R), left distal end of the tibia, part of the distal end of another, part of a distal fibula, several other fragments of undiagnostic limb from the humerus and femur, one fragment of tibial diaphysis, a piece of another humeral trochlear, a few fragments of radial diaphysis, one distal femoral condyle (highly eroded)

#### Axial

The vertebrae include: A vertebral body (T-12/L-1), an upper thoracic vertebral body, a lumbar articular facet and one other part of a vertebral body. Of the pelvis there is a fragment with the auricular surface (L), an ischium and part of the acetabulum and three other heavily eroded undiagnostic fragments. 18 rib fragments

Around 30 small fragments of undiagnostic limb and rib fragments

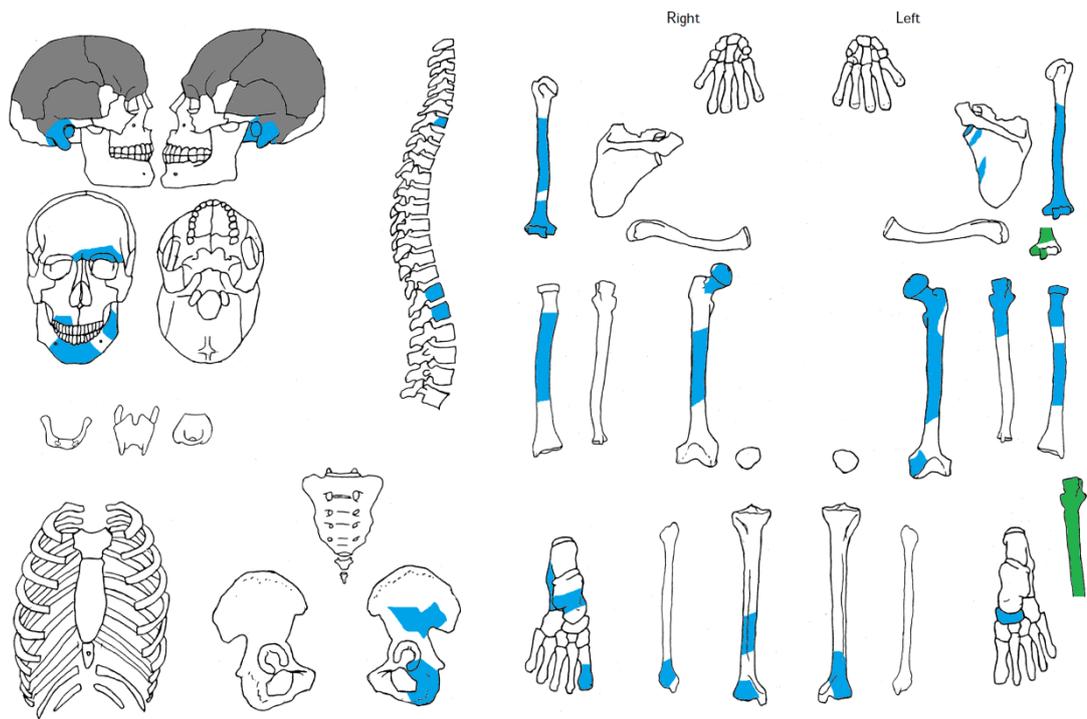


Figure 127: Visual inventory of Liff's Low skeleton 2/3

### *MNI*

These remains represent two adult individuals

### *Sex assessment*

Glabella and supra-orbital ridge: 1

Supra-orbital margin- 3

Mastoids: 2

These remains are all quite small and gracile

The mandible of skeleton 3 scores 1 for mental eminence

The mandible also had a short symphysis height, which also indicates a female individual.

Due to the mixing of these individuals the sex of skeleton 2 is not known but as the remains are all of a similar gracility and size, they may both be female individuals.

### *Age-at-death*

There is a visible line of epiphyseal fusion at the base of the left femoral capit, this fuses at age 14-17 (F) the lesser trochanter fuses at the same time and this is fully fused this puts this individual into the late teens? (17-20) there are no other such visible indications.

Using Lovejoy (1985) to assess the dental wear (of skeleton 3) gives an age of 20-30 for the maxilla and 20-24 for the maxilla. Also the root apices of the central incisors have visible foramina which would put this individual in the earlier 20's.

Overall, skeleton 3 is aged around 20 years of age, skeleton 2 may be of a similar age or of unknown age as there are no elements specific to this person for aging.

#### *Metrical analysis*

Femoral head diameter: 40.59mm

This measurement indicates that this individual was female

#### *Palaeopathology*

There is linear enamel hyperplasia on the maxillary right first molar (of skeleton 3), this is a third up the crown from the CEJ (Cemento-Enamel-Junction). This indicates a period of physiological stress (such as a fever) and using AlQahtani (2008) this would have occurred around age 2.5-3.5 years.

#### *Notes*

Two left ulnae Musculo-Skeletal-stress Markers – brachialis faint '1'

The upper first incisors and an upper second right incisor (skeleton 3) are shovel shaped

#### ***Small box of remains*** labelled 'oscar'

These remains included: A fibula shaft fragment, two undiagnostic shaft fragments, the proximal end of a metatarsal, a right lunate, a distal manual phalanx, a non-human phalanx?, also the lower three segments of the sacrum and the proximal segment of the coccyx.

#### **The cremated remains**

##### *Weight*

<10mm: 25g

10mm>: 33g

Unidentified 42g

Fibula 3g

Cranium 14g

##### *Size*

Maximum 58.74mm (fibula); 32.6mm (cranium)

Minimum 9.37mm

The remains are cream-grey in colour, these remains are highly fragmented and are evenly so in size, with longitudinal and transverse fractures. These remains appear human but it is not possible to assign an age or sex.

#### **MNI of Liffs Low**

The inhumated remains analysed here represent

3 adults and one infant:

- 1 male 20-30 years
- 1 female c.20 years
- 1 adult - possibly also a female or a gracile young male
- 1 perinatal infant

The cremated remains represent one individual but these remains are probably incomplete.

## 17.5: Analysis of the human remains from Hindlow round barrow, Derbyshire.

### Key for visual inventory figures

Blue = parts of elements present

Grey = parts which are present but % present is uncertain due to fragmentation

Green = parts of elements present which are extraneous to the individual

### The inhumations

#### **Burial: 1**

##### *Inventory*

Parts of the cranium have been reconstructed, including the frontal, parts of the parietals and occipital. Also represented are the mandible and maxilla, right zygoma, left and right temporals (the right is most complete), the left and right occipital condyles and adjoining area and a squamous parietal. Also there are lots of smaller cranial parts including pieces of the sphenoid and smaller undiagnostic pieces.

The limb bones are well represented and includes: the trochlear of a humerus, a right humerus shaft (almost complete), the distal half of a left humerus and a conjoining piece, a left and right ulna which are both missing the distal quarter, a right radius, two distal ends of radii, two parts of radial shafts, two parts of clavicles represent both left and right (these are quite gracile), a humeral head, part of a right scapula which includes the acromion and glenoid, the glenoid of the left scapula, other radial head, a distal ulna, most of the left femur, the right femoral head, the left and right patella, parts of the proximal and distal ends of a tibia, the proximal half of the right femur, part of a tibia shaft and part of the distal right tibia, four parts of fibula shaft, the rest of the right femur, a tibia shaft, a distal tibia (left).

The axial skeleton included; several undiagnostic parts of the pelvic bones, three bodies of lumbar vertebrae, part of an atlas (facets), seven parts of thoracic vertebral bodies and a cervical transverse process. The ribs are represented but too damaged to be sure of their completeness.

Of the hand and foot bones the carpals are the most well represented including; a left and right capitate, a left and right hamate, a left and right scaphoid, a right lunate, a left trapezoid, a right and left triquetral, and a right and left trapezium. The right carpals were slightly larger than the left which probably indicates a right handed individual.

Other manual elements included; eight metacarpals (one 1<sup>st</sup>, one 3<sup>rd</sup>, two 5<sup>th</sup>, a 2<sup>nd</sup> and one unidentified), seven proximal manual phalanges, two proximal thumb phalanges, two distal thumb phalanges, one intermediate manual phalanx and one distal.

Pedal elements included a right talus and part of a calcaneus.

Also there is another part of a calcaneus and talus and two parts of metatarsals and also part of a juvenile rib. These are from the scattered bone below the east end of the cremation (area 6).

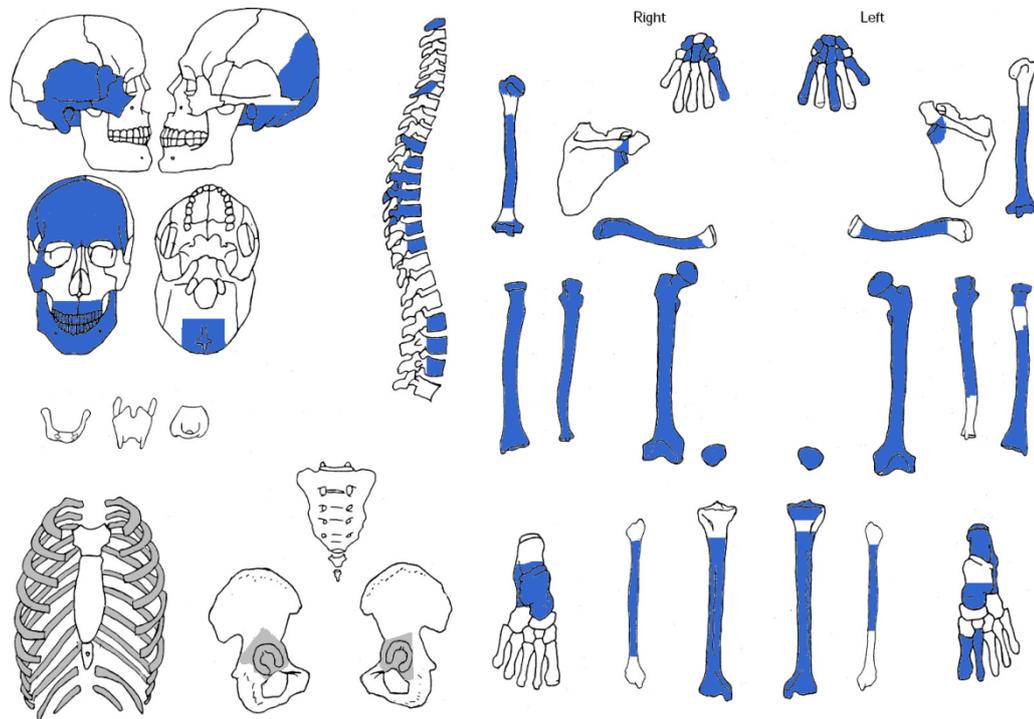


Figure 128: Visual inventory of Hindlow, Burial 1

#### *Sex assessment*

The pelvis had not survived well enough to be used for sex estimation so cranial features were used.

The zygomatic bone was square and laterally arched, the individual had a square orbit, the mental eminence and mastoid were scored at 4, the supra-orbital ridge and orbital margin were scored at 5, the nuchal crest was not especially rugose and scored at 3.

The gonial angle is around 90° and the mandible is long with a broad ascending ramus.

Overall these features demonstrate that this individual is a male.

#### *Age-at-death*

Cranial suture closure: the coronal suture is still visible but fused on the external surface and obliterated on the inside surface. The sagittal suture is almost all obliterated but visible at the

front and back, with some of the sagittal suture still visible but fused around the lambda. These features put this individual into the middle adult age group.

Dental wear: the Brothwell method (1981) gives an age of around 17-25 but at the older end of this phase. Using the Lovejoy (1985) method, the maxilla gives an age of around 24-30 (but at the earlier end of this phase) and the mandible gives an age of around 24-30 also. Overall the dental wear gives an age around the mid 20's, the widest possible range being 20-30 years of age. As the dental wear is more reliable this is the best age estimate.

#### *Metrical analysis*

Maximum length of femur: 541mm

Maximum head of femur diameter: 51.89mm = Bass >47.5 as M

Humerus (left) epicondylar breadth: 67.49mm

Scapula glenoid height: 38.30mm Bass >37 = M; glenoid width: 30.82mm >29=M

These metrical measurements add to the evidence that this is a male individual.

#### *Stature*

The femur was measured in order to estimate stature the formulae of Pearson and Trotter were used.

##### Pearson

=81.306 +1.880 femur ± 3.3 cm

$81.306 + (1.880 \times 54.1) = 183.014 \text{ cm (or 6 feet)} \pm 3.3 \text{ cm}$

Maximum= 186.314 (6'1)

Minimum= 179.714 (5'8)

##### Trotter

=61.41 + 2.38 femur ± 3.27 cm

$61.41 + (2.38 \times 54.1) = 190.168 \text{ cm (or 6'2)} \pm 3.27 \text{ cm}$

Maximum = 193.438 (6'3)

Minimum = 186.898 (6'1)

These resulted in an overall range of 5'8 – 6'3, this was a tall individual.

### *Taphonomy*

These remains are quite dirty so it is hard to see the state of the articular surfaces, there are recent fractures to the long bones which can be seen from the white patination of the fracture margins, this colouration is likely to have been caused by modern disturbance or excavation. A humeral diaphyseal surface was abraded to the extent that some cortical bone was completely lost, which may indicate some exposure to the elements, again perhaps due to disturbance to the cairn from Bateman's excavation.

### *Palaeopathology*

#### Periostitis

On the squamous area of the right temporal there is plaque of fibrous, active new bone which is above and behind the root of the zygomatic process. There are multiple layers of this periostic bone. There is also a plaque on the right side of the mandible, on both the external surface of the ascending ramus and on the internal surface also. On the internal surface the periostitic bone is around the mylohyoid foramen and groove, posterior to the mylohyoid foramen is another groove which may be an area of drainage from the infection? Some of this periostitic bone is smooth and compact but most of it is fibrous. These areas of fibrous bone may be a sign of infection which was active on the right temporal and mandible around the time of death. The temporal also has a possible lesion through the bone, in the centre of the periostitic activity. The edges of the hole appear old and sharp but the bone is very thin and if held up to the light the bone around the edges of the hole is see-through.

#### O.A.

The surface of the left femoral head is about two thirds complete, and has pitting, porosity and slight surface alteration; it is difficult to be certain of the extent and severity of these alterations due to the dirt adhering to the bone. The porosity covers around 80% of what remains of the surface area and is most visible towards the medial part of the surface which would be furthest in the acetabulum. The left distal half of the humerus has pitting on the medial part of the trochlear surface; there are no visible changes on the corresponding ulna. The vertebral joint surfaces have small pits and porosity throughout the vertebral body surfaces. The other joints either have no sign of joint changes or are too dirty to be visible.

#### Dental pathology

This individual has mild periodontal disease which is most severe around the maxillary molars, as the alveolar margins are slightly blunted and porous in appearance.

### *Non-Metric traits*

This individual has supra-orbital notches above both orbits and a supra-orbital foramen on the left orbit. This individual also has a shovel shaped upper left lateral incisor.

#### *Notes*

The radii have large radial tuberosities which are the attachment for M. biceps brachii

Other than the ulnae and radii, the limbs are long and more gracile compared to the other males in the assemblage.

Left and right ulnae MSM for brachialis scored at '1' – faint

Left and right clavicle – right clavicle has a circular marking for conoid? Scored at '2' – moderate, this is not visible on the left side.

The right radius which is missing the distal end – marking for the radial tuberosity is '1' faint

#### **Burial 1A: juvenile with burial 1**

#### *Inventory*

There are several pieces of cranium and some of the maxilla and mandible.

The limb bones include: an epiphysis of a distal tibia or radius, two pieces of limb diaphysis, lots of rib fragments, the corocoid of the scapula, a proximal humerus (without epiphysis).

The axial skeleton is represented by: the axis (the dens and facet are represented and fused), another cervical, several pieces of other vertebrae (mostly transverse processes), part of lumbar vertebrae 1/2 and part of the atlas.

The manual bones represented include: one proximal phalanx, two intermediate phalanges, one distal phalanx and one 4<sup>th</sup> metacarpal.

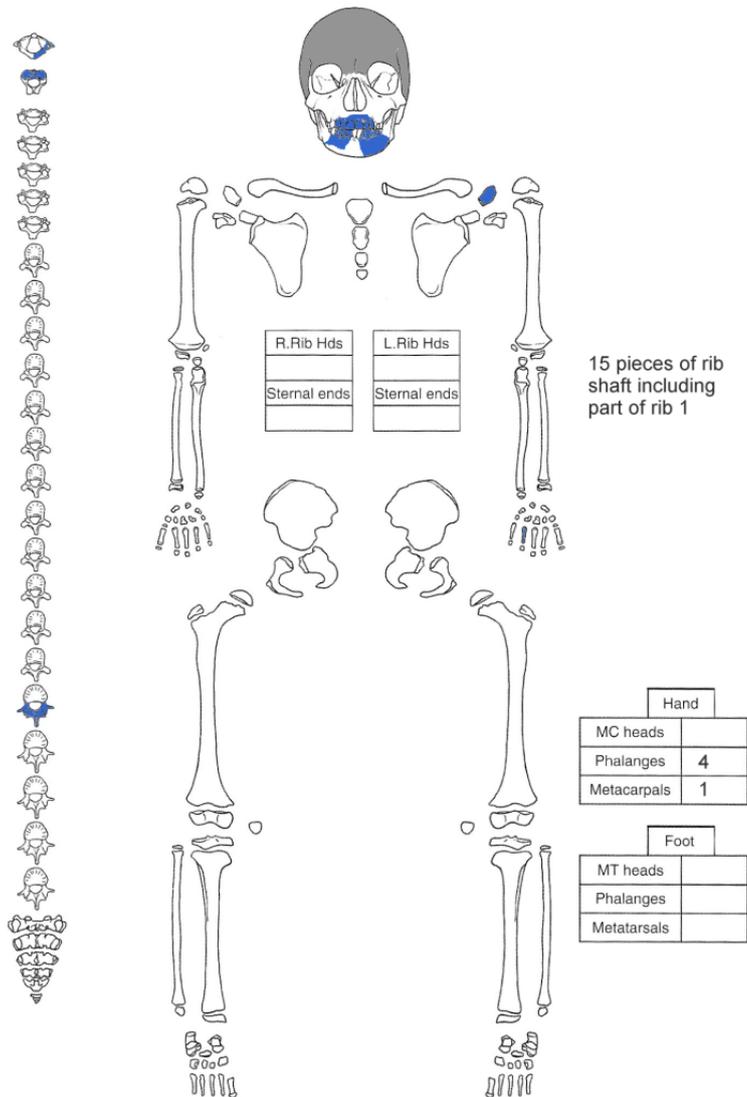


Figure 129: Visual inventory of Hindlow burial 1a

### *Age-at-death*

#### Morphological development

The only elements which were diagnostic for age determination were the axis and manual bones. The odontoid process/dens of the axis was completely fused which occurs around age 12. The proximal epiphyses of the phalanges were unfused as was the distal epiphysis of the 4<sup>th</sup> metacarpal; these bones fuse around 14-16 years.

#### Dental development

The methods used to assess dental age were AlQahtani (2009) and Ubelaker (1979). From the dentition which is mixed (deciduous and permanent) this is an older child. The permanent first left mandibular molar is erupted, the second adjacent molar is visible but not yet erupted from the mandible. The two maxillary deciduous molars have not yet been lost; the maxillary

second premolars are not yet erupted but are visible which gives an age of around 10-11.5. There were three teeth which had partially developed roots and one incisor which was complete (see chart below for ages).

<i>Tooth</i>	<i>Age from root development</i>
1 <sup>st</sup> right mandibular incisor	9-10 years
1 <sup>st</sup> maxillary premolars (left and right)	10.5 years
Maxillary left canine	9.5 years

Table 74: Dental age of Hindlow burial 1a

Overall, the dentition gives an age of around 10 years with a range of 9-11.5. The fusion of the odontoid process gives a slightly older age, however the remains seem rather small for age 12 and dental development is usually more accurate

#### *Taphonomy*

This individual is not well represented, whether this is due to the method of burial/deposition or later disturbance/excavation methods is unclear.

#### *Palaeopathology*

##### Dental pathology

This individual has linear dental enamel hypoplasia on the maxillary first premolars and the maxillary right first and second molars. The single line on the first molar occurred around age 4.5-5.5, and on the second molar at around 7.5 years. On the premolars this is a double line; overall the DEH represent two episodes between around 5.5 and 7.5 years of age.

#### **Scattered bone from burial 1**

These bones were found after the main bones had been removed (3)

Mid part of the hyoid, around 20 fragments of undiagnostic bone fragments which appear to be juvenile, a proximal rib end with facets (mid to older child?). These remains are very crushed with soil adhering to them.

It seems likely that the juvenile remains here belong with the above juvenile (aged around 10) which was found under the head of burial 1.

#### **Burial: 3**

##### *Inventory*

Generally a robust cranium with most of the mandible and maxilla well preserved. Parts of the cranium include: the frontal (which has been reconstructed), part of the occipital with the foramen magnum and occipital condyles, part of the occipital with internal protuberance, part of a parietal, the left and right temporals without the squamous portions, the left and right zygomata, Part of the sphenoid with the temporal and two larger pieces which are possibly pieces of the parietals. Also there are around 40 small fragments of 13-25mm size and about 60 smaller fragments sized 10mm and less which are undiagnostic.

There is almost full surviving dentition in quite good condition, slight wear on all, the palate is very high and quite narrow though the teeth are perfectly spaced. There has been some reconstruction to both the mandible and the maxilla.

The limb bones were quite well represented and some bones belong to a different individual. The limb bones included: a proximal radial head, one part of a proximal ulna, two pieces of distal humerus, two humeral heads, a distal end of a right radius, and the proximal diaphysis of a left, distal end of left and right ulnae, right and left proximal ends and part of a ulna diaphysis, the left glenoid of the scapula, a piece of right scapular acromion, two other scapulae-glenoid fossae, two parts of clavicles representing both the left and right (from M).

The left femur was complete and reconstructed from 4 pieces, of the lower limbs there was also: the right femoral condyles, the proximal right part of the femur, a distal tibia, a proximal and distal part of a fibula, one part of a femoral condyle, two patellae, the proximal part of the left tibia, part of a fibula shaft and another distal end (M-big), a piece of tibia shaft (F?-slim) and a left distal tibia. Also there were lots of pieces of undiagnostic limb fragments with a quarter or less of the diaphyseal circumference.

The axial skeleton included: the left ischial tuberosity and acetabulum and surrounding area in two pieces, the right and left auricular surfaces, part of an acetabulum and surrounding ilium, another right auricular surface, pieces of acetabulum and a right ischium. There were numerous fragments of vertebrae, part of a C-2, two pieces of hyoid, one complete vertebral body of a lumbar vertebra, a thoracic vertebra, lots of vertebral processes, four thoracic vertebral bodies, parts of the atlas, cervical vertebrae 3-7, part of another C-2, four parts of thoracic vertebrae and the 1<sup>st</sup> ribs. Other pieces are not very diagnostic but mostly are thoracic and lumbar vertebrae.

There are lots pieces of ribs (from squares D4 and E4 - some which may belong to burials 3 or 4) and some of the vertebrae may belong to 4 also.

The manual bones (again from two individuals) included: the left - hamate, capitate, scaphoid, trapezoid, part of trapezium; and the right - lunate, trapezium, hamate, scaphoid, lunate, capitate, trapezoid. There were two parts of pisiform.

There was also an extra trapezoid, two trapezium, a left hamate and right lunate.

The metacarpals included – the 1<sup>st</sup> (left and right); 2<sup>nd</sup> (left and right); 3<sup>rd</sup> (right); 4<sup>th</sup> (left and right) and a 5<sup>th</sup> (right). There were also two undiagnostic parts of metacarpal and a small piece of proximal 5<sup>th</sup> metacarpal.

The phalanges included: a proximal phalanx for the thumb, two distal for the thumb, four proximal manual phalanges, twelve intermediate manual phalanges, ten distal manual phalanges and two proximal ends of phalanges (probably ray 3).

The pedal bones included: a distal phalanx for the hallux, two undiagnostic parts of metatarsal, lots of foot phalanges (probably from 3 and 4 as there are 3 for the hallux), the left and right: calcanei, tali, cuboids, navicularae and all cuneiforms. A right 1<sup>st</sup> metatarsal, a metatarsal for the hallux and the distal phalanx for the hallux and a ray of phalanges for a toe.

Other extra elements included: a distal ulna - with porosity (F?), 2 patellae, part of a navicular (f?); some smaller hand bones (1 phalanx ray, left hamate, right lunate, left scaphoid and a right triquetral), a dens for the axis and a rodent tooth?

Some of the extra elements are likely to be from burial 4 (see plan)

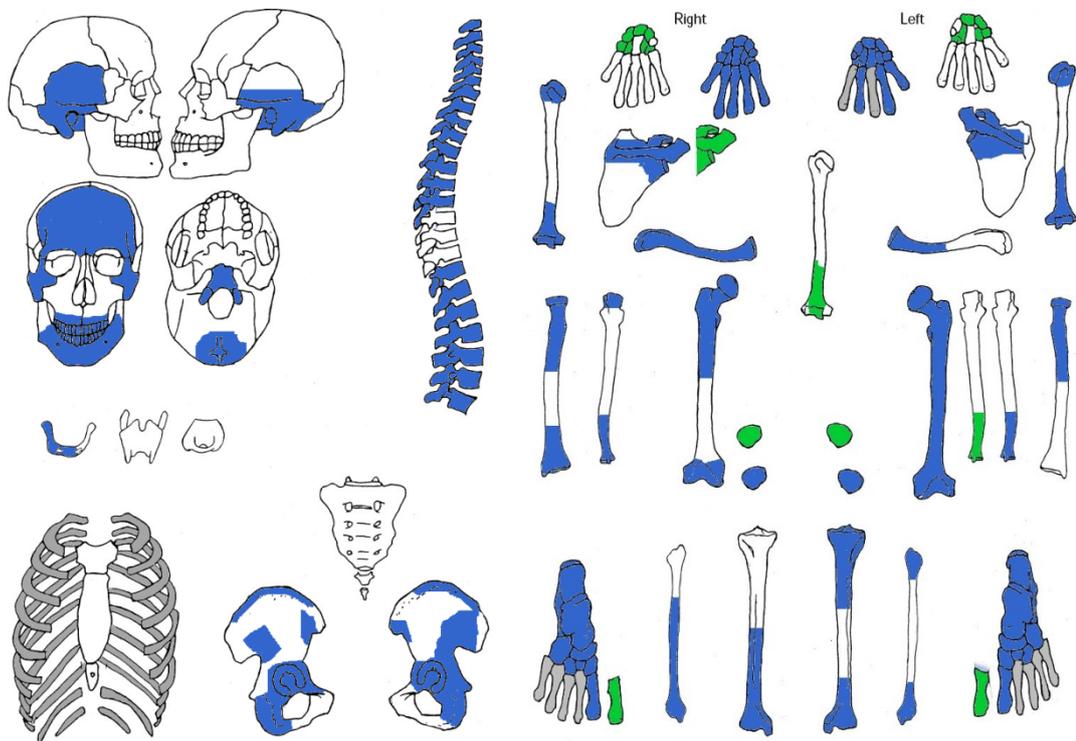


Figure 130: Visual inventory of Hindlow burial 3

*Sex assessment*

Again only the cranium survived well enough to provide data for sex estimation. The supra-orbital ridges were scored at 4/5; the supra-orbital margin at 5, the mental eminence and Mastoids were scored at 4. This individual is a male.

### *Age-at-death*

#### Cranial suture closure:

This individual has an unfused sphenoccipital synchondrosis; at least 95% of individuals have fusion of these bones from 20-25 years with a central tendency for age 23 (White and Folkens 2000, 347).

Auricular surfaces – both are quite damaged but perhaps aged around 30-40. An extra auricular surface (right) is smooth with some billowing just visible – aged around 25-35

Sternal rib end ageing: there was one surviving sternal rib end at phase 2, which gives an age of around - late teens to early 20s

Dental development: the third molars are all erupted

Dental wear: Using the Brothwell method this individual is aged around the earlier end of the 25-35 phase. Using the Lovejoy (1985) method, the maxilla gives an age of around 24-30; the mandible gives an age of around 20-24.

Overall this individual is a younger adult, most likely aged between 20 to 25 years.

### *Metrical analysis*

Measurement of the internal cruciate eminence 13.74mm

Cranial: ft-ft = 9.8cm; fmt-fmt= 10.4cm

Mandible – height of the body; 28.20mm

Maximum femoral head diameter: 50.12mm Bass - >47.5=M

Maximum femur length: 482.5mm

### Scapula

These may be from the female or other mixed in individual

Glenoid height: 36.85mm 34-36=?

Glenoid width: 27.17 (with some damage) ?

These two are a pair

Glenoid height (L) 42.46mm >37=M

Glenoid width (L) 29.62mm >29=M

Glenoid height (R) 43.23mm >37=M

Glenoid width (R) 29.75mm >29=M

These measurements add to the evidence that this is a male individual, the extra glenoid scores as an indeterminate individual.

### *Stature*

The femur was measured in order to estimate stature, the formulae of Pearson and Trotter were used.

Pearson

=81.306 +1.880 femur ± 3.3 cm

$81.306 + (1.880 \times 48.2) = 171.922 \text{ cm (or } 5'6) \pm 3.3 \text{ cm}$

Maximum= 175.222 (5'7)

Minimum= 168.622 (5'5)

Trotter

=61.41 + 2.38 femur ± 3.27 cm

$61.41 + (2.38 \times 48.2) = 176.126 \text{ cm (or } 5'7) \pm 3.27 \text{ cm}$

Maximum = 179.396 (5'8)

Minimum = 172.856 (5'6)

These formulae result in an overall a range of 5'5 – 5'8, this individual was short to medium in height.

### *Taphonomy*

The skull was quite well preserved, much of the post-cranial remains are in small pieces.

There is lots of excavation damage, probably from disturbance due to the Bateman excavation.

### *Palaeopathology*

#### Joint disease

The left femur has porosity on the distal surface, throughout most of the lateral condyle and also toward the anterior surface of the medial condyle; the porosity and joint alteration becoming confluent, there is alteration of the surface where it is most severe.

The right distal femur has slight porosity which is regularly distributed but no surface alteration on the distal condyles, but no changes to the left capit. Two of the four patellae have pitting, macro and micro-porosity on the medial surfaces, there is also porosity on the medial condyle of the left tibia.

There is porosity on the distal ulnar surfaces and the surrounding areas which consists of macro and micro porosity which is worse around the margins, the same alteration is on the distal radius.

Both of the humeral heads have macro-porosity – appears erosive – but no osteophytes?

There is some alteration of the superior surface of the C-2 facets, there is eburnation on the right facet with porosity, the left facet looks polished but without porosity or definite eburnation.

There is eburnation on the right talus, on the superior, lateral surface of the articular area.

There is lots of pitting and porosity on the proximal and distal surfaces of the metacarpals, the left 2<sup>nd</sup> metacarpal is most severe, with large pits and the beginnings of erosion and surface alteration.

A first metatarsal has large pits at the distal end on the underside of the articular surface.

There are lumbar vertebra with osteophytosis, the inferior surface is concave - more so than normal with porosity and a pit and some raised nodules.

There are four thoracic vertebrae with schmorl's nodes on the inferior surfaces

#### Dental pathology

The individual has mild to moderate periodontal disease demonstrated by the ragged alveolar margins.

#### *Non-metric traits*

The 2<sup>nd</sup> upper incisors are both shovel shaped.

#### *Notes*

Ulnae have very developed areas for – brachialis? The radii have very developed areas for M.biceps brachii. The clavicles are large and have very robust attachments for the costo-clavicular ligament.

Porosity on the supra-orbital ridges

Toe phalanx – which is odd – possible fracture or just extra bone?

## Burial: 4

### *Inventory*

The skull bones represented included: the frontal (which has been reconstructed), the maxilla, the mandible, a right temporal, a left petrous portion, the left zygoma, the occipital and parts of the parietals.

The limb bones included: humeral head, one part of the scapula with part of the glenoid, two parts of the humerus (left distal part without end and part of upper shaft), part of clavicle, the proximal half of the right femur with a short femoral neck, part of left tibial shaft, distal end of a right fibula, the head and neck of the left femur, and two parts of fibula shaft.

The axial skeleton was represented by: three bodies of cervical vertebrae, one of thoracic (upper) and ribs and unidentifiable small fragments.

The manual bones included: one part of a manual proximal phalanx, one intermediate and one distal; and one trapezium.

The pedal bones included: two proximal ends of metatarsals, a pedal phalanx, two 1<sup>st</sup> metatarsals, four metatarsals, one ray of phalanges, five proximal pedal phalanges, five intermediate and six distal pedal phalanges, three sesamoid bones, one proximal phalanx of the hallux and three proximal parts of metatarsals.

Also for this burial from squares D3 and E3 (2)- body of the mound

One part of fibula shaft, parts of sacrum, part of the humerus shaft, two manual phalanges, one right trapezoid and one intermediate cuneiform.

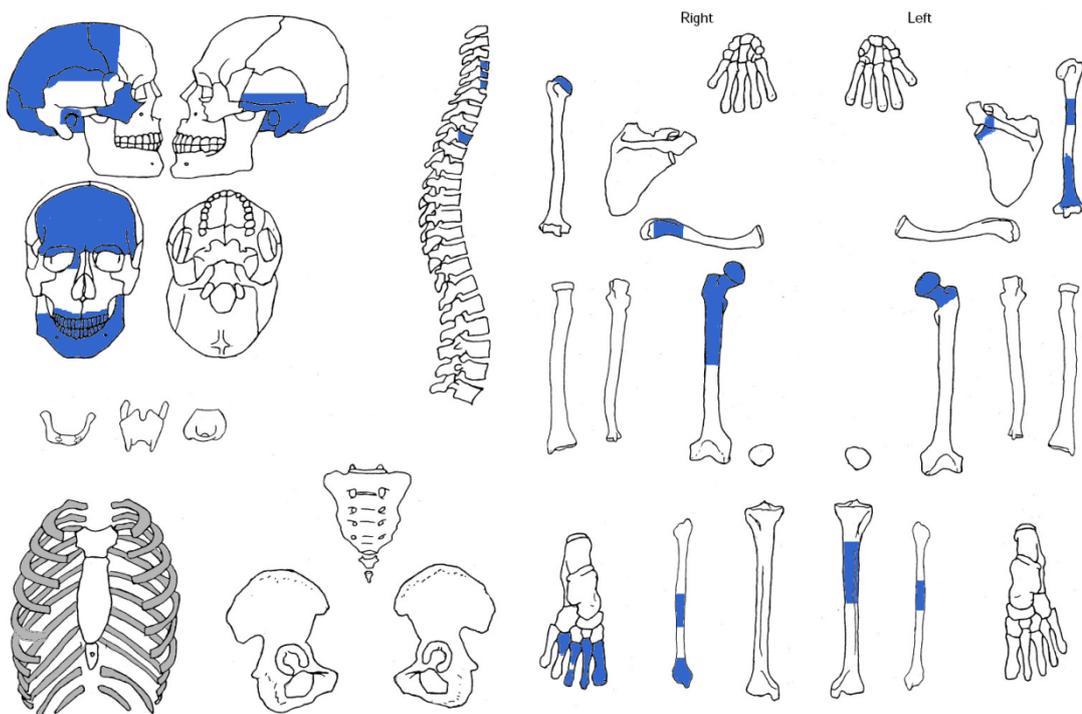


Figure 131: Visual inventory of Hindlow burial 4

### *Sex estimation*

The skull was used as there was no pelvis. The supra-orbital ridge was scored at 1/2 as it was very flat, the supra-orbital margin was scored at 2/3 as it was rounded but not especially large. The mastoid was scored at 4, the zygomatic was small, light and short, the orbit was rounded and smaller than those of burial 1 and 3. The mandible was broad but not deep, the mental eminence was scored at 3. This individual had a low forehead, the nuchal area was not rugose on the external surface (scored at 2) but cruciate eminence was very thick.

Overall this individual has a mixture of characteristics as the facial characteristics are quite feminine but the mandible is quite masculine, could be a M? or an older F?

Teeth appear large and masculine

### *Age*

Cranial suture fusion: Sutures are fused throughout and barely visible though it is difficult to say if they are completely obliterated due to fragmentation. Fragmentation has occurred along suture lines but there is definite obliteration on the internal surfaces.

This would indicate an older adult.

Dental wear: using Brothwell gives an age of around 35-45; the Lovejoy (1985) method gives an age of 35-50 for the maxilla and 40-45 for the mandible.

Overall this appears to be an older adult from 35-50 years of age.

### *Metrical analysis*

Cranial thickness: 5.33mm (parietal); 10.51mm (frontal) – thick diploe not cortex

Occipital – internal cruciate protrusion: 15.28mm

Femoral head diameter (R): 47.36mm 46.5-47.5=M?

Femoral shaft diameter at linear aspera: 28.60mm

Femoral head diameter (L): 46.08mm 43.5-46.5=?

### *Taphonomy*

The skull is in fragments but otherwise has good preservation perhaps due to the thickness. The feet and hand bones present are well preserved. Breakage is probably due to disturbance/excavation, there are jagged fracture margins with white edges.

### *Palaeopathology*

The right humeral head has pitting on the articular surface, a cervical body has large pits on the superior surface of the vertebral body.

This individual also has thick cranial bones

### Dental pathology

Large carious lesion on the right maxillary first molar, has destroyed a third of the tooth including all the surface which would have been abutting the 2<sup>nd</sup> premolar. All that remains of both the maxillary 2<sup>nd</sup> premolars is part of the roots. At the base of the root of the left maxillary 2<sup>nd</sup> premolar the abscess has broken through into the maxillary sinus. The left maxillary 1<sup>st</sup> molar was lost peri-mortem. The right maxillary canine has an apical granuloma, also the 2<sup>nd</sup> right maxillary molar has a large opening which has sharp margins and was probably a cystic lesion.

The mandibular right 1<sup>st</sup> molar was lost peri-mortem but the surrounding buccal alveolar margin is rounded and appears to have had a peri-apical abscess, the bone appears to have healed.

This individual had mild periodontitis which can be seen from the blunt alveolar margins and porosity there was also some compensatory eruption.

### *Notes*

Fibulae shaft pieces are thick-large

### **Remains near burials 3 and 4 mainly 4 (male) lower half**

#### *Inventory*

(squares D3 and E3 (2) body of the mound)

Femur, left upper half but no capit or trochanters, right and left calcaneus, right and left tali, right patella, distal end tibia (left) part of another end of a distal tibia, most of a fibula (r) no proximal end, distal end of a left fibula and some of the shaft.

(S.E. quadrant, bone group 6 (4) almost under south baulk)

Part of vertebral sacral body, right 1<sup>st</sup> metacarpal, a left capitate, an intermediate cuneiform, one tooth left upper incisor (root apex closed).

(C3 and C4 vertebrae belonging to pelvis in D4)

Highly fragmented vertebrae, mostly processes – transverse and spinous, one half of atlas with articular area and slight eburnation on the edges of the inferior facet. All types of vertebrae are represented.

(foot bones from D3 and E4 –also hand bones)

Left and right navicular, lateral cuneiform; left cuboid, right medial cuneiform, right intermediate cuneiform. Left 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and prox end of 5<sup>th</sup> metatarsal, right distal end of 1<sup>st</sup> metatarsal, 2<sup>nd</sup>, 3<sup>rd</sup> metatarsal and proximal ends of 4<sup>th</sup> and 5<sup>th</sup> metatarsal. Three proximal pedal phalanges, one intermediate and one distal phalanges, one sesamoid bone. One left 5<sup>th</sup> metacarpal, one complete proximal phalanx (manual) and large, masculine at 47.70mm. two halves of distal proximal manual phalanges, one intermediate phalanx and one part of a distal manual phalanx. Left and right triquetral, right hamate, left trapezium, left and right scaphoid, left capitate, a pisiform and another sesamoid bone.

(D3 and E3)

Small amount rib fragments and some femur shaft fragments.

Parts of pelvis – iliac blade and spine, the acetabulum and surrounding area (L), part of a femoral head (possibly right), medial half, with pitting on a half of the surface (3<sup>rd</sup> of capit overall).

Age

One rib end at phase 2 (M&F)

## **Burial 2**

### *Inventory*

The surviving parts of the skull include: the mandible and maxilla, part of the frontal, a left zygoma, a right temporal, part of the left temporal, part of the hyoid (middle part fused to one side part), part of a mandibular fossa. Overall the skull is quite thick, there are fragments which probably represent the parietals and parts of the frontal and occipital, about 80 small fragments – the skull seems to be all represented within all these fragments.

The limbs bones were represented as follows: two humeral heads, a left humerus, a right humeral diaphysis, a right proximal radius and distal ulna, two parts of ulna with the proximal ends (left and right) and another piece of ulna shaft. Another part of an ulna? - which may belong to another individual. Most of a right clavicle (medial end and shaft), and part of a left clavicle, two scapulae are represented, the right is more complete the left is just the glenoid, a right femur - near complete, a left femur in two parts, three parts of fibulae with distal ends (two right and one left) and one with the proximal end.

There were other parts of limb shafts, which were half to a quarter and less of the diaphyseal circumference – these are generally undiagnostic but appear to be from all the limb areas.

Parts of the axial skeleton included: Parts of lumbar vertebrae – most of the lumbar represented, two thoracic vertebrae, one body of a cervical vertebra, ribs, an atlas, an axis, a c-3, also another cervical pieces and some upper thoracic vertebrae

Most of the sacrum, various pieces of iliac blade and border, a large part of the left pelvis, the right includes parts of the auricular surface, ischium and acetabulum.

Manual bones include: One scaphoid and one part capitate, one thumb proximal phalanx, eight proximal manual phalanges, four intermediate manual phalanges, one distal manual phalanx, two 2<sup>nd</sup> metacarpals, one 3<sup>rd</sup> metacarpal (left), two 5<sup>th</sup> metacarpals and one 4<sup>th</sup> metacarpal.

The pedal bones included: Eight parts of metatarsal (none of which are the hallux). One pedal intermediate phalanx, a right and left talus, a right and left calcaneus, a right cuboid, a right navicular, a left and right intermediate cuneiform, a medial cuneiform and a lateral cuneiform.

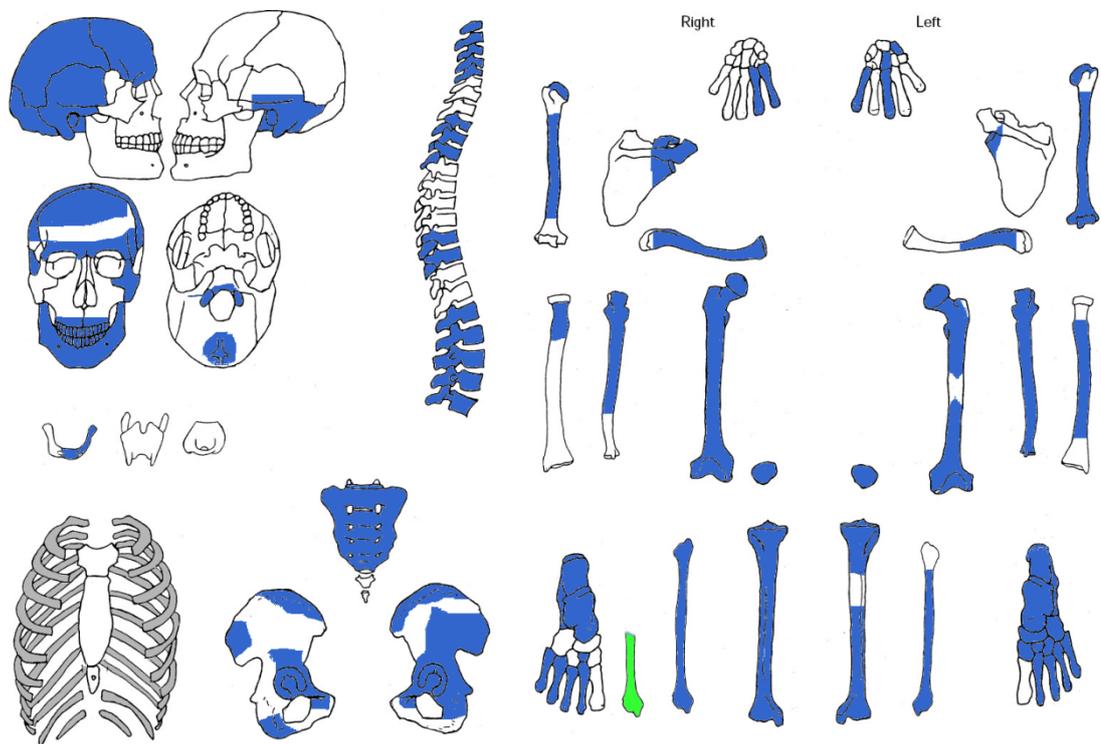


Figure 132: Visual inventory of Hindlow burial 2

### *Sex estimation*

The only part of the pelvic bones which had survived well enough to be used was the greater sciatic notch of the left innominate which was scored at 4/5. The rest of the sex estimation is based on cranial features. The supra-orbital ridge and the mental eminence were scored at 5 and the mastoids were scored at 4/5. The left orbital margin and zygoma form a square orbit

shape, the individual also has a large mandible and a broad ascending ramus. Overall these features indicate a male individual.

### *Age*

Cranial suture fusion: the sutures are fused and almost all are obliterated though some are slightly visible which could indicate a more mature adult.

Auricular surface: the surface is fine grained with some micro-porosity – 36-44? (White and Folkens).

Dental wear : using the Brothwell method gave an age at the earlier end of the phase of 35- 45 years. Using the Lovejoy (1985) method, the maxilla was more worn than phase H (which gives an age of 40-50) so this individual may be older than this; the mandible gives an age of around 40-45.

Overall this is an older adult perhaps aged from 40-50, with a wider range of around 35-55

### *Metrical analysis*

Right scapula

Glenoid height: 39.27mm >37=M

Glenoid width: 28.26mm ?

Left scapula

Glenoid width: 26.83mm ?

Clavicle

Height of the medial articular end 31.68mm

The glenoid height indicates that this is probably a male individual.

### *Stature*

The femur was measured in order to estimate stature, the formulae of Pearson and Trotter were used.

Femur maximum length: 475mm

Pearson

=81.306 +1.880 femur ± 3.3 cm

$81.306 + (1.880 \times 47.5) = 170.606 \text{ cm (or } 5'5) \pm 3.3 \text{ cm}$

Maximum= 173.906 (5'7)

Minimum= 167.306 (5'4)

Trotter

=61.41 + 2.38 femur ± 3.27 cm

61.41 + (2.38 × 47.5) = 174.46 cm (or 5'7) ± 3.27 cm

Maximum = 177.73 (5'8)

Minimum = 171.19 (5'6)

The results give a range, overall of 5'4 – 5'8, this individual was short to medium in height.

### *Taphonomy*

Parts of the internal surface of the cranium are eroded and some erosion/abrasion has caused the external cranial surface to be lost. The rib edges are rounded away and broken along the length, but some upper ribs survive almost complete (1-3). Breakage to the limb bones mostly appears to be quite recent with white fracture surfaces and margins. Some limb surfaces have been eroded away, the metatarsals are quite eroded on the diaphyses.

### *Palaeopathology*

Some fragments of the cranium seemed abnormal in thickness

Frontal: 9.46mm

Parietal: 8.79mm

Occipital: 12.80mm

### Joint disease and vertebral fusion

The sacrum is at a strange angle there appears to be fusion of L-5 to S-1? The fusion has occurred at the inferior part of the L-5 and on the lateral areas and the processes? Have 4 pieces definite lumbar bodies (one possible but may be T-12) the definite lumbar vertebrae have new bone growth on the body surfaces which is directed vertically? These vertebrae also have moderate to severe osteophytosis directed laterally and curving vertically.

The axis is fused to the C-3 this is especially on the inferior of the axis to the superior of the C-3 facets on the left side. There is osteophytic growth on the C-3 on the right inferior facet.

Lumbar and thoracic vertebrae have osteophytosis

Surfaces of all bodies are affected and altered with pits and raised areas

The right scapula glenoid has osteophytic lipping on the superior half of the joint margin. The right clavicle has an alteration on the medial articular surface

The left distal tibia has bony protrusions in and around the fibular notch

Slight extra bone around the articulation of the left distal femur on the inside of the lateral condyle.

The right tibia has osteophytic lipping of the proximal surface mostly around the medial and posterior most border of the medial articular surface.

One humeral head has pitting on most of the surface

The scaphoid has extra bone growth, the capitate has eburnation on the head – the palmar end and the palmar view.

Right femur, left humerus, left tibia show no signs of joint changes, the left femur has too little articular surface left as it has been eroded (taphonomic).

#### Dental pathology

The individual has periodontal disease which is moderate and the upper lateral left incisor has been lost and the bone resorbed prior to death.

#### *Non-metric traits*

The right calcaneus has an anterior double calcaneal facet

#### *Notes*

The right clavicle is bigger than the left which may mean that this individual was right handed. There is an extra part of a fibula from a different individual.

#### **Burial 2A - juvenile (part 2 of burial 2)**

##### *Inventory*

The cranial remains include: both petrous temporal bones and fragments of the cranial vault. The post-cranial remains are represented by both mostly complete scapulae, the upper two thirds of the right humerus and another piece of diaphysis which is probably part of the other humerus.

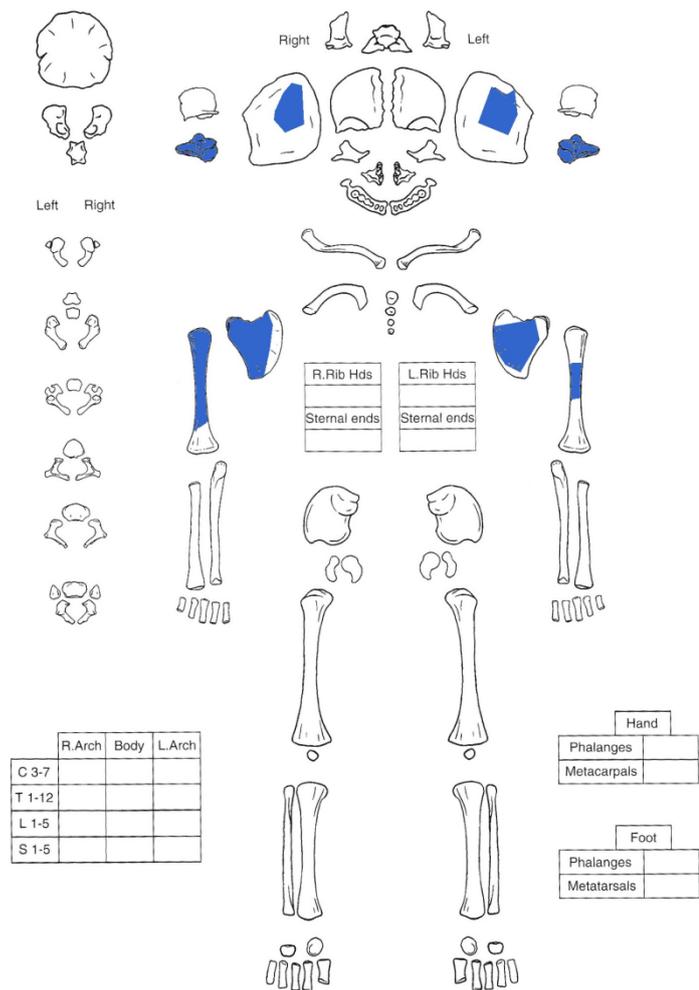


Figure 133: Visual inventory of Hindlow burial 2A

### Age

From the pars petrosa length (33.88mm) this gives an age of around 36 weeks (40 weeks being around birth) so these are the remains of a neonatal infant.

### Taphonomy

Except for the petrous temporal bones the remains have not survived well and seem to have been crushed

### Burial 8

#### Inventory

All that remains of the skull is part of the mandible.

Of the upper limb bones there is: a right humerus without the proximal head, most of a right radius, the distal end of left humerus, part of a radius with the radial tuberosity, a left and right ulna, the acromial half of a clavicle, the left glenoid, acromion and corocoid of the left scapula,

the right medial end of clavicle, the distal end of an ulna, part of the right scapula, a humeral head and a piece of humerus shaft. Of the lower limb bones there is: a left patella, the proximal end of left femur, parts of the right proximal femur, pieces of fibula shaft, the distal part of the left tibia and distal part of the right tibia.

The axial skeleton is represented by: an ischium and part of an acetabulum, fragments of the iliac spine, part of the right auricular surface (too damaged to age), part of an acetabulum; thoracic vertebrae 11-12 and lumbar vertebrae 1-3. Pieces of lower thoracic vertebrae processes, several rib fragments, several parts of vertebral transverse and spinous process and the axis, atlas and five parts (mostly bodies) of c3-7 and one thoracic vertebral body.

The manual bones present includes: one left trapezium, a left and right scaphoid, a left and right capitate, a left and right hamate, a right trapezoid and triquetral; one 4<sup>th</sup> metacarpal, one 3<sup>rd</sup> metacarpal and two fifth metacarpals, seven intermediate phalanges, two proximal phalanges and two rays of thumb bones.

The pedal bones present include: a right cuboid, one left calcaneus, a right navicular, a 1<sup>st</sup> metatarsal, a left talus, a right medial cuneiform, an intermediate pedal phalanx. Part of a right 2<sup>nd</sup> metatarsal and part of a 4<sup>th</sup> metatarsal.

There were also two parts of metacarpal/tarsal and one small box of undiagnostic diaphysis fragments.

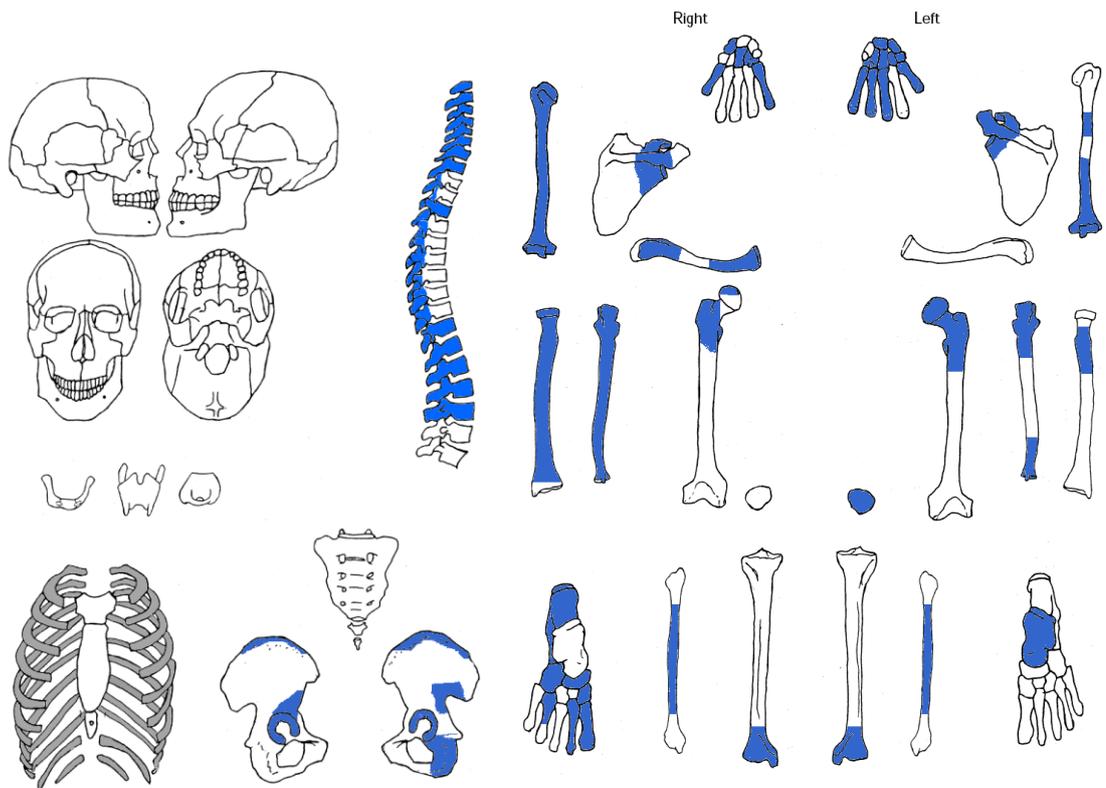


Figure 134: Visual inventory of Hindlow burial 8

*Sex estimation*

There is not much surviving from the cranial or pelvic bones, though the surviving sciatic notch was scored at '4'. There were robust muscle markings for the deltoid tuberosity (on the humeral bones) and this individual was large and robust generally, so is probably a male individual (M?).

*Age*

Dental wear: using the Brothwell method gives an age of 17-25, using the Lovejoy (1985) method gives an age range of around 18-22 years from the mandible. However, it is not entirely certain that all of the loose teeth belong to this individual.

*Metrical analysis*

Femur head diameter (L): 47.15mm 46.5-47.5=?

Scapula (L) – glenoid height: 37.50mm >37=M

– glenoid width: 28.84mm ?

Scapula (R) – glenoid height: 38.64mm >37=M

The measurements of glenoid height also indicate that this is a male individual.

### *Taphonomy*

Signs of root activity are visible on the bones. The cranium is missing and it is not clear if this was ever present or was extremely fragmented and became mixed in with other individuals.

### *Palaeopathology*

#### Degenerative Joint Disease

Thoracic vertebrae 11-12 have schmorl's nodes on the superior surfaces which are not severe.

#### Dental pathology

A buccal peri-apical abscess at the lower right 1<sup>st</sup> premolar – this has a rounded and blunt margin and porosity. Also the mandibular left premolar has been lost ante-mortem and the alveolus has been resorbed.

### *Notes*

Has an extra fossa in the olecranon fossa of the left and the right humerus

- ulnae – raised muscular area for brachialis or– flexor pollicis longus?

The right radius has a large radial tuberosity for M.biceps brachii.

The left femur has a deep trochanteric fossa and a very robust attachment for gluteus minimus

There is a visible ridge for the attachment of pectoralis major on the right clavicle.

### **Burial: 'old man' from Bateman disturbance**

#### *Inventory*

There is no cranium as this would have been taken by Bateman.

Surviving limb bones include: an ulna diaphysis, a left distal humerus, a right proximal ulna, a humerus diaphysis, two large radial diaphyses, part of a fibula diaphysis and end, one left patella, two parts of proximal femur, one distal tibia, two pieces of femur diaphysis, one piece of tibia diaphysis.

The axial skeleton is represented by: parts of the pelvis including: left acetabulum, ilium and part of the ischium; right acetabulum and part of the ilium with the auricular surface, also part of iliac crest, superior pubic ramus and a right pubis with the pubic surface.

Also there is the vertebral bodies of lumbar 3 (?) and lumbar 4; rib fragments, other pieces of lumbar vertebrae and a thoracic spinous process.

The manual bones are represented by: a right scaphoid, the 3<sup>rd</sup> and 2<sup>nd</sup> right metacarpals, a left 3<sup>rd</sup> metacarpal, four other parts of metacarpal, a pisiform, five parts of proximal phalanges, two intermediate and one distal manual phalanges.

The pedal bones include: the right and left calcanei, the right and left tali, a 1<sup>st</sup> metatarsal and proximal and distal phalanges for the hallux, four other metatarsals and two proximal pedal phalanges.

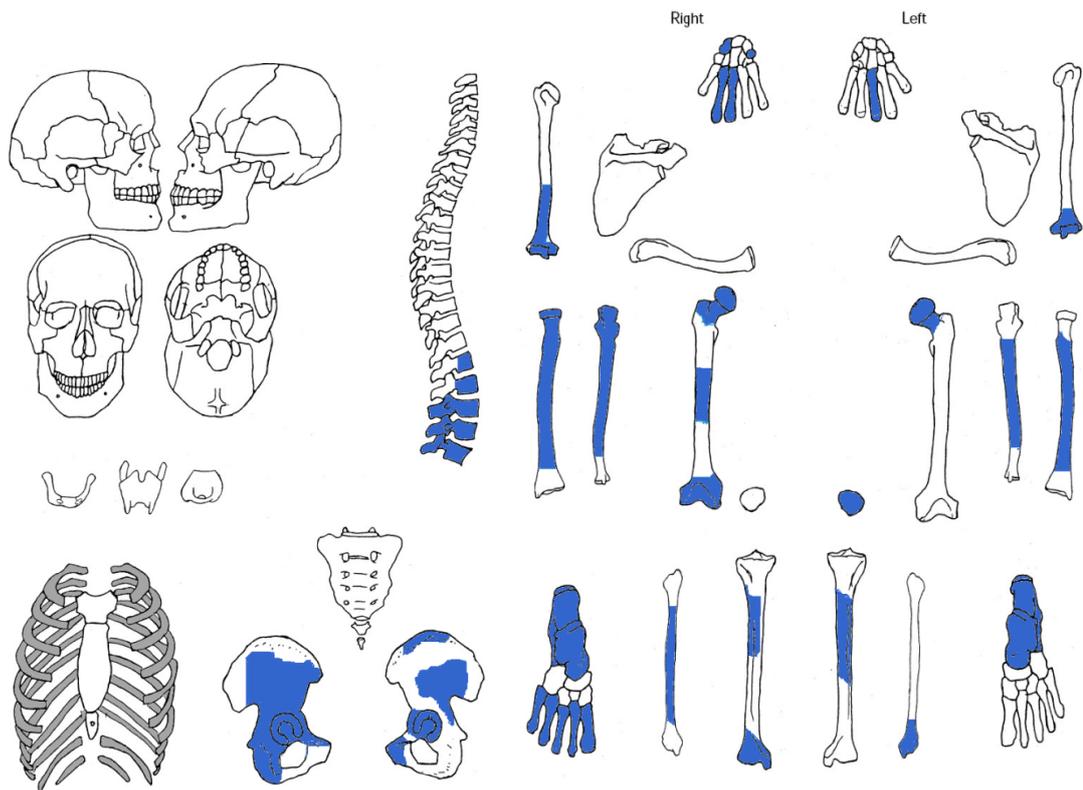


Figure 135: Visual inventory of Hindlow 'old man'

### *Sex estimation*

The greater sciatic notch is incomplete but looks quite open, generally the pelvis looks tall and narrow with no pre-auricular sulcus and lacks a sub-pubic concavity. This a male individual.

### *Age*

Pubic-symphysis: using the Suchey-brooks method scored this individual at phase 5 which gives an average male age range of 35-56 and a mean age of around 45.

Auricular surface: the right auricular surface was placed in possibly phase 7, which gives an age around 50-59

Rib end: a surviving rib end was placed in phase 4 which for a male individual gives an age of 26-32 years.

Dental wear: there are some teeth which are supposed to belong to this individual but may belong to a different individual.

Using the Brothwell method results in an age of around 25-35; the Lovejoy (1985) method gives an age of 35-40 from the maxilla (this is scored from one 1<sup>st</sup> molar alone which makes this less reliable) and 24-30 from the mandible.

Overall this is a very mixed result, this individual is an adult perhaps aged in the early 30s but with a wider range of 25-45 years.

#### *Metrical analysis*

Maximum femur head diameter: 48.38mm >47.5=M

This measurement adds to the evidence that this is a male individual.

#### Taphonomy

The surfaces of the bones are quite abraded, much more so than the remains from the other burial areas which were not touched by Bateman, there is also evidence of root activity.

#### *Palaeopathology*

##### Joint disease –O.A.?

Marginal lipping around both acetabuli, left femoral capit has some porosity and new bone formation around the fovea capitis.

No signs of joint alteration – left distal femur, right distal humerus, right ulna, distal tibia, right femoral capit.

Lumbar vertebrae

Both the inferior and superior surfaces are modified with large pores and pits – macro and micro porosity and nodules

Osteophytosis and changes to the shape of the surfaces

Other parts of lumbar with severe surface modification and lack of bone – (O.P.?)

Semi lunar shape lytic lesion on the edge of one vertebral body

##### Dental pathology

There is some calculus on the mandibular dentition, on the root of left 2<sup>nd</sup> molar.

#### *Notes*

Enlarged radial tuberosity – for M.biceps brachii

MSM ulna right and left both '2' moderate.

The left distal humerus is smaller than the right which may indicate a right handed individual or mixing with other individuals. The right humerus has a septal aperture.

This individual has very large robust fibulae and radii

Fibula diameter- 19.70mm

**Burial/ context:** fragments of infant skull found with pieces of burnt bone; centre of the barrow, Bateman trench into sub-soil (4)/(3).

*Inventory*

There are several pieces of cranium which represent part of the parietal and a right frontal bone. Also there is part of the basioccipital (C5) and both corners of the frontal (supra-orbital areas).

The post-cranial bones are represented by one vertebral body which is probably from the upper thoracic area.

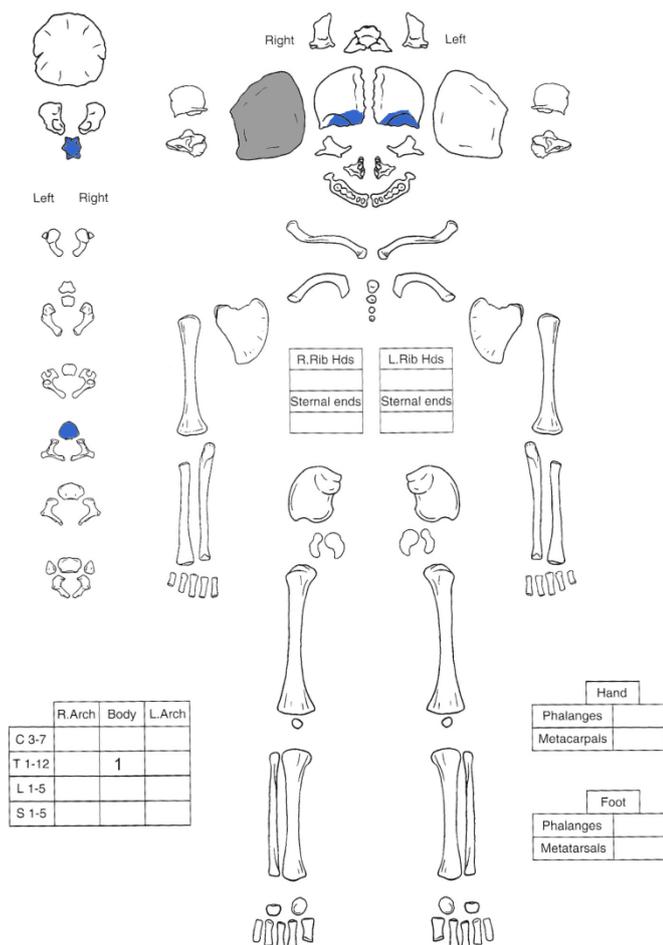


Figure 136: Visual inventory of Hindlow infant (Bateman)

*Age*

Age is determined from the metrical analysis of the basioccipital bone

Maximum width basilaris: 12.83mm – 36-40 weeks

Sagittal length of basilaris: 11.28mm - 34-36 weeks

Maximum length basilaris: 15.01mm -38 weeks

These measurements give a maximum age of around 38-40 weeks (around birth), these are the remains of a neonatal infant.

**Burial:** infant (2) from 1845 excavation trench and pit

*Inventory*

Cranial remains were represented by part of a right orbit and part of the right side of the mandible. Long bones were fragmented but included: two humeri, one ulna, two proximal ends of femora, one proximal end of a tibia and one distal part of a fibula. Also there was one complete right ilium.

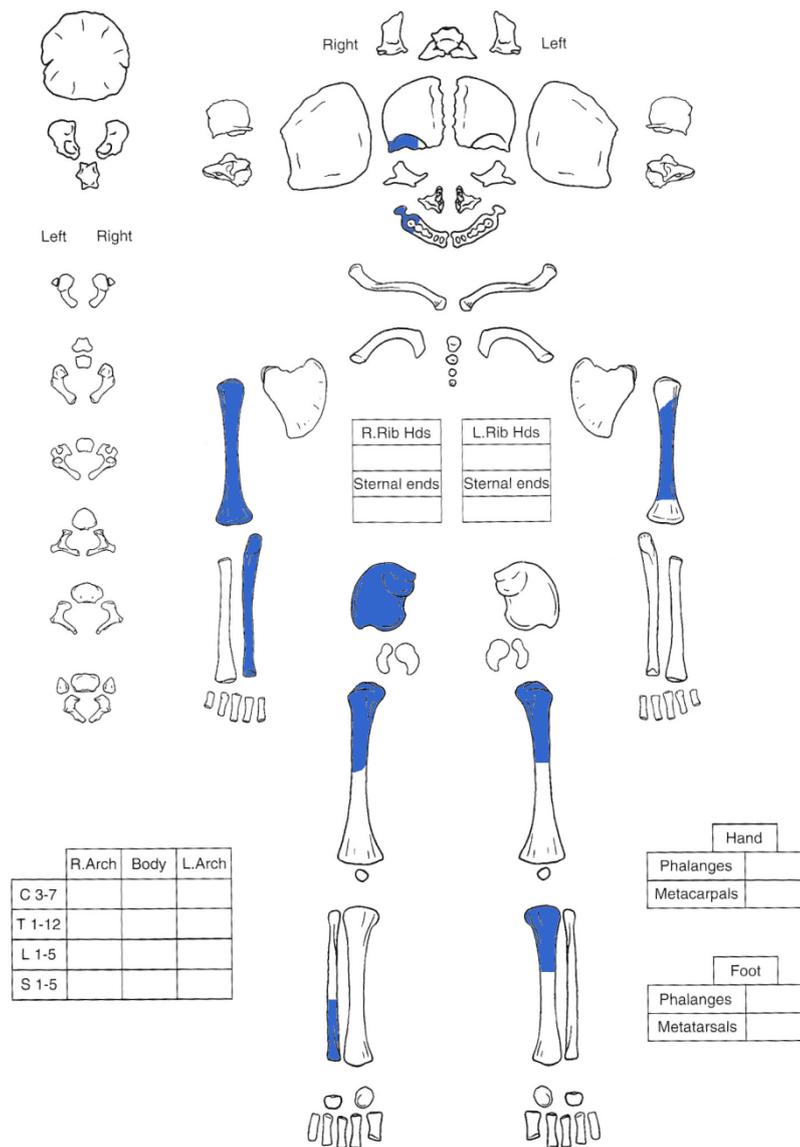


Figure 137: Visual inventory of Hindlow infant (Bateman 2)

## Age

Metrical measurements of the right ilium were taken for the age determination.

Maximum iliac length: 31.74mm (36-38 weeks)

Maximum iliac width: 28.88mm (40 weeks)

These measurements give an age of around 40 weeks, this is a neonatal infant.

## scattered? individuals

**bone scatter 1** from among the cairn stones (juvenile)

One right zygoma, one piece of cranial vault, a fragment of basiooccipital, five parts of ribs including one first rib, possible part of a humerus? Also there were two limb fragments which may belong to this individual or an older individual – these are a femoral and a humeral diaphyses.

These remains were aged at 2 years in the original report – but may be slightly older than this?? This individual is within the age range of younger child (1-6 years).

## **Bay 33- bone scatter 1**

### *Inventory*

Part of a right mandible, a right humerus, part of a left humerus diaphysis, the proximal end of a left ulna, a complete right ulna and radius, a complete right femur and two proximal ends of left femora, a near complete right tibia and part of a tibia diaphysis.

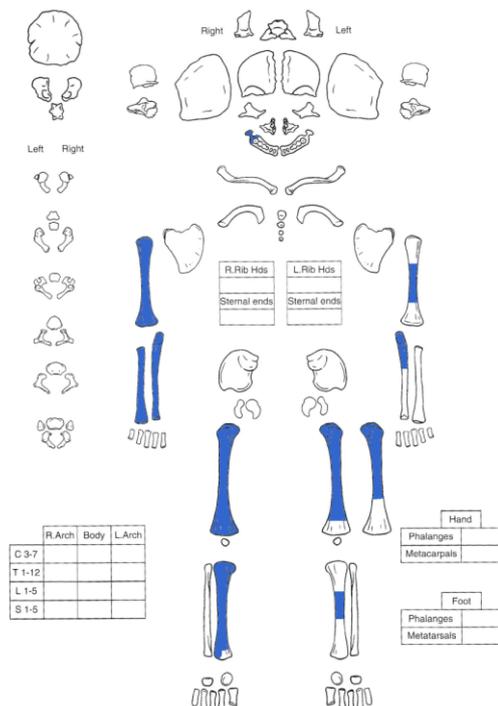


Figure 138: Visual inventory of infant in bone scatter 1

### *Age*

The right ulna and femur were complete enough for metrical analysis

Maximum ulna length: 57.34mm = 38-40 weeks

Maximum femur length: 73.63mm = 38-40 weeks

### *Conclusion*

These remains represent two individuals as there are three femora, however these remains are of the same age – neonatal infant.

### **South east quadrant – scattered bones from near bone area 2**

Most of these inhumated fragments are undiagnostic; there are 15 fragments of thoracic and lumbar transverse and spinous processes, one medial cuneiform, one piece of calcaneum, two distal manual phalanges (one is from thumb), one part of scapula, several pieces of rib and limb shaft, one fragment of metacarpal.

There is nothing here to indicate a juvenile individual but the long bone cortex is not as thick as would be expected in an adult – these remains may represent an adolescent or gracile adult.

### **Scatter 2, bay 33, south east quadrant**

One right infant femur

Maximum length: 92.45mm (this has been reconstructed)

This individual would have been aged around 1.5-3 months old.

At the mid-shaft there is evidence of gnawing

### **East baulk, bone group 7**

Some undiagnostic fragments, one femoral trochanter, limb fragments, vertebral fragments, one fragment of ischium, one piece of glenoid of scapula (may be animal), one piece of distal tibia, one cervical vertebral body with osteophytic lipping, lots of fragments of undiagnostic limb.

### **Square C5**

These remains are very fragmented: part of an iliac crest, part of an acetabulum, part of an ischium, part of a tibia shaft, one thoracic vertebra and undiagnostic fragments of rib and long bones. Also there was an internal mandibular eminence which was very small and the remains are gracile, this could be a female (F???)

### **C5 female (from note) foot and hand bones**

Right: calcaneus, talus, cuboid, navicular, intermediate cuneiform, complete ray 1, metatarsals 2-4, four proximal phalanges, one intermediate phalanx and one distal.

Left: navicular, lateral cuneiform, distal phalanx of the hallux, one proximal phalanx and a 2<sup>nd</sup> metatarsal.

Two sesamoid bones

Also included with this bag is a manual intermediate phalanx and the proximal end of a 5<sup>th</sup> metacarpal.

The cuboid has pitting/porosity of the surface which articulates to the bases of the 4<sup>th</sup> and 5<sup>th</sup> metatarsals. The macro and micro-porosity is all along and in the centre of the articular surface.

### **South baulk**

16'3 from centre 15'9

14' from south 14'7

-8-9' in turf?

Part of a left clavicle (gracile), fragments of vertebrae and ribs, several bones of the left and right foot: a left talus, left calcaneus, parts of one 2<sup>nd</sup> metatarsal, two 5<sup>th</sup> metatarsals and one 1<sup>st</sup> metatarsal, one proximal pedal phalanx and from the hand one distal phalanx.

These remains are adult, have no signs of pathology and are gracile and slight so may be female (F????).

? 12'9 from centre, 17'6 from south, 9' deep. – found in articulation

Part of a right leg: distal femur, proximal tibia and a patella.

The joints have pitting and macro/micro porosity, mostly on the distal condyles of the femur. there are some affects on the lateral condyle of the tibial plateau, but the edges of the bones margins are destroyed. There are no signs of disease on the patella.

### **Area C4**

three parts of neonatal/infant tibia which represent the tibiae of one individual.

**Bone area, square B6** –(3)- buried soil

Probably a 4<sup>th</sup> or 5<sup>th</sup> metatarsal, is incomplete.

**Bone area, C5** (2)/(3)

A metatarsal, appears to be the same individual as above. –with charcoal pieces  
'Found vertical a few inches higher than most bones of burial 1, but possibly belonging with them'.

**C9** bottom of charcoal

Half of the trochlear of a distal humerus

**Charcoal area (2)**

A few undiagnostic fragments of limbshaft and rib.

**Square J3/4 (3)**-buried soil

Found near the tooth from burial 3, appears to be animal? Part of an orbit/frontal bone.

**Square F3 (3)**

A pisiform, parts of metacarpal and a fragment of a mandible (internal eminence)

**South-east quadrant (2)**-body of the mound

Bone found near the charcoal concentration

Appears to be animal or calcified ligament? It has a very irregular surface shape and is compact all the way through.

**C3 (3)**

Some fragments of lumbar vertebrae which have some mild osteophytosis, parts of a sacrum (which is small). Also there was the auricular area of a left ilium, which is smooth and youthful with some billowing so aged around 25-29. Lastly there was the proximal end of a right tibia in 2 parts and part of the diaphysis of the same bone.

**West baulk (2)**-body of the mound

These remains consist of: a femoral head, the distal end of a tibia, a part of a radial diaphysis and part of a femoral diaphysis.

**C3 (2)**

Rib fragments, parts of metatarsal/carpal heads and lots of undiagnostic pieces

**C3**

Three fragments of metacarpals: one 3<sup>rd</sup>, one 2<sup>nd</sup> and one diaphysis.

## **A2/B2**

A small amount of fragments of ribs and undiagnostic long bone, some of these pieces are quite eroded.

## **Loose teeth**

### **G3&G4**

Mandibular 3<sup>rd</sup> molar (L) from the shoulder of burial 1, has some even polish but no exposure of the dentine.

### **G3&H3**

This tooth was found to the north-west of the skull of burial 1, it is a mandibular molar the crown has not survived well, but from the spread of the roots it is probably a 1<sup>st</sup>/2<sup>nd</sup> molar.

### **Other spare teeth associated burial 1 but not belonging to this individual.**

1 maxillary 1<sup>st</sup> incisor –some wear at occlusal surface

1 maxillary 2<sup>nd</sup> incisor – some wear at occlusal surface

1 maxillary canine – no wear

1 3<sup>rd</sup> maxillary molar – no wear

1 2<sup>nd</sup>? Mandibular molar – no wear

These 5 teeth all appear to have belonged to the same individual and have linear DEH on the incisors and canine, there are 3 lines in the half of the root nearest the CEJ, these teeth are quite feminine in appearance. The episodes relating to the linear DEH occurred between the ages of 3.5 and 6.5.

### **Loose teeth from C3, C4, D4, E4, B2 and C2**

Left and right maxillary canines

A maxillary 1<sup>st</sup> incisor

A left mandibular molar.

These may belong to different individuals but the maxillary teeth were similar enough to be aged with Lovejoy (1985) at 35-40 years. These are from the area of the head of burial 4 and are within the same age range but the dentition of burial 4 are mostly intact, only the molar from this group could belong to burial 4.

These other teeth had less wear and are probably from younger individuals:

2 upper lateral incisors (shovel shaped)

An upper lateral incisor

A lower lateral incisor

An upper 1<sup>st</sup> incisor

3 canines

A lower first molar

One 3<sup>rd</sup> molar (no wear)

A 1<sup>st</sup> and 2<sup>nd</sup> mandibular premolar (together)

Two roots which are polished at the occlusal end

An incisor

Half of the roots of an upper molar

The premolars and lateral incisors from this group may belong to the same individual and were aged using Lovejoy (1985) at 20-24 years.

#### **With burial 2**

An upper canine – very large, the crown is worn half way down

One lower 2<sup>nd</sup> incisor with a worn occlusal edge

#### **Scattered bones from Bateman disturbance (4)**

Inventory

One right talus, right 1<sup>st</sup> metatarsal, left and right 5<sup>th</sup> metatarsal, pieces of calcaneus, most of a 4<sup>th</sup> metatarsal (left), proximal end of a right second metatarsal, a 5<sup>th</sup> proximal phalanx, a right navicular, left medial cuneiform, right lateral cuneiform, a few undiagnostic fragments of limb shaft – appears ulna and fibula mostly.

#### **(south baulk, north half (4))**

Few rib fragments, metatarsal fragments 5 and a metatarsal 1 left, right medial cuneiform, left navicular, right cuboid, small manual intermediate phalanx (but fused), three fragments which appear juvenile – possibly humerus shaft, radius shaft and a flat piece – not adult size or cortex – maybe aged around 6-10.

#### **(north baulk – 29'7 ft W, 32' ft N, 2'4" ft turf)**

Right talus, left calcaneus, part distal tibia and undiagnostic fragments

**(east quadrant baulk)**

2 pieces cranial bone – quite eroded, a fragment of eroded femur shaft and a fragment of juvenile shaft.

**(south east quadrant (4))**

Two fragments femur shaft, piece scapula, proximal 5<sup>th</sup> metatarsal and a proximal pedal phalanx, other undiagnostic fragments. All eroded, rootlets and recent breaks- white patination and excavation marks.

**(fragments from bateman disturbance marked ♀)**

Part pelvis, part of auricular surface and the greater sciatic notch – is not complete but would score at '2'

A left talus, prox ulna, piece iliac blade, one upper central incisor (large and worn) eroded pieces of limb shaft – includes small pieces of (f) tibia – 3, ulna shaft, a piece fibula, two pieces femur shaft, femur and tibia shaft fragments are highly eroded.

**(north west quadrant from cluster at base of cutting by bateman)**

Mostly undiagnostic limb fragments, some rib fragments, distal end of a left fibula (see pic of MSM), lots of recent breakage of these – white and unpatinated.

Lateral half right clavicle deltoideus (2), trapezius (3), inferior trapezoid line and conoid tubercle (3). Proximal ulna has strong crests, proximal end of a radius, part proximal end of an ulna, distal end of a radius, distal ulna, right talus, left calcaneus, left medial cuneiform, part proximal right tibia surface and other half. Right cuboid, right navicular, part 1<sup>st</sup> metatarsal, 3<sup>rd</sup> right metatarsal, humeral head, a cervical vert body, a lumbar vert body with schmorl's nodes – linear one on inferior surface, circular on superior surface. Piece tibia shaft with canid score mark, piece humerus shaft, distal humerus end left [trochlear notch (F), olecranon fossa deep and rounded – see pic] and part of an atlas.

Taphonomy – these bones fragmented more than the remains outside of bateman's excavation area.

A 5<sup>th</sup> metatarsal with possible rodent gnawing- from the patination this appears recent.

## The cremations

### **South east quadrant, charcoal area, square B8 (?) small cluster of burnt bone**

#### *Weight*

<5mm: 3g

<10mm: 33g

10mm>: 35g

Ulna: 6g

Fibula: 4g

Rib: 1g

Cranium: 2g

Humerus: 4g

Miscellaneous upper limb: 6g

Metacarpal: 1g

Unidentified: 50g

#### *Size*

Minimum: 2.91mm

Maximum: 42.72mm (limb); 22.09mm (cranium)

#### *Taphonomy*

The remains were mostly unidentifiable except for some pieces of upper limb and cranium. The bones were fractured transversely and longitudinally. The fragments of ulna and fibula were mid-brown; humeral and cranial fragments were cream. The rest of the fragments were a mixture of cream, grey and brown in colour.

#### *Inventory*

one fragment of possible metacarpal, one piece of rib, one small fragment of humerus shaft, three pieces of ulna and three fragments of fibula.

#### *MNI*

1 adult individual

#### *Age*

Two tooth roots have completed apices, which means this individual was 20+

*Sex*

Not possible

**South baulk, east baulk and centre, (4) Bateman disturbance**

*Weight*

<10mm: 10g

10mm>: 28g

Ribs? – splinter shape: 7g

Cranium: 10g

Miscellaneous flat bone: 4g

Other limb: 10g

Adult femur: 5g

Unidentified: <1g

*Size*

Minimum: 5.27mm

Maximum: 46.45mm (tibia); 24.51mm (cranium)

*Taphonomy*

The remains were mostly cream in colour, except for a piece of thicker femur shaft which is blue-grey on the external surface and brown on the internal surface (appears the same colour as the bones from the main cremation). The remains were fractured into splinters and also in transverse and longitudinal pattern.

*Inventory*

The identifiable fragments of limb bones included: a fragment of femur shaft, a piece tibia, a fragment of humerus, four miscellaneous limb fragments which are all smaller than the piece of femur. Cranial fragments included – a piece of frontal, a fragment of temporal and part of the occipital.

*MNI*

It is possible that there are parts of two individuals here due to the different coloured piece and possible differences in age – see below. May be one very gracile adult.

*Age*

Thin cortical bone of the limbs: 3.63mm

The cranial bones are of adult thickness.

Sutures: partial fusion – but only two fragments

Cranial bones and sutures would indicate an adult but the thin cortical bone of the limbs may indicate a juvenile?

*Sex*

Not possible

**South balk bone area (2) body of the mound (main cremation deposit)**

*Weight*

<1mm: 0.5g

<5mm: 57g

<10mm: 236g

10mm>: 385g

Cranium: 101g

Articular: 12g

Patella: 4g

Vertebrae: 8g

Ribs: 4g

Hand/foot: 1g

Teeth: 0.5g

Pelvis: 6g

Radius: 9g

Ulna: 10g

Humerus: 34g

Tibia: 12g

Femur: 49g

Fibula: 9g

Miscellaneous: limb: 75g

Miscellaneous lower limb: 45g

Unidentified: 298g

### *Size*

Minimum: 1.36mm

Maximum: 53.49mm (femur); 33.98mm (occipital); 39.94mm (petrous portion)

### *Taphonomy*

The limbs are often half of the diameter, and are fractured in longitudinal, transverse, stepped and spiral patterns. They are quite evenly fragmented despite a lot of variation in colour.

### *Colour*

Fibula: grey

Radius: cream and grey

Ulna: one piece brown, one piece blue-grey and white

Humerus: some brown but most is cream/grey

Tibia: white and some grey

Femur: most blue – out of 10 fragments – a little white with brown/black on inside surfaces

Overall the larger pieces of limb (femora and tibia) are blue and white, smaller pieces such as a fragment of possible humerus which has a thin cortex is pale brown, a piece of ulna is also pale brown.

Two ribs are black the others are grey/cream

Of the flat cranial pieces, 16 are cream/white on the internal and external surfaces

There are two fragments of occipital cruciate – the biggest piece is white on both sides and some blue on the inside; the smaller piece is brown, blue and white on both sides.

There are 14 pieces from relatively thick areas of the skull: three fragments of frontal are white and blue on both sides; of two fragments of temporal edges, one is blue on the outside and white on the inside, the other piece is white on outside and more blue/grey and some white on inside.

There are two other fragments from near the occipital, these are pale on the inside (white/cream) and darker (part white, blue, grey and brown) on the outside.

Overall the majority of the remains are blue-grey, the smaller fragments are a mixture of all the colours described.

Could the colour differences result from the body being laid on one side for cremation ?

The colour differences are most likely due to an inefficient cremation process.

### *Inventory*

There were eight tooth fragments, mostly dark in colour; 6 are brown and black with small areas paler colour, 1 is an almost complete upper incisor, 4 are fragments of molar root, and there is one part of a root tip. The other two teeth are cream with some blue/grey 1 is a molar root and other is single root tooth.

The cranium was represented by: a left petrous portion, part of a second petrous portion, part of the temporal (area around auditory meatus) probably right, right part of a temporal with the root of the zygomatic process and glenoid process, two pieces of occipital from around the area of the cruciate protuberance, part of the sphenoid with a foramen ovale, part of a zygomatic, a small piece of mastoid process, a fragment of squamous temporal and a couple of parietal fragments with the meningeal lines.

There was a piece of maxilla, three pieces of mandible, one is the front portion with the internal and external eminences.

There are small pieces of vertebrae – mostly transverse processes and a lumbar spinous process. There were three pieces of possible pelvis, two parts probable hand/foot bone, half a patella (r?), 8 rib fragments and 12 pieces misc artic bone surface.

All limbs are present though there were no identified pieces of clavicle or scapula.

#### *MNI*

1 adult

#### *Age*

Cranial sutures

Sutures from probable temporal area are partially closed, sutures from thin areas with really long suture 'fingers' are fused and obliterated on the outside surface, still visible on the inside surface. The sutures at joined parietals are fused with some obliteration on the outside surface.

#### *Sex*

Occipital thickness (not cruciate) 8.32mm

Mandible – mental eminence scored at 2

Mandible is small, short – height of symphysis is 16.34mm

#### *Palaeopathology*

The right glenoid process of the right temporal has evidence of TMJ (Temporo-Mandibular Joint) disease – the posterior edge of the fossa has an extra sharp lip, the anterior area has pitting and joint alteration.

### **Overall MNI**

#### ***Inhumated remains***

These remains represent six adults and 4 juveniles (1 older child and three neonates).

#### ***Cremated remains***

The cremated remains represent three or four individuals.

#### ***Scattered remains***

##### *Juveniles*

Within bone scatter 1: one younger child (possibly aged around 2 years) and two neonates.

Within scatter 2 was one infant aged at 1.5-3 months which was represented by one femur.

Within area C4 was another infant represented by parts of tibiae.

Overall – one younger child, two neonates and possibly two infants – though it is possible that these are the remains of one infant which were scattered.

##### *Adults*

From the MNE of the foot bones, there are at least four adults from the scattered remains, but there may be more.

Overall the MNI is at least 21 individuals (13 adults, one older child, five neonates and two older infants).

## 17.6: Analysis of the Mosley Height remains

### Urn C

#### *Weight*

<10mm: 7g

10mm>: 57g

Vertebrae: 2g

Articular pieces: 4g

Misc flat bone: 19g

Cranium: 37g

#### *Size:*

Minimum: 7.90mm

Maximum: 47.99mm (cranium)

#### *Taphonomy*

The remains were mostly grey to pale brown in colour though some cranial bone was white. The bone had fractured both longitudinally and transversely with some crushing also.

#### *MNI*

One adult individual is represented here by two petrous portions (one left, one right), some of the cranial bones are quite thin (2.27mm-2.48mm). Also from this urn there was 601g of unprocessed material, adhered in lumps of soil, this would require wet sieving to find any other remains. There are probably only small undiagnostic pieces of bone within this, although the dens of the axis was identified.

Adult pieces of cranial bone with sutures show partial fusion, the bones generally are quite gracile. There was one piece of mandible, with the internal mandibular eminence which was very small and gracile, the root spaces look adult.

This individual is a young adult and may be female but this is not certain (F???)

### Urn A

#### *Weight:*

<2mm: 90g (charcoal and dust/residue)

<5mm: 27g

<10mm: 53g

10mm>: 353g

Upper limb: 74g

Vertebrae: 41g

Mandible: 16g

Cranium: 120g

Hand and foot: 45g

Misc long bone: 14g

Misc flat bone: 26g

Ribs: 2g

Unidentified: 48g

Patella: 4g

Lower limb: 39g

Articular pieces: 21g

*Size:*

Minimum: 3.25mm (long bone)

Maximum: 89.17mm (long bone)

*Taphonomy*

The remains were pale brownish-grey in colour and appear to have been treated with some sort of coating, cranial bones were white, fragments of juvenile bones were also white. Fracture patterns were longitudinal and transverse with some crushing, but there were patina fractures on the cranial pieces.

*Inventory*

There were 8 fragments of teeth: four of these are probably molars, one of which appears juvenile. There was one piece of long bone with a thin cortex – which is probably juvenile, there was also one juvenile metacarpal, one infant vertebra, two infant phalanges, one proximal end of a phalanx with the proximal end only just fused. Parts of the upper limb included two pieces of distal humerus. There were cervical vertebrae and thoracic vertebrae, a piece of mandible –quite small, one left mandibular condyle, the spheno-occipital junction, one piece of right orbit , also fragments of frontal, squamous temporal and possible occipital. Also there was a piece of talus, two scaphoid bones (L and R) which are different sizes. There

was one juvenile right petrous portion (26.10mm) and a temporal of the same size with the mastoid process (left). There was one adult petrous portion also left?, also a piece of adult parietal with partial fusion. Also one right patella, two pieces of tibia, several pieces of ulna and radius, a piece of sacrum, two lumbar vertebrae with some marginal osteophytes, 2 distal ends of femora (left and right) 1 medial cuneiform, one hallux, three other metacarpal/tarsal fragments.

#### *MNI*

Overall this deposit comprises of one adult, one infant and possibly another older child.

#### *Age*

The adult cranial sutures are visible but fused- the frontal suture is not visible on the inner table, also there is possible partial fusion of the occipital/lambdoid. This may be a young-middle adult.

#### *Sex*

Most of the adult remains are quite gracile, there is one adult right orbit which was scored at 1 = F. This may be a female individual (F???),

#### **Deposit D – un-urned**

##### *Weight:*

<10mm: 14g

10mm>: 7g

Cranium: 4

Misc limb: 17g

#### **Miscellaneous remains** – no context/accession number on envelopes

5g of vertebrae at 10mm> size

19g of cranium at 10mm> size, including mandible, sphenoid and maxilla; there was some copper staining on these pieces.

8 pieces of teeth: 2 identified as molar, 1 incisor, 1 canine – roots with open foramen on the molar pieces and incisor.

## **17.7: Analysis of the remains from Shuttleworth cairn (bank lane)**

### Scattered burial

#### *Weight*

<1mm: 2g

<5mm: 18g

<10mm: 108g

10mm>: 276g

Cranium: 68g

Pelvis: 3g

Vertebrae: 0.5g

Hand: 0.5g

Scapula: 2g

Unidentified: 201g

Femur: 36g

Tibia: 24g

Humerus: 25g

Fibula: 6g

Ulna: 14g

Radius: 13g

Miscellaneous limb: 18g

#### *Size*

Minimum: 2.24mm

Maximum: 91.78mm (limb)

The remains are cream to pale brown in colour, fractures are linear, transverse, stepped, curved and branched. Numerous fragments are eroded around the edges to white.

One tooth root is an upper central incisor

The remains include – one manual intermediate phalanx, one pisiform, one part of pelvis, one part of a C-1/2, one part of humeral trochlear, part of humeral head, part of a distal femur condyle, part acetabulum, part occipital protuberance, one part of left petrous portion.

#### *MNI*

1

*Age*

Adult – cranial sutures show full fusion

*Sex*

Quite rugged cranial bones and occipital scored at 4 = M??

But cervical facet small = F??

Primary cremation

*Weight*

<5mm: 6g

<10mm: 31g

10mm>: 114g

Miscellaneous limb: 28g

Humerus: 17g

Lower limb: 27g

Forearm: 15g

Patella: 3g

Cranium: 14g

Unidentifiable: 62g

*Size*

Maximum: 57.15mm (limb); 36.71mm (cranium)

Minimum: 2.16mm

The remains are cream coloured, fractures are linear, transverse and curved. The remains mostly consist of limb and are eroded. There is one patella fragment and some undiagnostic cranium.

*Age*

Adult

*Sex*

NP

Satellite in pit

*Weight*

<5mm: 5g

<10mm: 31g

10mm>: 67g

Limb: 23g

Rib: 2g

Cranium: 32g

Unidentified: 59g

*Size*

Minimum: 1.94mm

Maximum: 48.73mm (limb); 32.87mm (cranium)

The remains are cream in colour, fractures are linear, transverse, curved and branched. The remains have eroded edges like the others from this site. The remains are mostly undiagnostic, there are two fragments of alveoli and part of a left zygomatic which are identifiable.

**Conclusion**

These remains represent three cremation burials and three individuals. The remains represent three adult individuals.

## 17.8: Analysis of the remains Whitelaw Cairn human remains

Cremation 300 (found in urn with bronze knife)

### *Weight*

<1mm: 1g

<5mm: 3g

<10mm: 53g

10mm>: 409g

Hand and foot: 5g

Unidentified: 96g

Miscellaneous limb: 60g

Ribs: 14g

Vertebrae: 11g

Miscellaneous flat bone: 23g

Scapula: 6g

Humerus: 10g

Lower limb: 50g

Pelvis: 13g

Articulations: 8g

Upper limb: 9g

Ulna: 7g

Radius: 6g

Fibula: 5g

Cranium: 131g

### *Size:*

Maximum: 95.78mm (limb); 62.45mm (cranium)

Minimum: 1.70mm

The remains are varied in colour, from white-cream to pale brown and grey. Two pieces of cranium were very blue-green in colour. Fracture patterns include – transverse, linear, stepped, curved, mosaic and branched.

Vertebrae include C-1 and part of C-2, some other vertebral bodies and transverse processes. There were three fragments of scapula, two parts of capit, pieces of femoral and humeral shaft. There were several fragments of pelvis – which includes ilium, two parts of acetabulum and one fragment of auricular surface. Articular fragments included, two pieces of distal femur condyle, one part of humeral trochlear and two parts of prox tibial surface. Parts of hand and foot include – four mc/t shafts, 6 phalanges (2 prox, 4 intermediate).

Cranial fragments are numerous and seem more well preserved than the body. There were three pieces of mandible and maxilla – alveolar bone, 2 mandibular condyles (one with corocoid) 2 mandibular fossae (l&r) – both have extra bone O.A.

One supra-orbital area (R) and one other piece of L supra-orbital with part of the frontal.

#### *MNI*

One adult

#### *Age*

Not many cranial sutures visible, those which can be seen show full fusion and partial obliteration.

#### *Sex*

A right orbit was scored at 4 = M?

#### Cremation secondary F

##### *Weight*

<1mm: 90g

<5mm: 199g

<10mm: 447g

10mm>: 562g

Teeth: 2g

Miscellaneous flat bone: 63g

Unidentified: 861g

Femur: 44g

Pelvis: 21g

Humerus: 41g

Fibula: 8g

Lower arm: 9g  
Miscellaneous limb: 67g  
Ulna: 10g  
Vertebrae: 19g  
Scapula: 2g  
Hand and foot: 4g  
Articular: 17g  
Cranium: 69g

#### *Size*

Maximum: 125.03mm (limb)  
Minimum: 2.26mm

The remains are cream to tan in colour with a small amount of grey. There is some red staining, and some blue-green stains on the cranium. The remains are fractured linear and transversely.

The cranial bones include – one right zygoma, a left and right petrous portion, one supra-orbit and one small mandibular condyle. One tooth is still in the bone and is a premolar or canine and one other root is still in the bone also. Tooth fragments include 3 incisor roots, 6 undiagnostic fragments, one premolar root, 7 molar root parts and one molar crown which shows no wear.

Limb bones include a large fragment of femur shaft, identifiable parts of ulna shaft, humerus and humeral heads and one distal end of a humerus.

Pelvis fragments include an acetabulum, and parts of ischium.

One lunate

A small amount of vertebrae fragments include – one C-2

Several articular fragments include 4 parts of distal femur condyle.

Also one navicular, one distal ulna, 2 unfused ends of Mt (one is mt1)

#### *MNI*

1 adolescent

#### *Age*

Based on the fusion of mt1 gives an age of around 13-18

Cranial sutures have partial fusion and are thin

*Sex*

Supra-orbit scored at 1

Cremation secondary M

*Weight*

<1mm: 31g

<5mm: 29g

<10mm: 100g

10mm>: 106g

Charcoal: 2g

Cranium: 28g

Teeth: 1g

Limb: 44g

Unidentified: 149g

*Size*

Maximum: 70.67mm (limb); 38.88mm (cranium)

Minimum: 1.39mm

The remains were grey-black but white under dust. Fractures are linear, transverse, stepped and curved in pattern. Mostly undiagnostic, 1 left petrous portion, one right supra-orbit, several fragments of limb, humerus represented and 2 parts of humeral head. 9 tooth fragments: one upper molar, one upper third molar, 5 other roots, 2 unidentifiable fragments.

*MNI*

1 adult

*Age*

At least partial fusion of sutures

*Sex*

Orbit scored at 2 F??

## Cremation secondary C

### *Weight*

<1mm: 8g

<5mm: 43g

<10mm: 191g

10mm>: 1010g

Miscellaneous flat bone: 16g

Hand and foot: 8g

Teeth; 3g

Charcoal: 1g

Pelvis: 85g

Vertebrae: 82g

Articular bone: 24g

Humerus: 73g

Scapula: 12g

Ulna: 26g

Radius: 36g

Cranium: 219g

Femur: 83g

Tibia: 6g

Fibula: 7g

Foot: 15g

Rib: 64g

Hand: 10g

Miscellaneous limb: 101g

### *Size*

Maximum: 110.89mm (limb); 56.98mm (cranium)

Minimum: 1.77mm

The remains are tan to pale brown in colour, the teeth are white with some blue-grey; there is copper staining on C-3 and cranial fragments. Fracture patterns include linear, transverse, and branched. Tooth fragments – 17 overall – 4 unidentifiable, 4 incisors, 1 premolar, 6 parts of molar root, 2 others with double root (premolar or squashed molar).

Large fragments of pelvis which include one ischium, one auricular surface and parts of ilium. Various parts of all types of vertebrae, includes one thoracic pedical

Articulations include – 3 pieces of distal femoral condyle, prox humerus, distal tibia, proximal ulna.

One medium sized cuneiform, one piece of acetabulum, few pieces of humerus, 4 of scapula, radius includes on distal end, ulna includes 2 parts of a prox end, large fragments of the upper femur, 2 capit and trochanter areas, 1 distal femur condyle surface, one tibial end, 2 tali, 1 cuboid, 4 ends of fibulae, 2 prox humal ends, 2 prox radii and 2 other parts of radii. Whole phalanges, metacarpal shafts and ends, large pieces of ribs, one scapular border, numerous large cranial fragments – part occipital foramen, bregma, 2 zygomatic roots and arch (temporal) one scapula glenoid. 1 half C-2 with odontoid, and a facet of C-1, 2 mandibular condyles, 2 zygoma, 2 petrous portions, 2 parts of temporal, 2 pieces maxilla, one right orbit, 3 parts of mandible.

#### *MNI*

One adult

#### *Age*

Sutures, there is some fusion to the coronal, partial fusion of the lambda and the sagittal is fused. The 3<sup>rd</sup> mandibular molar is still in th mandible and appears erupted.

#### *Sex*

The right supra-orbital is scored at 1 (F?) the mandibular condyles are small.

#### Cremation secondary H

##### *Weight*

<1mm: 19g

<5mm: 38g

<10mm: 87g

10mm>: 79g

Cranium: 43g

Limb: 50g

Unidentified: 135g

Charcoal: 4g

*Size*

Maximum: 64.92mm (limb); 52.68mm (cranium)

Minimum: 1.05mm

The remains are white-grey in colour, fracture patterns are linear, transverse, step and curved.

The remains are highly fragmented.

Two tooth fragments were found – 1 is an incisor

One lateral edge of an orbit

Limb bones were undiagnostic but appear to be mostly upper limb.

*MNI*

1 adult

*Age*

Sutures show a considerable amount of fusion but are still visible.

*Sex*

NP

Cremation secondary A

*Weight*

<5mm: 5g

<10mm: 23g

10mm>: 10g

Charcoal: 7g

Cranium: 5g

Limb: 6g

Rest is unidentifiable

The remains are white in colour, fracture patterns are step, linear and transverse.

Several pieces of cranium, which are thin (juv).

*MNI*

1

*Age*

Child

*Sex*

NP

Cremation 'scattered burial'

*Weight*

<5mm: 2g

<10mm: 36g

10mm:> 36g

Limb: 64g

Cranium: 16g

*Size*

Minimum: 3.57mm

Maximum: 32.51mm

The remains are white to pale brown in colour. The fractures are linear, transverse and step. There was an indentifiable piece of patella and one end of a metacarpal.

*MNI*

1

*Age*

NP

*Sex*

NP

Cremation secondary K

*Weight*

<1mm: 11g  
<5mm: 9g  
<10mm: 31g  
10mm>: 26g

Limb: 35g  
Cranium: 3g  
Unidentified: 38g

*Size*

Minimum: 0.86mm  
Maximum: 44.61mm

The remains are grey-white in colour, fractures are transverse, linear, step and spiral. The bones feel quite soft and crumbly.

*MNI*

1

*Age*

NP

*Sex*

NP

Cremation secondary J

*Weight*

<1mm: 7g  
<5mm: 9g  
<10mm: 45g  
10mm>: 11g

Limb: 50g  
Cranium: 7g  
Unidentified: 16g

*Size*

Maximum: 30.39mm

Minimum: 1.88mm

The remains were white-grey in colour and fractures were linear and transverse. One tooth is a premolar.

*MNI*

1

*Age*

NP

*Sex*

NP

Cremation secondary D

*Weight*

<1mm: 2g

<5mm: 29g

<10mm: 240g

10mm>: 166g

Charcoal: 4g

Cranium: 64g

Limb: 83g

Miscellaneous flat bone: 12g

Vertebrae: 6g

Articular: 3g

Pelvis: 9g

Scapula: 3g

Unidentified: 259g

*Size*

Maximum: 47.48mm

Minimum: 2.03mm

The remains are white-cream in colour, fracture patterns are linear, transverse, step and mosaic. The limb bones are mostly undiagnostic, one of the articulations appears to be an unfused humeral head. One internal frontal crest, one part of a petrous portion.

*MNI*

One individual

*Age*

Older child to adolescent

Some sutures are partly fused but all are visible. Most of the cranial bones are quite thin.

*Sex*

NP

Cremation secondary E

*Weight*

<1mm: 7g

<5mm: 46g

<10mm: 257g

10mm>: 217g

Cranium: 59g

Limbs: 129g

Miscellaneous flat bone: 23g

Vertebrae: 5g

Articular: 2g

Teeth: 1g

Pelvis: 2g

Charcoal: 2g

*Size*

Maximum: 64.48mm (limb)

Minimum: 2.35mm

The remains are white-cream in colour and the cranial bones are white, fracture patterns are linear, transverse, step, curved.

One piece of acetabulum, one edge of an auricular surface. Two parts of prox tibia articulation, 8 fragments of vertebrae including a lower thoracic inferior facet, a transverse and one part of C-1. Limb fragments are undiagnostic no large pieces, most have a thin cortex. One intermediate manual phalanx. one mandibular condyle, one piece mandible, one petrous portion. 1 right orbit, one internal frontal crest, all gracile cranial bones.

Teeth

9 fragments – 2 parts of upper molar root, one lower molar root, 3 incisors, 3 which are canine or premolar.

*MNI*

1 individual

*Age*

Phalanx is fused, the sutures show partial fusion – possible metopic suture is visible

*Sex*

From orbit 1 (F?) or is adolescent

*note*

Also was with pieces of flint and possible bone pin (see photos)

Cremation secondary G

*Weight*

<1mm: 452g

<5mm: 365g

<10mm: 564

10mm>: 23g

Charcoal: 13g

Unidentified: 249g

Cranium: 251g

Limb: 189g  
Clavicle: 16g  
Humerus: 78g  
Ulna: 40g  
Radius: 18g  
Fibula: 19g  
Femur: 101g  
Tibia: 72g  
Rib: 99g  
Vertebrae: 54g  
Hand and foot: 40g  
Animal: 13g  
Pelvis: 94g  
Scapula: 49g  
Teeth: 9g  
Miscellaneous limb: 189g

#### *Size*

Maximum: 123.32mm (pelvis); 74.83mm (cranium); 107.24mm (limb)

Minimum: 2.68mm

The remains are cream to pale brown in colour. There are very green stains on many different bones, the areas stained are only very small. Fracture patterns are mosaic, branched, stepped, linear, transverse and curved.

Identified fragments include: numerous large cranial fragments, 3 parts of maxilla, complete mandible, one left petrous portion, foramen magnum, internal occipital protuberance. Part of glabella and right orbit, part of occipital at lambda and parietal and lambda. Parts of the sphenoid. Upper humerus, distal articulation and shaft, prox end of ulna and shaft, radial shaft, pieces of clavicle. Distal femoral condyles and greater trochanter, proximal tibial facets, shafts of all lower limb and fibula. Pelvis is comprised of ischium, ilium and both acetabula, one large (L) 3<sup>rd</sup> of a pelvic bone. Lots of phalanges and parts of metacarpal/tarsal, all different vertebrae are represented. Teeth – 67 fragments which include 13 molar pieces, 3 are relatively complete, one is worn, one canine and 4 premolars, 4 upper incisors, and 4 lower incisors.

*MNI*

1 young adult

*Age*

Sutures are visible, all are at least partly fused.

Teeth have open root foramen and some wear.

*Sex*

Frontal and orbits+ 2 F??

But the cranium is generally quite robust M?

Large mandibular ramus – M?

Sciatic notch is masculine M?

Primary cremation

*Weight*

<1mm: 12g

<5mm: 38g

<10mm: 150g

10mm>: 136g

Charcoal: 8g

Unidentified: 128g

Femur: 6g

Cranium: 42g

Lower limb: 14g

Miscellaneous flat bone: 5g

Miscellaneous limb: 7g

Ribs: 7g

Vertebrae: 2g

Forearm: 9g

Humerus: 15g

Hand/foot: 2g

*Size*

Minimum: 1.25mm

Maximum: 68.60mm (cranium); 66.33mm (limb)

The remains are white/tan in colour with some pale brown fragments, but these darker fragments are mud stained. Fractures are linear, curved, transverse, stepped and branched.

The remains include – one orbit and part of frontal bone, one corocoid process of the mandible, one mandibular condyle, other large pieces of cranium, one piece of mandible with incisor alveoli, one part of distal humeral trochlear fragment, cervical vertebrae fragments, four manual phalanges, one proximal radial head (part), articulations of distal femur (2 condyles) and four fragments of humeral head.

Tooth fragments

Half a molar root, one upper central incisor root, one crown fragment

This seems quite an 'incomplete' cremation for a primary – the largest fragments are from the skull, there is not much of the other body parts.

*MNI*

1

*Age*

Cranial sutures show partial to full fusion

*Sex*

Left orbit – quite large but has a narrow margin so is scored at 2 = F???

Remains without context

*Weight*

<10mm: 3g

10mm>: 60g

Miscellaneous limb: 50g

Cranium: 14g

The limb bones are quite gracile

The remains are white to sand in colour

Sutures show partial to full fusion

There is one part of zygomatic

## 17.9: Analysis of remains at Manchester museum

*Site:* **Castleton cairn** (Derbyshire)

1 tiny piece of pot was found (4.53mm) which was pale brown in colour

*Weight*

<10mm: 4g

10mm>: 7g

Undiagnostic limb fragments: 8g

Cranium: 3g

*Size:*

Maximum: 34.5mm (limb); 21.3mm (cranium)

Minimum: 12.7mm (limb)

The remains are white-tan in colour, though two pieces of cranium have a blue-grey tinge. Fracture patterns are transverse and longitudinal with some curved fractures. One individual is represented but it is highly likely that either this was a token deposit or not all the deposit was recovered.

The cortical thickness of the limbs seems to imply an adult, but the cranial fragments are quite thin. There were two cranial fragments with open sutures, this may be a young individual - perhaps an adolescent/young adult.

Sex – not identifiable

This deposit consisted of a very tiny amount, none of which was diagnostic. The fragments look worn, possibly eroded or leached? There are smooth margins on all the fractures of the limb bones but not the cranial bones.

*Site:* **Gallowsclough hill/cob** (Cheshire)

*Deposit type:* un-urned

*Weight:*

<2mm: 35g

<5mm: 31g

<10mm: 325g

10mm>: 1089g

Unidentified: 387g

Scapula: 20g

Cranium: 49g

Hand/foot: 46g

Pelvis: 33g

Articular fragments: 56g

Misc limb: 112g

Upper limb: 71g

Lower limb: 97g

Clavicle: 7g

Humerus: 23g

Ribs: 384g

Vertebrae: 49g

Sternum: 5g

Misc flat bone: 30g

*Size:*

Maximum: 92.10mm (limb); 55.80 (cranium); 59.36mm (rib)

Minimum: 1.97mm

The colour of the remains is mostly light brown-cream with 5% grey-black. There is some green staining on femur, pelvis, vertebrae, auricular surface and humerus, which may indicate the presence of copper

The remains are fractured longitudinally and transverse with some curving at the thicker ends of bones (femur etc). Some bones have warping – thin flat bones possibly cranial / scapula. Ribs are broken longitudinally and split front from back.

There are 2 pubic symphyses, possibly one L and one R; the left was aged with Suchey-Brooks at stage 4-5 which makes this an adult, roughly around 25-50 years old.

A lumbar vertebra has marginal osteophytes around facet which may indicate an age from 30+.

There is one piece of auricular surface but not enough to age. The cranial sutures were open.

It seems likely that there are two individuals represented here, which was the conclusion of the original report (Forde-Johnston 1960) although the original report mentions many cranial bones (including squamous temporals) and teeth which were not seen during this analysis;

these may have been misplaced or have become damaged and unidentifiable since – although this is unlikely with the teeth. A worked piece of bone was also discovered which is not mentioned in the report.

Remains identified included: two pubic symphyses, one piece occipital, one piece clavicle with costal tuberosity. Articular ends included – one proximal tibia, one distal femur and one distal tibia (R) also three pieces of fibula and two metacarpals.

one part humeral head, the distal half of a humerus (L), one other large piece of humerus, two pieces of tibia/femur, four pieces of lower arm (ulna/radius). There were lots of vertebrae and ribs, one piece mandible with mental spines, one piece acetabulum, one piece radial head, one wormian bone, lots of undiagnostic limb, mostly small – upper limb, four pieces of ulna, three other small pieces of humerus, one piece of scapular spine, one mandible coronoid process, one tooth root upper incisor/canine, one zygomatic arch, three pieces of cranium which included one part sphenoid and two thin pieces with open sutures, numerous meta carpals/tarsals and phalanges, one small bone which is probably animal.

Taphonomically there was one piece of worked bone, 15mm long with four incised grooves each about 3-4 mm apart, there was also a notch or part of a hole in the side.

*Site:* **Macclesfield** (Cheshire)

Cremated remains from an urn, mixed with sand, stones and pottery fragments – the pottery fragments were rough and orange in colour with a pinkish tinge. One cowrie shell was also found within the deposit – this may be intrusive or part of the burial deposit.

*Deposit type:* urn

*Weight:*

<5mm: 43g

<10mm: 61g

10mm>: 7g

Unidentified: 98g

Teeth: 2g

Hand/foot: 4g

Axial 3g

Cranium 9g

*Size:* Maximum: 29.1 (limb/rib); 23.96 (cranium)

Minimum: 2.8mm

Cranial thickness – 3.7mm; 4.3mm; 4.02mm

The remains varied in colour, most were tan-pale brown (c.95%) with some pieces which were blue-grey (c.5%). Fracture patterns were transverse and longitudinal, though there appears to have been some crushing – this is probably due to the remains being unseparated from stones and sand.

There are eight tooth fragments, one is a crown and the others are roots. One of the roots is from a deciduous molar. The rest are adult but with open root foramina.

The cranial sutures were open, there were adult phalanges but hardly any adult limb fragments. There were some juvenile vertebrae (probably atlas/axis) with facets

The dental remains indicate most clearly that this deposit represents one young adult and one child.

There are no reliable indicators for sex surviving, the adult phalanges are small so the adult may possibly be a female (F?) or a younger adult.

Other remains identified in this deposit included; an intermediate cuneiform, a piece of vertebra – small but with facet, a piece vertebral body – v.small, some pieces of very thin cranium – either infant or animal. Several pieces of juvenile vertebrae with facets

Tooth roots included; adult – 1 lower incisor, 1 lower canine, 1 upper molar and one molar identified; Deciduous- 1 upper molar.

## 17.10: Analysis of the remains from Bolton Museum

Site: **Gautriss barrow, Derbyshire**

### *Inventory*

Reconstructed skull – has been reconstructed incorrectly

Includes the frontal, parietals and part of the left temporal  
part of the right temporal

Other skull fragments –, a fragment of the occipital with the internal cruciate eminence (nuchal crest '3/4'), fragment of frontal R with part of the orbit ('4'), piece of parietal bone, another cranial fragment possibly parietal, one part squamous parietal, 1 part parietal and occipital, two other probable parietal fragments

One fragment of adult limb bone which is probably part of the proximal femur

Juvenile cranial fragments

Part of probable sphenoid, three parts which are frontal or parietal, one left half of a frontal with orbit which looks infant.

### *MNI*

One/two adults?

One infant?

### *Sex assessment*

Orbital margins are rounded but not exceptionally thick

Forehead is low, supra-orbital area scored at '4'?

### *Age*

Cranial sutures – metopic is visible, coronal is visible all along, the sagittal may be partially obliterated but is eroded

### *Palaeopathology*

Cribra-orbitalia – appears almost healed?

### *Notes*

Supra-orbital notches on both sides, metopic suture

Site: **Siggett barrow, Derbyshire**

*Inventory*

Fragments of cranium – some are reconstructed into most of the calotte including part of the left orbit, there is also a fragment of parietal and occipital which conjoins.

Part of a right orbit and part of a nasal and frontal with the sinus

Part of another frontal – mid section with part of the right orbit and nasal attachment (possible child)

Part of another occipital, a wormian bone, a fragment of parietal

A left temporal

Right temporal both scored at '4'

One right maxilla with 5 teeth which have been glued in

One right maxilla and part of the orbit with mixed dentition. Still has deciduous molar with an adult tooth forming above it. There is also an adult molar coming through which is still in the crypt

Two small cranial fragments

Two occipital condyles (left and right)

One left zygoma

Five fragments of sphenoid

One deciduous canine (probably belongs with child maxilla), two molar crowns (adult or decid?)

*MNI*

One adult

One older child

Two infants

Site: **Noon Hill**

*Weight*

Cranium: 53g

Vertebrae: 3g

Humerus: 25g

Ribs: 12g

Unidentified: 44g

Misc upper limb: 13g

Fibula: 7g

Misc lower limb: 19g

Misc limb: 14g

Hand and foot: 1g

Pelvis: 1g

Radius: 5

Ulna: 4g

The remains were white to pale brown in colour and fractures were transverse, linear and curved.

*MNI*

2

*Age*

1 adolescent or young adult, 1 young child

*Sex*

NP

### 17.11: Analysis of the human remains from Green Howe, Yorkshire.

Remains labelled	Burial numbers in (Wood 1972)
Skull (F) nd101 and mandible nd102	14
Skeleton marked nd... adult male?	13
1 adult male	12
Cremation 6 child	5
Cremation 2 adolescent	10
10 adult male?	1
11 adult male	7
7 (neonate)	4
8 young child	3
Infant	6
12 child with food vessel (c.5)	9
3 adolescent	8
Cremation 4 adult	11
Skull of a female at NHM no skeleton*	Burial 2

Table 77: Numbering of the Green Howe remains. \*adult female skeleton (burial 2) was loaned to royal college of surgeons and lodged at the NHM and numbered 4.03.4 in their catalogue. A skull still remains there.

### Inhumations

#### **Burial 1**

Part of the skeleton of an adult, probably a male. This individual was a young adult, aged around 18-28, but probably within the 20s as the clavicle ends are fused. The man showed alterations to his spine and clavicles which may indicate carrying heavy loads.

#### *Inventory*

The remains consist of the spine, sternum, clavicles and numerous rib fragments; a right radius, the patellae, the right fibula and most of the hands and feet. The left hand consisted of metacarpal 2 and 4, the thumb phalanx and 3 intermediate phalanges. The right hand was more complete and was missing: the triquetral, pisiform, metacarpals 1, 2 and 3 and two distal phalanges. The right foot was missing: the smallest and medium sized cuneiforms, metatarsals 2, 4 and 5 and 3 proximal and 2 intermediate phalanges. The left foot was missing the talus,

cuboid, cuneiforms, metatarsal 3, a proximal phalanx and all intermediate and distal phalanges. In more detail the spine was represented by three lumbar vertebrae, seven thoracic and six cervical.

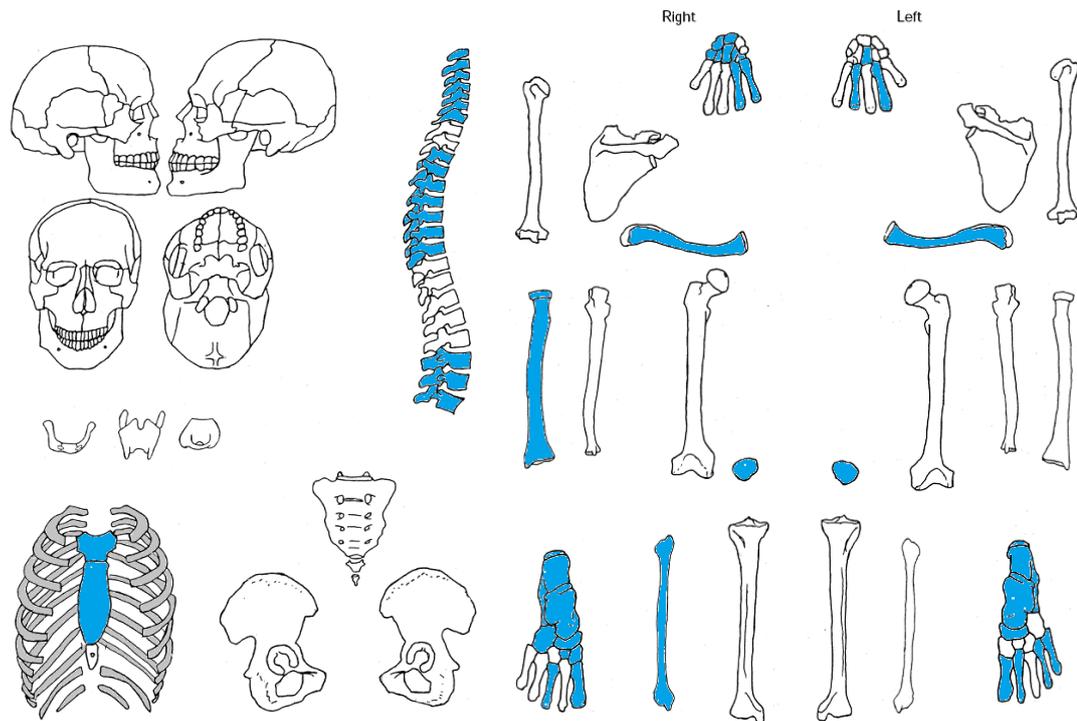


Figure 139: Visual inventory of Green Howe burial 1

#### *Sex assessment*

From the robusticity of the clavicles and the radius it seems likely that this is a male individual.

#### *Age-at-death*

There are no signs of osteo-arthritis; a second rib end was aged at phase 1 (17-19), another rib (number not identified) was aged at phase 3 (24-28). The ends of the clavicles are fused.

#### *Taphonomy*

These remains were extremely well preserved compared to the others, there was no signs of weathering or erosion. This is especially surprising considering that this skeleton is thought to have been disturbed.

#### *Palaeopathology*

Three contiguous thoracic vertebrae have schmorl's nodes, possibly indicating some heavy labour. Both clavicles were extremely bent and robust towards the acromial ends. This

indicates force in a downward direction applied to the lateral clavicles, possibly caused by carrying heavy loads in both hands, with both arms extended along the sides (Capasso et al. 1999, 50).

#### *Non-metric traits*

Foramen in the body of the sternum

#### **Burial 14**

This was the burial of an adult female, of which only the cranium and mandible remains at Harrogate museum. The individual was aged around 30-40 years.

#### *Inventory*

The remains consist of most of the cranium, though the left side of the face is missing, and the body of the mandible.

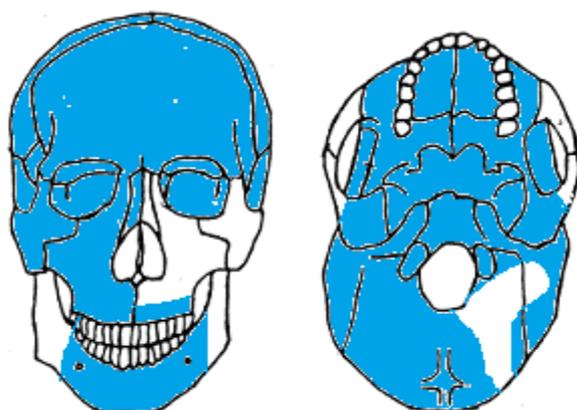


Figure 140: Visual inventory of Green Howe burial 14

#### *Sex estimation*

The orbits are small and rounded, the forehead is flat and has frontal eminences, the palate is narrow. The occipital is smooth and scored at 1, the orbital margins are scored at 2, the supra-orbital ridges are scored at 1, the mandibular eminence scored at 2. Overall these features strongly suggest a female individual.

#### *Age-at-death*

Cranial sutures: the coronal shows significant fusion, but still the suture is partially visible (2), the sagittal had partial fusion (1), the lambda was scored at 1 also.

Dental wear: Analysis using Lovejoy et al. (1985) puts this individual into phase F for the maxillary dentition (30-35 years) and phase G for the mandible (35-40 years).

*Metrical analysis*

Maximum cranial breadth: 139.6

Maximum cranial length: 168.1

Bi-orbital breadth : 24.4

Breadth of both orbit edges: 97.4

Cranial index

Maximum cranial breadth x 100

Maximum cranial breadth = 83 (brachycrany, round headed)

*Palaeopathology*

The mandibular incisors and canines have linear enamel hyperplasia (see recording form). This indicates two periods of physiological stress (possibly illness) when these teeth were developing. The lesions probably formed when the individual was around 6-12 months old (perhaps weaning age).

There is mild periodontal disease throughout the dentition and calculus on the surfaces at the lingual CEJ (cemento-enamel junction) of the maxilla.

*Note*

Copper stain on right occipital facet

2<sup>nd</sup> incisors upper are shovel shaped.

**Burial 3**

These are the remains of a young child, aged around 3-5 years.

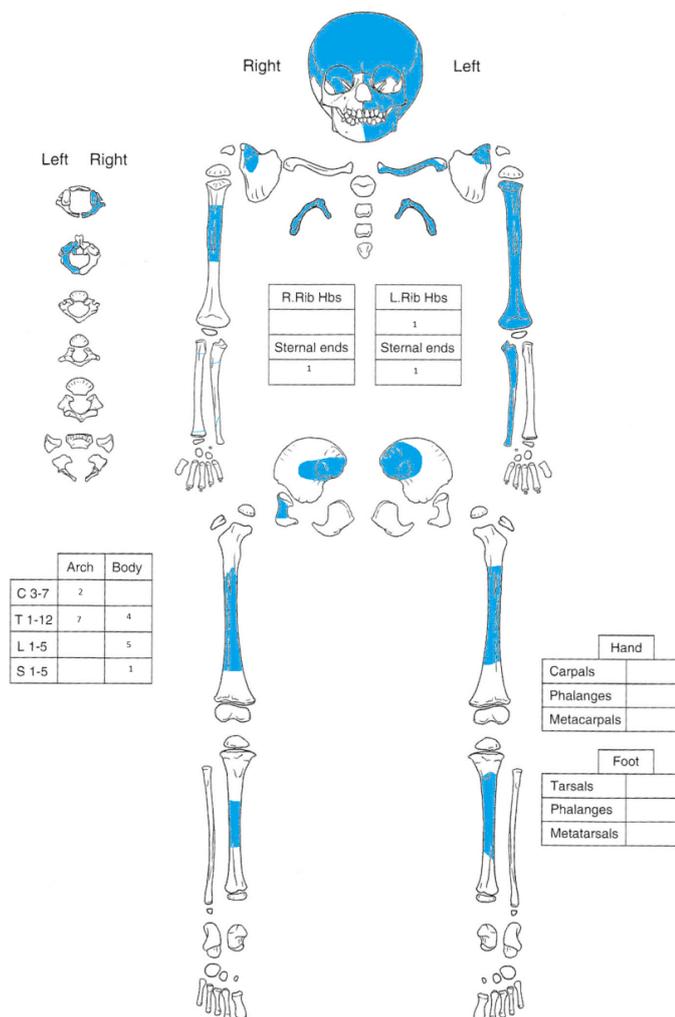


Figure 141: Visual inventory of Green Howe burial 3

### *Teeth*

The mandible included the deciduous left, molar 1 and 2 and also the canine. The maxilla included the deciduous incisors, left canine and left molar 1 and 2. Permanent tooth was the 1<sup>st</sup> incisor upper crown which was almost complete.

### *Development and age*

The mandibular symphysis is fused which puts this individual above age 1. The development of the dentition indicates an age of around 3-5 years.

### **Burial 4**

These are the remains of a perinatal infant aged around 34-36 weeks.

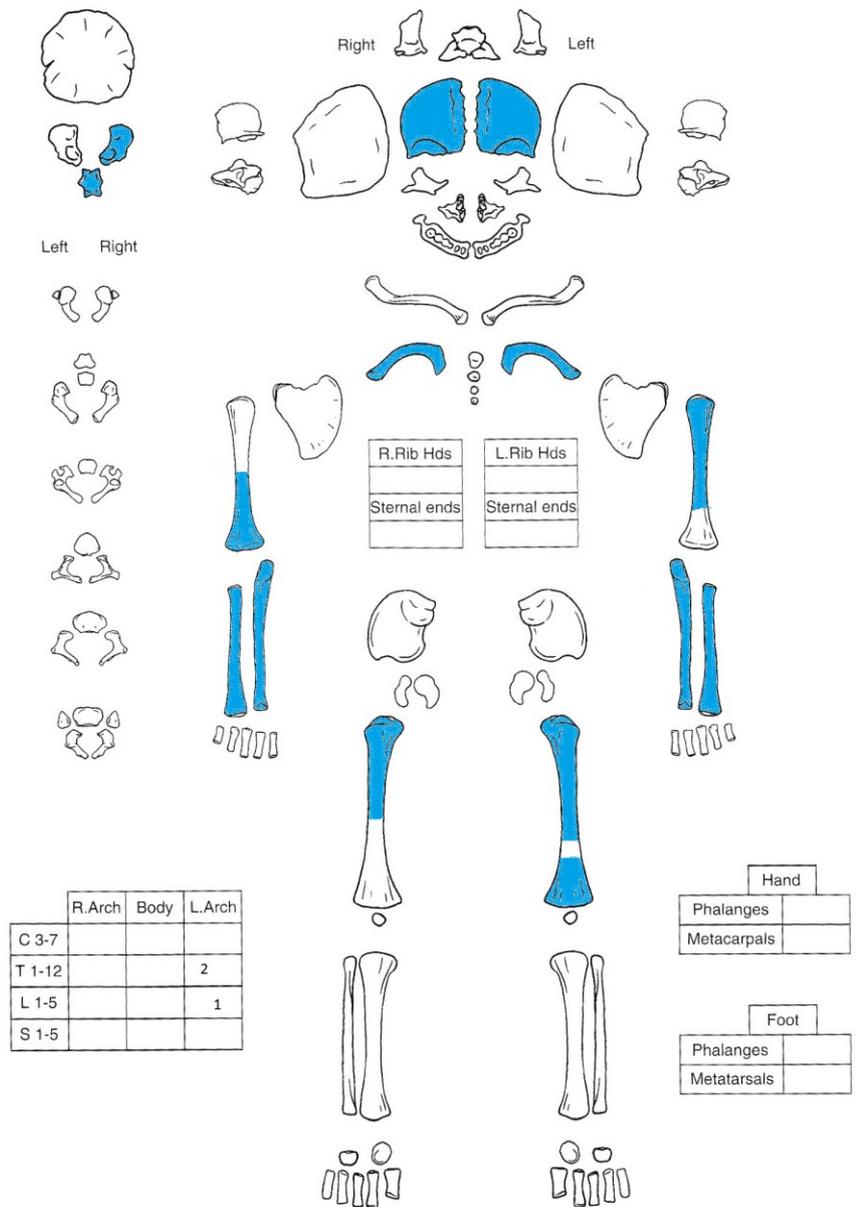


Figure 142: Visual inventory of Green Howe burial 4

This individual also had 20 rib fragments which includes the 1<sup>st</sup> and 2<sup>nd</sup> ribs.

*Metrical analyses and age*

Ulna length

51.89mm = age around 36 fetal weeks or onwards

Radius length

44.20mm = 34 fetal weeks or onwards

These measurements indicate that this individual was around 34 to 36 foetal weeks old.

## Burial 6

These are the remains of an infant aged around 3-6 months.

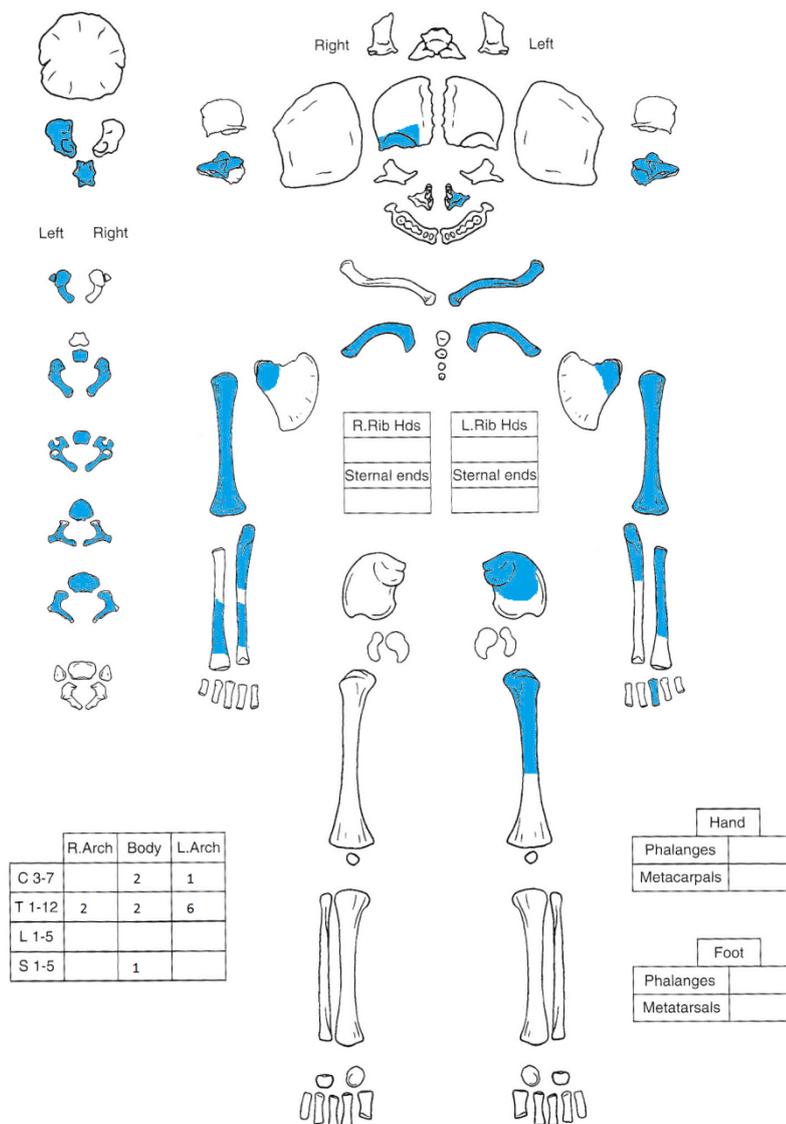


Figure 143: Visual inventory of Green Howe burial 6

There were also, 9 right vertebral fragments and 7 left. Also there was one earbone - stapes

### Teeth

4 deciduous crowns; included – one upper left incisor 1 and 2, 1 canine and one part of a molar crown.

### Metrical analyses and age

Left humerus – maximum length: 81.86mm

Right humerus – maximum length: 80.44mm

These measurements give an age of around 3-6 months of age.

### Burial 7

This was an adult individual aged around 24-30 years.

#### *Inventory*

A reconstructed skull; mandible, clavicles, fragmented scapulae, the leg bones are reasonably complete. Manubrium and part of the sternum, ulnae and radii with damage to ends, complete metacarpals (left and right), one complete hand of phalanges, the other hand is missing 1 intermediate phalanx and four distal phalanges. Numerous broken fragments of ribs, damaged pelvic bones. The vertebrae include – c-1 and 2 and 5 others, there are 7 thoracic and about 5 lumbar vertebrae in parts. The sacrum is complete but in pieces. The foot bones comprise of a right complete foot except the phalanges (only 3 prox and one distal). The left foot is missing the largest cuneiform and only has a proximal phalanx for the hallux.

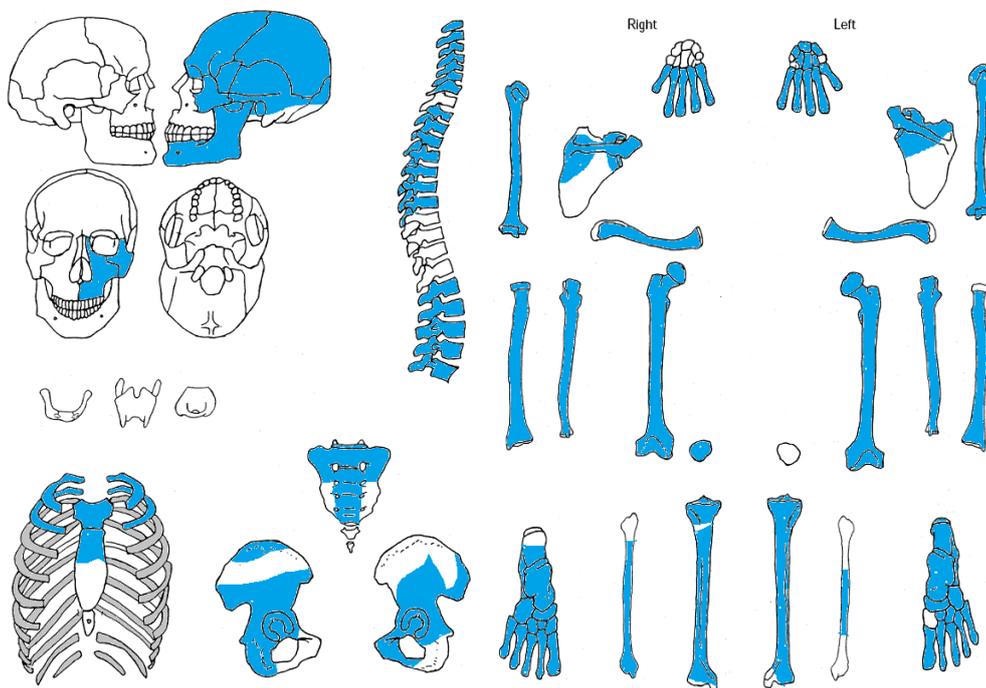


Figure 144: Visual inventory of Green Howe burial 7

#### *Sex assessment*

The skull has been badly reconstructed.

The supra orbital margins were scored at 4, the occipital was quite rugged and scored at 4, the mastoids were long and narrow and scored at 4, the orbits were rectangular.

The pelvis had no sub-pubic concavity, the sciatic notch was scored at 2, the sacrum had alae which were bigger than the body.

Using the humerus the olecranon fossa was rounded, the trochlear was quite pinched.

M?

#### *Age*

The pubis was too eroded for use, the right auricular surface was scored at phase 3.

#### *Dental wear*

Using Lovejoy et al. (1985) both the maxillary and mandibular dentition were scored in phase E which gives an age of around 24-30 years.

#### *Metrical analysis*

Right humeral head: 40.08mm

Left scapula glenoid height: 33.49mm

Maximum femoral length – R: 461; L: 459.

Femoral condylar heads: R: 42.05mm; L 42.22mm

#### *Taphonomy*

Most of the skeleton has been varnished prior to that it appears to have some erosion and root etching, but is otherwise well preserved.

#### *Palaeopathology*

The individual has some wear (possibly activity related) on the right maxillary incisors, it slants upwards from the I1 to the edge of the canine but does not continue onto the P1.

The individual also has LEH on the I1s at about midway on the crowns.

#### *Notes*

Supra-orbital foramen on both sides and a notch on the right.

The teeth were covered in a sort of preservative which has made it difficult to see whether the individual has EH or periodontal disease.

#### **Burial 13 (remains marked ND)**

This individual was a young adult male aged around 18-22 years.

#### *Inventory*

Two parts of the mandible, represents almost the whole. Most is damaged resulting in the loss of the front of the mandible and no alveolar bone and sockets in this section.

Left and right clavicles (some damage), manubrium, parts left & right humerus, two parts of right scapula, two humeral heads, part of the sternal body, left & right ulnae and radia, one part of capit, two almost complete femora (left and right), two tibial diaphyses, one complete right fibula (in three parts), one other fibula shaft. Parts of left and right pelvic bones, numerous rib fragments. Vertebrae comprised of C1-7; 6 identifiable parts of thoracic, one lumbar.

Eroded parts of a left and right calcani, part of right talus, 2<sup>nd</sup> left metatarsal (prox end), two mc/t shafts, 2 mc1, 2 mc 2, 2 mc 3, 1 mc 4, 1 mc 5. 4 proximal manual phalanges, 1 one scaphoid, one left hamate

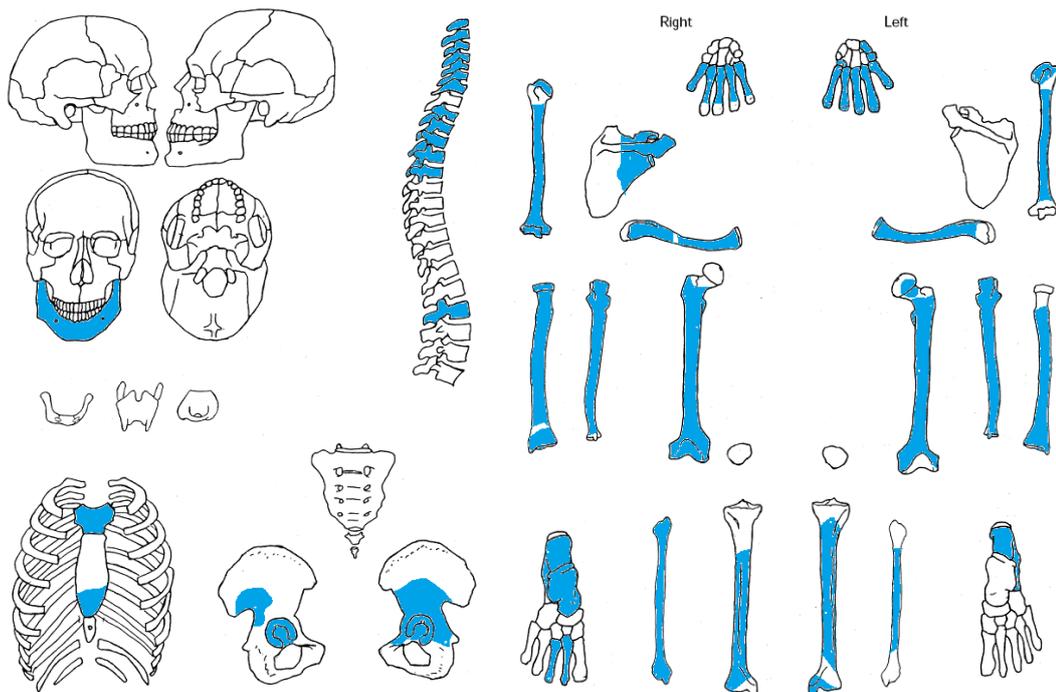


Figure 145: Visual inventory of Green Howe burial 13

#### *Sex assessment*

Mandible: wide ramus (narrower on left side and shorter) gonial angle 90°+, there is moderate gonial flare and a strong internal mental protruberance.

Distal right humerus: trochlear not pinched (M); olecranon fossa- rounded (M)

The long bones are robust, overall it appears to be a male individual.

#### *Age*

Not possible to assess from the pelvis, the joints are in good condition.

Dental wear: using Lovejoy et al. (1985) the mandibular dentition are scored at phase C which gives an age of around 18-22 years.

#### *Metrical analysis*

Right scapula - Maximum glenoid height: 36.39mm; width: 25.63mm

#### *Taphonomy*

There is extensive rootlet activity throughout, and erosion which is worse on the left side, as well as excavation damage to the long bones. The mandible is highly eroded.

#### *Palaeopathology*

There is a small patch of eburnation on the edge of the radial facet of the right ulna, and some calculus on the molar roots.

#### *Mandibular asymmetry?*

Mandible ramus width – L 34.48mm; R 39.23mm

Max height – L 49.19; R 56.38mm

#### *Notes*

There are pronounced brachialis markings on the right ulna and a strong tuberosity on the right radius.

### **Burial 8**

This individual is an adolescent aged at around 15-17 years, and may be a male based on the pelvic remains.

This burial was accompanied by 14g of cremated bone which consists of undiagnostic limb, one piece of cranium, one part of a phalanx, one small part of a trapezium. Maximum size – 32.28mm, min 2.42mm.

#### *Inventory*

Includes most of the skull, though fragmented at the occipital area and has been varnished. The mandible, left zygoma and maxilla are also present. Left and right humeri and heads, most of 1 forearm, the other is only shaft fragments. There is one left ilium, and parts of the other side. Left and right femora, left and right fragmented tibiae, parts of the calcanei and vertes.

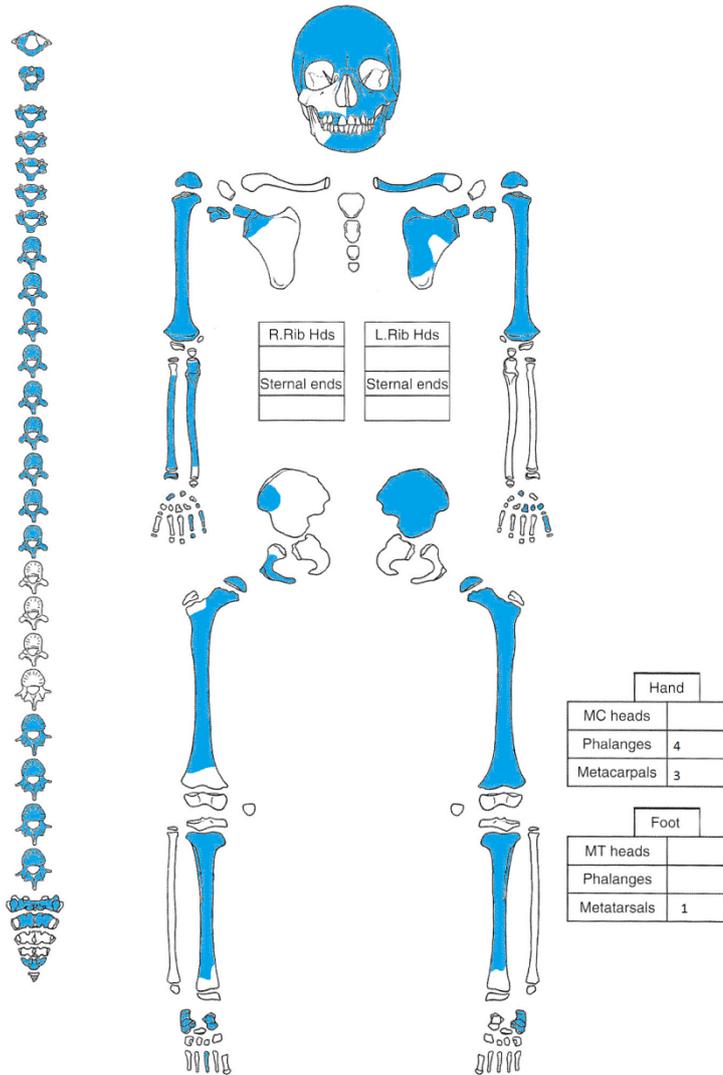


Figure 146: Visual inventory of Green Howe burial 8

This individual also had 21 rib fragments

*Sex assessment*

The mandible is shallow and small, although the teeth are quite large. The orbital margin was scored at 1, the occipital at 1, the supraorbital area at 1. There are frontal bosses, the forehead is small and flat, the orbits are small and round. The zygoma and maxilla appears to have been wrongly reconstructed.

The sciatic notch seems quite narrow at 4

*Age*

Unfused: humeral and femoral heads, distal radius, glenoid of the scapula, left ilium unfused surface at what will become acetabulum.

The 3<sup>rd</sup> molars are visible in the mandible but not erupted, and appear to be about to erupt.

Dental wear: Using Lovejoy et al. (1985) the maxillary dentition are in phase B2 aged around 16-20 years; the mandibular dentition are at phase B1 which is also around 16-20 years of age.

The development of loose 3<sup>rd</sup> upper molars can also be used. The roots are incomplete and indicate an age of around 15-17 years.

### Taphonomy

Weathering and erosion of the skull and long bones, especially the tibiae and one side forearm.

### Notes

Supra-orbital foramen on the left.

Shovel shaped upper incisors, the canines are long and also slightly shovel shaped.

### Burial 9 (young child with food vessel)

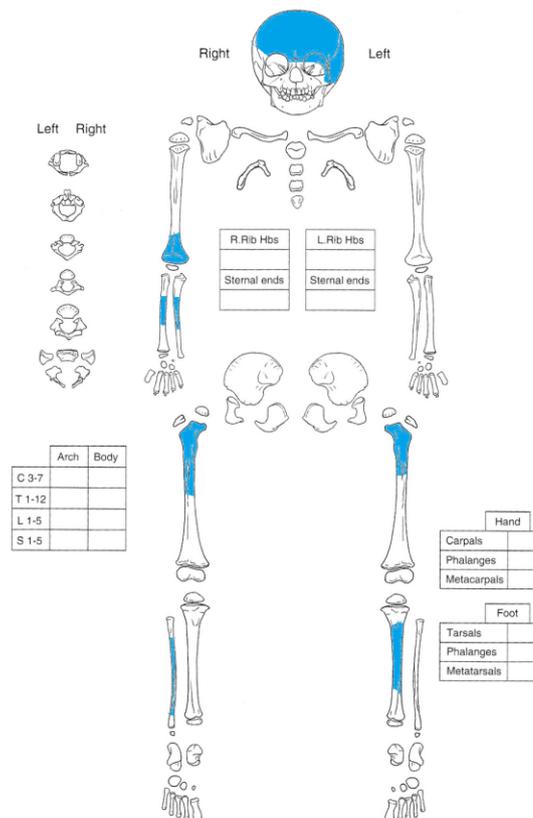


Figure 147: Visual inventory of Green Howe burial 9

This individual also had an unfused pars occipital (around foramen magnum), four parts of rib and part of the sacrum.

#### *Dentition*

Deciduous: upper Ri1, lower Ri1, one upper 1<sup>st</sup> molar

Permanent: one molar crown probably M1 (5 cusps) the crown is only two thirds complete.

*Age:* From the dentition c.3.5 to 4.5 years

### **Burial 12**

#### *Inventory*

Three cranial fragments (one part left petrous portion, one part parietal and one part occipital), left humerus (missing proximal end) left radius, no ends, left ulna, no distal end, part of left scapula, right humerus, missing ends, right ulna, no distal end, glenoid and coracoid of right scapula, one part of left clavicle. Seven vertebrae (1 lumbar, 5 thoracic and 1 cervical or upper t) and upper part of sacrum. Parts of left and right pelvic bones, left femur (missing proximal end and distal end), right femur missing both ends, left and right tibia shafts, left fibula and talus, around 10 fragments of rib.

#### *Sex*

Muscular limb bones, marked deltoid tuberosities on the humerus, large tuberosities on the radius, defined linear aspera of femora. Distal left olecranon fossa is rounded, trochlear is reasonably pinched. Sciatic notches are scored at 3-4 = M? along with short pelvic bones and arch.

#### *Age*

All long bones are fused, not possible to age from what remains of the auricular surfaces

Estimated age of around 20-35 years

#### *Metrics*

Max glenoid breadth

R- 26.56mm

L-25.45mm

#### *Palaeopathology*

Osteophytosis of the vertebrae, especially the lumbar, there are also Schmorl's nodes to the thoracic vertebrae. A cervical also has alterations of porosity and expansion of the body surfaces which indicates osteoarthritis.

## **Cremations**

### **Cremation (5) – juvenile**

These are the remains of a juvenile aged

#### *Weight:*

<2mm: 38g

<5mm: 101g

<10mm: 202g

10mm>: 234g

Skull: 56g

Mandible: 2g

Teeth: 7g

Miscellaneous limb: 54g

Pelvis: 7g

Humerus: 12g

Tibia: 5g

Femur: 7g

Patella: 2g

Scapula: 3g

Rib: 2g

Fingers: 0.5g

Fibula: 6g

Unidentified: 406g

#### *Size:*

Maximum: 83.47mm (limb); 35.60mm (cranium)

Minimum: 2mm

The remains were tan-white in colour, fractures were linear, transverse, mosaic, spiral and branched. The cranial bones were all thin and included the base of the occipital, one left petrous portion and nothing else diagnostic. There was a tibia shaft and proximal end, a proximal end of a femur and 2 lots of distal ends. One right patella, two fibulae shafts, a mandibular condyle, one acetabulum, other parts of the pelvis, 2 humeral heads and parts of the shafts. Part of scapula – fossa between coracoids and acromion. Two phalanges, vertebrae included C2 (odontoid fused) cervical bodies and thoracic and lumbar parts.

#### *Dental*

Deciduous canine and incisor

Permanent developing premolar and incisor

One developing molar crown – probably 2<sup>nd</sup> molar (see photo) and several parts of molar roots.

Probably aged 5-7years?

#### *MNI*

One juvenile individual

#### *Age*

See teeth and odontoid fused

Fusion of odontoid/dens occurs from age 3 onwards

#### *Sex*

NP

#### **Cremation 10**

These are the remains of an adolescent

#### *Weight*

<2mm: 28g

<5mm: 8g

<10mm: 154g

10mm>: 399g

Cranium: 55g

Tibia: 23g  
Radius: 14g  
Fibula: 8g  
Miscellaneous limb: 152g  
Humerus: 17g  
Femur: 60g  
Ribs; 20g  
Ulna: 14g  
Teeth: 14g  
Scapula: 5g  
Hand and foot: 2g  
Unidentified: 246g

*Size:*

Maximum: 55.70mm (limb); 41.25mm (cranium)

The remains are grey-blue to black in colour and are fractured in linear and transverse patterns. Diagnostic pieces include: an unfused end of a fibula, small fragments of vertebrae, a middle sized cuneiform, a distal tibia, one mandibular fossa, one mandibular condyle, right and left petrous portions, one base of occipital. Cranial bones which are quite thin. Teeth include – 4 canines, two lower incisors, four upper incisors, 5 premolars, 9 molars are represented from roots, one molar crown. Open root foramen.

*MNI*

1

*Age*

Adolescent younger than 17years

*Sex*

NP

**Cremation 11** (in cist)

These are the remains of an adult in the middle to older adult age range.

### *Weight*

<2mm: 8g

<5mm: 75g

<10mm: 253g

10mm>: 523g

Teeth: 2g

Unidentified: 471g

Cranium: 92g

Miscellaneous limb: 95g

Femur: 74g

Tibia: 21g

Fibula: 8g

Radius: 7g

Ulna: 15g

Humerus: 47g

Patella: 3g

Articular bone (limb): 12g

Scapula: 2g

Hand: 1g

Ribs: 33g

Vertebrae: 22g

### *Size*

Minimum: 7.61mm

Maximum: 68.67mm (limb)

The remains are tan-cream and also blue-grey in colour, fracture patterns include – linear, step, transverse, jagged, spall and spiral.

There are numerous undiagnostic fragments, lots of identifiable limb, one right patella, four intermediate manual phalanges, one piece of scapula, one head of felur, one head of humerus. Vertebrae include part of the C1. Cranium includes 2 petrous portions and one mandibular condyle.

### *Teeth*

2 molars, one piece of unidentified root, one incisor. Some wear on the molar – probably a lower 2<sup>nd</sup>?

*MNI*

One adult

*Sex*

NP

*Age*

Cranial sutures show significant fusion

## 17.12: Analysis of the remains from the British Museum

Site: **Cowlam**

Barrow 3 **Burial 1, section C, grave hollow 2**

### *Inventory*

Almost complete cranium; mandible

All 5 lumbar; T-11 and 12 as well as 8 other definite thoracic vertebrae; 7 definite cervical vertebrae and 1 unsure but it could be T-1.

Left and right pelvic bones- neither complete – the left is most complete

The three upper bodies of the sacrum

Left and right clavicles, parts of left and right scapulae, left and right complete humerus, complete right ulna in 2 fragments, same for right radius. The left ulna is missing the distal end, the left radius is damaged at both ends.

The right side of the leg bones are most complete and undamaged, the left side is complete but with damaged ends.

The left hand is almost complete but is missing one distal phalanx and a pisiform. The left hand has the scaphoid, lunate, capitates and trapezium, 4 metacarpals represented. Missing a distal phalanx

The left hand is more eroded and damaged.

The right and left feet have all the tarsals and metatarsals 1-5 but most are missing the distal ends. There are two proximal phalanges, two intermediate and one distal.

There was also one small box of undiagnostic fragments – in which one right pubic bone was found.

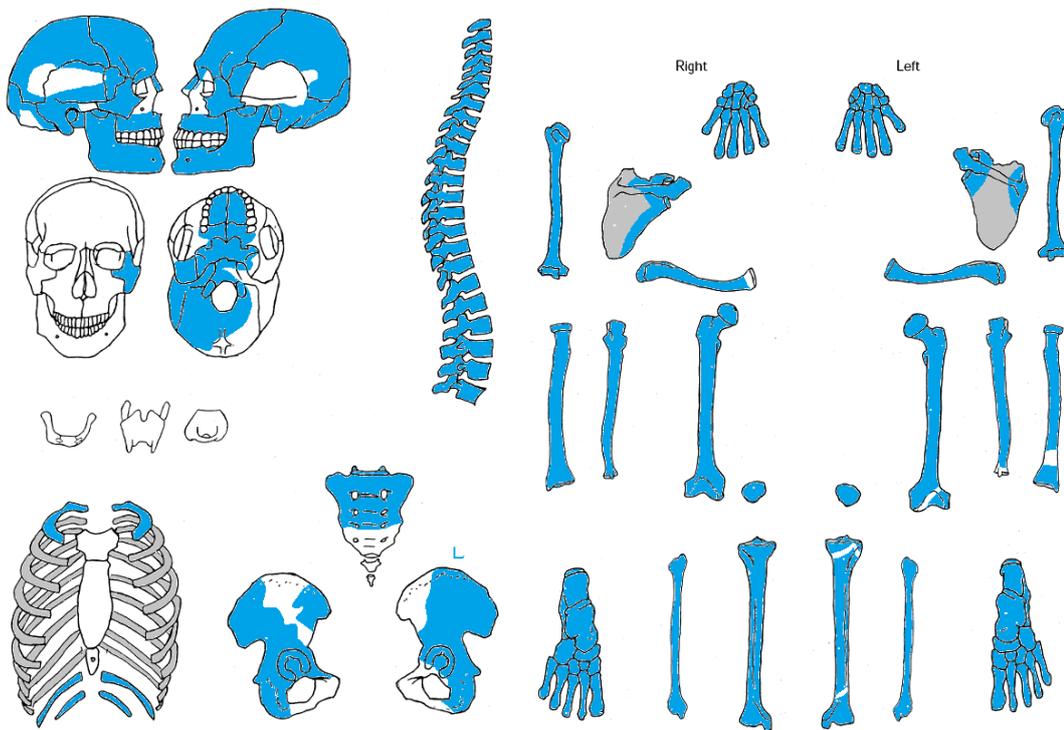


Figure 148: Visual inventory of Cowlam (3) burial 1

#### *Sex Assessment*

Cranial features – the cranium is small and globular, the head is narrower at the front and wider at the back, the forehead is vertical and full. Both mastoid processes were scored at 1, occipital scored at 2, supra-orbital margins at 2, mental eminence 1, supra-orbital ridge 2. The gonial angle is at more than 90° but the syphyseal height is small. The cranium has frontal eminences.

Pelvic features- Left and right sciatic notches were scored at 1, the alae of the sacrum were larger than the sacral body.

Overall these features indicate a definite female individual.

#### *Age-at-death*

Suture closure – this individual has an open metopic suture

Ecto- sagittal 3; coronal 1-2; lambda 1

Inter- all at 3 except the lambda which is at 1

Auricular surface – Left – phase 4. There are some slight striae at the the edges, fine porosity and some coarsening.

Pubic symphysis – (R): phase 6? (photo) 42+

#### Dental wear

Using Lovejoy et al. (1985) both the maxillary and mandibular dentitions are scored at phase H which gives an age of around 40-50 years.

### *Metrical analysis*

#### Cranium –

Maximum length: 184.0

Maximum breadth: 138.4

Interorbital breadth: 25.0

#### Scapulae-

Maximum glenoid height (R) 35.12 –some damage

Maximum glenoid width (L) 23.33

#### Femur (R)-

Maximum length: 456mm

Subtrochanteric M-L diam: 28.45

Subtrochanteric A-P diam: 24.66

Bicondylar breadth: 71.84

#### Fibulae (bowing of the right?)

Maximum length: (R) 357; (L) 368

### *Taphonomy*

Some erosion of the skull and some weathering – scored at 1/2, there is also some flaking of the bone surface. The skull is strangely shaped and this appears to be from reconstruction but may also be partly from soil weight. The leg bones (especially lower) are quite eroded and weathered, there is some loss of bone surface.

### *Palaeopathology*

There appears to be a healed trauma to the top of the cranium on the sagittal line, this is in the middle of the top of the skull. The lesion is quite rounded and is about 1.2cm in diameter. There are no signs of pathological changes on the inner surface of the cranium.

There is fusion of C-2 and 3 via the left C-2 inferior facets and C-3 superior facets. The right facets are not surviving. C-3 right facet shows some surface expansion and porosity indicative of O.A. Three other vertebrae, - C-4 has adjoining altered superior facets; C-7 and T-1? Have the same sort of alterations to the vertebral bodies. Some thoracic pedicles have expanded articular surfaces on the pedicles at the mid thoracic area.

T-11 and 12 appear to have fractures on the inferior – posterior surface of the body of T-11 and 12, T-12 also has schmorl's nodes.

Lumbar vertebrae have osteophytosis and schmorl's nodes. Some vertebral facets of the ribs are also expanded.

Extosis on the left ulna – on top of the hook

On both hands there are extoses(?) these are at the distal joints of the phalanges and margins of intermediate ones. This also occurs at the distal joints of some metacarpals. These alterations are much worse and visible on the bones of the right hand.

Also on the left hand there is an incomplete distal phalanx (Pathological?).

The femoral neck (R) seems quite short, a measurement from the capit to the greater trochanters (proximal end of femur, mesio-lateral) was 84.15.

This individual has a complete set of teeth, there is LEH on the lower right i2, canine and left canine; and on the upper canines. There is some calculus on the upper right molars and on the lingual CEJ surfaces of the incisors. There is some periodontal disease shown by the squaring of the margins of the alveoli around the buccal surfaces of the molars.

#### *Other notes*

The individual appears to be right handed

Supra-orbital foramen on the left (2) and supra-orbital notch on the right.

The left clavicle is more robust and more strongly curved.

#### **Burial Marked 127**

##### *Inventory of adult remains*

Second cervical vertebra and facet of the C-1 for the odontoid. Numerous rib fragments, fragments of possible femur, one left clavicle, parts of the right scapula, part of a calcaneus, 3 fragments of metatarsal : second left, 1 part of a 4<sup>th</sup> and one unidentifiable. 3 naviculae, 1 left and right of same size and one right which is smaller. One manual proximal phalanx, four large parts of pelvis (represents 2 individuals), one part of a right calcaneum, one left talus, one 3<sup>rd</sup> right metatarsal, one distal end of a femur, two proximal ends of femora, one fragment of cranium (photo), the left and right distal ends of tibiae, 3 parts of femoral shaft representing one person (2 of which conjoin and show a 3<sup>rd</sup> trochanter and its a left femur) the other is a right shaft. one part of tibia shaft, four parts of humerus – 2 of which conjoin into one left, the 2 others with the area near the distal end which represent 2 individuals. Two proximal ulnae, two parts of radii shafts, lots of ribs, 3 parts of vertebrae, one acromion, part of a right scapula (small), two parts of clavicle (one small –r- one large –l-), few parts of pelvis which are highly fragmented, one fragment of cranium.

Part of the frontal with the edge of the left orbit, one left calcaneus, one lumbar vertebra, one phalanx, part of one talus, two humeral heads, one distal radius, one proximal radius, one glenoid of a left scapula and acromion, two parts of cervical vertebrae, 3 parts of a sacrum, 9 thoracic and 6 lumbar vertebrae, one part of cranium and one maxilla. One right hallus and a 3<sup>rd</sup> right mt, 2 other mts and a 3<sup>rd</sup> left mt. One right medial cuneiform, one right intermediate cuneiform, undiagnostic fragments of limb, 2 fragments of fibula shaft, another distal end of a humerus.

*Infant remains*

One unfused base of occipital (max width: 23.93mm, sag length : 17.05mm, max length: 21.76mm), one ischium (max length: 32.48mm, max width: 21.26mm).

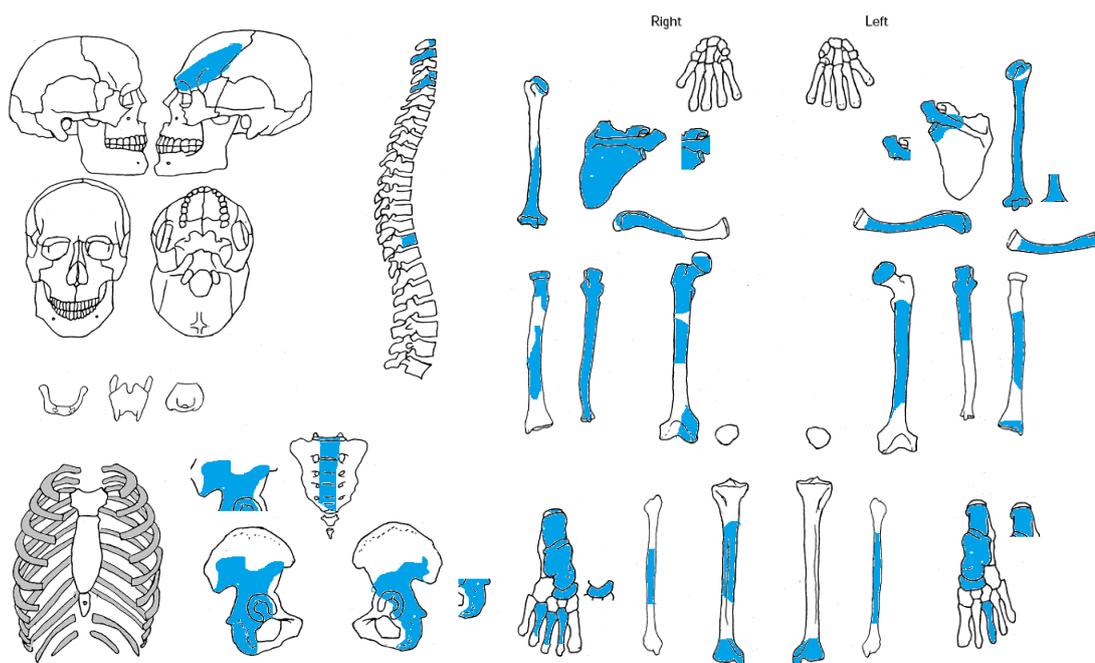


Figure 149: Visual inventory of Cowlam (3) burial marked 127

*MNI*: 2 Adults (probably 1 M, 1 F); one infant

*Sex assessment*

Right sciatic notch was scored at 3/4

The left was scored at 3

Part of frontal has a low sloping forehead

*Age*

Cranial sutures are fused and almost obliterated.

Pelvic bones are too modified by erosion and mud

Dental wear

Using Lovejoy et al. (1985) on the maxillary dentition gives an age of 24-35 (phase E/F).

*Metrical analysis*

Right scapula (small) glenoid height: 35.23mm

Left scapula glenoid height: 41.03mm

Glenoid width: 30.55mm

*Taphonomy*

Erosion and mud

*Palaeopathology*

Porosity on the maxilla

Porosity and changes to the joint of the acromial end of the left clavicle, scapula has same alteration as one marked 126. Two proximal ulnae have lipping of the joint.

Osteophytosis of the spine, some schmorl's nodes in thoracic vertebrae

**Burial Box-126**

*Inventory*

Parts of left and right pelvis, fragments of ilium and one part of pubic ramus, one part sacral body (S-1), 2 parts of a left scapula with an extra facet on the acromion, one part of another scapula, one 4<sup>th</sup> mc, one prox manual phalanx, one right lunate, 3 fragmetns of a right radius (MSM -2-), 2 parts of a left fibula, one right cuboid, one left medial cuneiform, one intermediate left cuneiform, one lateral left cuneiform, a large radial head, all 5 lumbar vertebrae, 7 thoracic (mostly bodies) 2 parts of sternum, several parts of cervical 9(mostly transverse facets), numerous ribs and one coracoids.

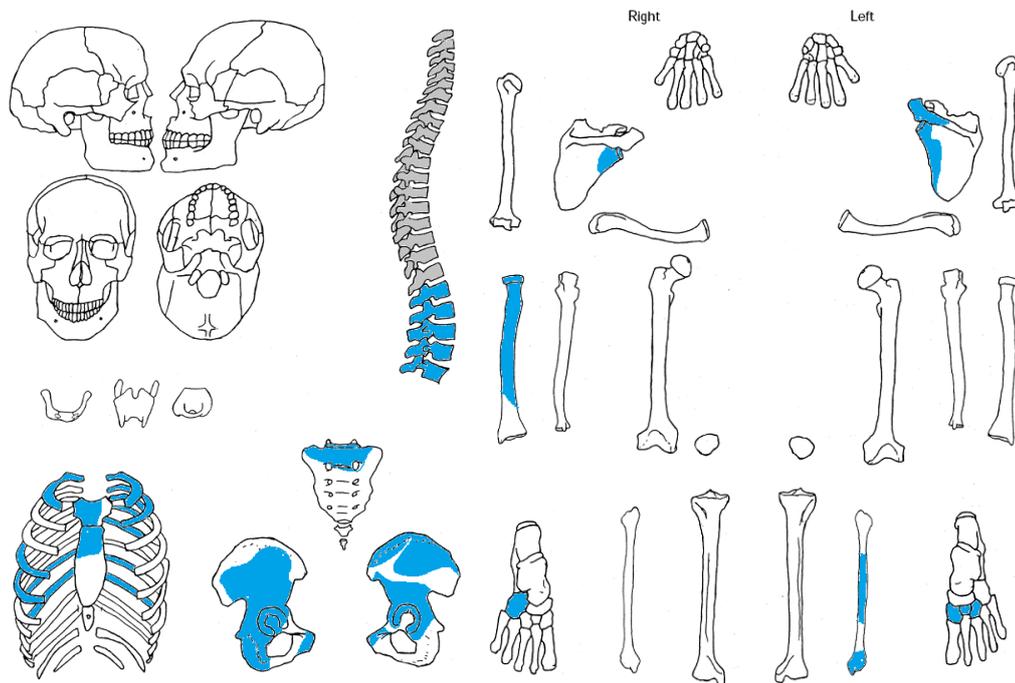


Figure 150: Visual inventory of Cowlam (3) burial in box 126

*Sex*

Right greater sciatic notch scored at 2/3 – F?

*Age*

Right auricular surface – phase 5

No sign of DJD in right acetabulum or left. Pubic surface too eroded to use

*Metrical analyses*

Left scapula – glenoid height: 41.81mm; glenoid width: 30.48mm

*Taphonomy*

Some pieces are perfectly preserved, some are highly eroded. There is both erosion and rootlet activity, all have adhesions of mud?

*Palaeopathology*

Facet on acromion, schmorls node on inferior of 1 thoracic.

Signs of spinal joint problems, there is osteophytosis throughout, which is worst in the lumbar vertebrae. The transverse cervical joint surfaces are expanded and florid, 1 lumbar body has a lytic lesion, also this vert and another have a small indentation on the inferior left posterior body surface.

Infant remains

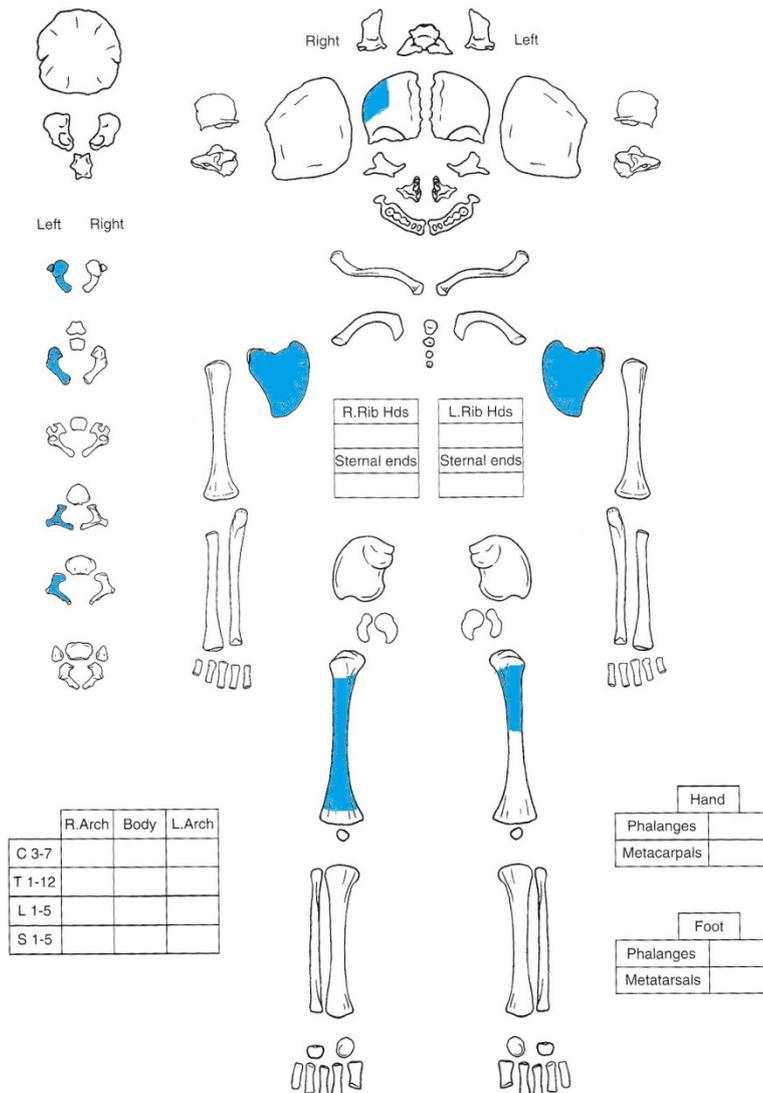


Figure 151: Visual inventory of infant remains from 126 Cowlam (3)

Also with this individual were 5 ribs, 4 vertebral bodies and of the transverse processes shown there were 10.

*Metrical analysis*

Scapula width: 28.05mm

Section C, **grave hollow 3**, 'general scatter of bones from filling of grave above burial 2 and below burial 1.

**Adolescent**

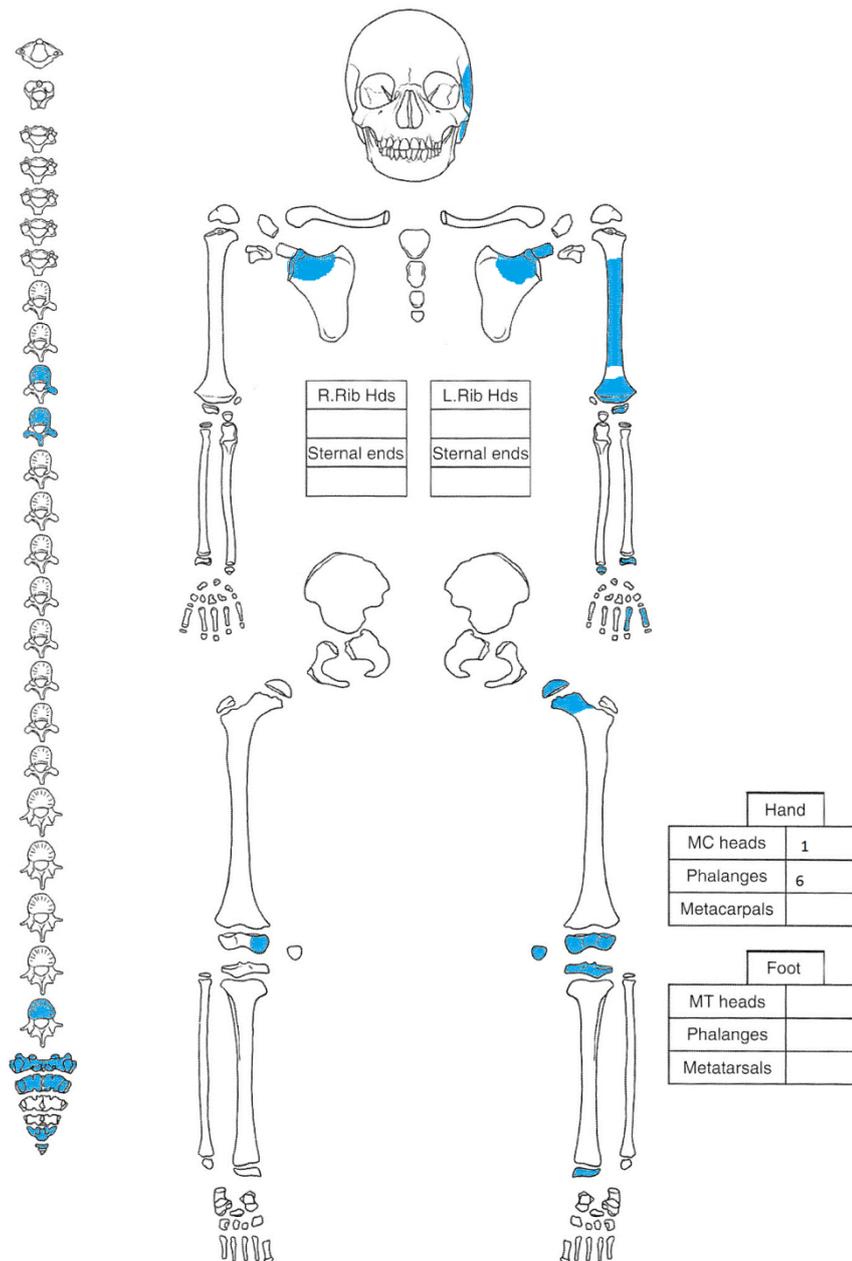


Figure 152: Visual inventory of Cowlam (3) grave 3 adolescent

The parts of the skull represented include- the occipital internal protuberance and the left temporal. The ribs are generally represented

*Age*

The femoral head has just fused.

*Dental*

Left and right 1<sup>st</sup> maxillary incisors, right 2<sup>nd</sup> maxillary shovel shaped incisor, upper premolar 1.

### *Palaeopathology*

LEH can be seen in the maxillary 1<sup>st</sup> incisors and the 2<sup>nd</sup>. See drawing for detail.

#### *Barrow 3 section c, grave hollow 1 – disturbed human bone*

One femur shaft, one part tibia shaft, 2 parts of a right ulna, other small fragments of limb, one proximal half of a metatarsal. One animal phalanx – all are eroded and show some white bone underneath. These look to be from a larger male Individual

#### **Quadrant C, bones resting upon marl beneath disturbed soil**

Fragmented and eroded limb, one piece of distal humerus shaft, femoral neck and capit, pieces of rib, part of humerus shaft, pieces of rib, part of a humerus shaft, fragments of ilium, r part of a mandible body – appears partly endetulous and small (F?), left and right – mc1, mc3, mc5 and a right mc2, two proximal phalanges, one intermediate and two distal, one pisiform, a left – scaphoid, capitate, lunate and trapezoid. A right – hamate, triquetral, scaphoid, lunate and trapezium. 7 rib fragments, one medial cuneiform, left and right mt1 and mt 5, Proximal end of a left mt 3 , a left mt2 a left proximal mt 4 one proximal pedal phalanx, 2 humeral shafts which are mostly complete and are both highly eroded (older individual grave hollow 2, disturbed after filling).

#### **Grave hollow 2**

Fragments of bone from upper filling (older individual)

Some vertebrae are adolescent, one cervical and 4 lumbar

Rest of older individual

Left and right calcaneus, a left cuboid, r lateral cuneiform, a right clavicle, numerous vertebrae – the lumbar bodies seem quite degenerated and osteophytic, 6 vertebrae with schmorl's nodes, 3 mid thoracic lesions are central posterior. T-12 and 2 lumbar have more extreme nodes on both surfaces (photos)

5 cervical vertebrae and other fragments. Two fragments of sternum, both of which are quite thick, part of a glenoid of the right scapula, 3 parts of one side of pelvis (left) – this includes an auricular surface aged at phase 5.

#### *Grave hollow 2 – scatter of displaced bones underneath burial 2*

2 proximal left ulnae, one proximal left radius, one fibula shaft. 6 cervical vertebrae including C-1 and 2. 5 thoracic and one lumbar.

Signs of O.A. – C-2 inferior transverse facets are porous and expanded, C-3 has some on the superior transverse facets. The rest of the cervical have this alteration on the vert bodies. The

thoracic vertebrae have alterations to the superior nad inferior facets. The lowest thoracic has osteophytosis and alteration of the body surface.

One manubrium of the sternum, one prox half of a right clavicle,

Foot bones: left and right – hallux and adjoining prox phalanges, a left 3<sup>rd</sup> mt, a prox pedal phalanx, a left 5<sup>th</sup> mt, a right medial cuneiform, a right navicular and right and left talus, a right cuboid, a right lateral cuneiform, a right 4<sup>th</sup> mt, a right 2<sup>nd</sup> mt, a right 3<sup>rd</sup> mt, a left and right 5<sup>th</sup> mc, a left 4<sup>th</sup> mc a left 4<sup>th</sup> mt and a right 2<sup>nd</sup> mc. 5 proximal manual phalanges, 2 distal manual phalanges, a left and right patella, a right capitates, a left capitates (much smaller than other), a right scaphoid, a right trapezium and left trapezoid (small), a left and right triquetral, an unfused end of a manual phalanx, an unfused end of an ulna and numerous rib fragments.

### **Cremations**

Cowlam barrow 1, south section, cremation 1

#### *Weight*

<1mm: 5g

<5mm: 54g

<10mm: 408g

10mm>: 459g

Cranium: 120g

Articular: 5g

Ribs: 15g

Femur: 58g

Pelvis: 36g

Fibula: 14g

Scapula: 2g

Humerus: 21g

Tibia: 6g

Vertebrae: 17g

Radius: 3g

Ulna: 3g

Miscellaneous limb: 136g

Hand and foot: 13g

Unidentified: 500g

### *Size*

Maximum: 61.38mm (limb); 36.79mm (cranium)

Minimum: 2.29mm

The remains are tan/cream- pale brown in colour with some grey pieces. Fracture patterns are mosaic, step, transverse and linear. The cranial bones are highly fragmented and are almost all undiagnostic, there is one part of a zygoma. There is a pelvis fragment: the edge of an auricular surface and ishium. There is one glenoid of a scapula, and fragmented pieces of vertebrae. Articular surfaces include 3 parts of distal femoral condyle, and 3 parts of proximal tibia. There are identifiable fragments of femur, humerus, fibula, ulna nad radius, also identifiable phalanges and hallux.

### *Teeth*

20 tooth fragments

9 parts of molar

4 not identifiable

3 incisor roots

2 premolar roots

One canine root

### *MNI*

One adult

### *Age*

Sutures are partially fused

Tooth root foramen are closed.

### *Sex*

NP

Cowlam barrow 1

Cremation 2

*Weight*

<1mm: 9g

<5mm: 11g

<10mm: 949g

10mm>: 1994g

Lower limb: 20g

Cranium: 394g of which 15g is maxilla and mandible and 5g of which is teeth

Pelvis: 31g

Hand and foot: 49g

Scapula: 22g

Ribs: 38g + 13g

Vertebrae: 81g

Upper limb: 108g

Bone ends: 9g

Trabecular: 7g

Miscellaneous limb: 545g

Patella: 1g

Tibia: 72g

Fibula: 12g

Femur: 97g

Ulna: 21g

Radius: 19g

Humerus: 97g

Cranium: 22g

Radial head: 1g

Unidentified: 2365g

*Size*

Maximum: 50.57

The remains were cream – grey/blue in colour, fractures are mosaic, root, transverse, split and linear.

3 petrous portions, mandibular coracoids process, left and right mandibular condyles (both small), piece of palate, one part maxilla with right incisor and canine alveoli, front and left part of mandible. Holes for the left pm1,2; left C, left i1,2 and right i1,2

One left zygoma, one left orbital margin, lots of well preserved large cranial fragments, root of zygomatic arch, part of temporal with right mastoid. 9 distal manual phalanges, 7 proximal pedal phalanges, 11 intermediate manual phalanges, 4 proximal manual phalanges, numerous fragments of metac/t, 2 of which are hallux, one smallest cuneiform, 8 fragments of pelvis – including part of the ilium, ishium and acetabulum. 9 parts of scapula includes 2 glenoids and 2 coracoids. Many rib fragments, large amount of vertebrae, includes the odontoid, lots of upper limb fragments, one part distal femur condyle, one part proximal tibia, one unfused proximal radius. Lots of large limb fragments, identifiable distal humerus, proximal humerus, corocoid of a scapula, proximal radius.

#### Teeth

34 fragments of teeth

1 dentine crown,

one almost complete upper 3<sup>rd</sup> molar

2 parts of molar root

One half of a dentine crown

2 canines

One premolar root

4 incisor roots

Rest are not diagnostic

#### *MNI*

There are 3 petrous portions = 2 adults

#### *Age*

Sutures are fused on the internal surfaces and partially fused and visible on the external surfaces.

#### *Sex*

Internal mental eminence is small

Cowlam barrow 1

### Cremation 3

<2mm: 15g

<5mm: 124g

<10mm: 480g

10mm>: 651g

Humerus: 19g

Lower arms: 28g

Tibia: 26g

Femur: 54g

Vertebrae: 42g

Cranium: 80g

Mandible and teeth: 14g

Miscellaneous limb: 136g

Hand and foot: 10g

Pelvis: 9g

Miscellaneous flat bone: 28g

Articular: 30g

Ribs: 9g

Unidentified: 828g

### *Size*

Maximum: 66.34mm (limb); 83.78mm (cranium)

Minimum: 1.87mm

The remains are cream-tan in colour, some bone (mostly trabecular) is blue-grey. Fractures are step, transverse, linear, curved, branched, mosaic with some noticeable warping.

A piece of scapular border, edge of glenoid and other piece of scapula, identified fragments of limb include – femur, tibia, humerus, ulna and radius. Hand and foot fragments include metacarpals, tarsals and 2 intermediate manual phalanges. Pelvis is represented by trabecular fragments, the edge of an acetabulum, parts of the ishium. Articular bones include one patella, 2 fragments of distal femur, one proximal tibia. Numerous fragments of vertebrae include C-2

Parts of cranium include- a left petrous portion, a right zygomatic, a right orbit and one mandibular condyle. Part of the mandible, maxilla and teeth, 18 tooth fragments only 6 of which are large enough to be diagnostic. These are – 2 premolars, one incisor, one molar root. Also an intermediate manual phalanx, one distal manual phalanx  
Also there was a couple of pieces of inhumated bone - 2 of rib and one of scapula.

*MNI*

One adult

*Age*

Not many sutures are visible, there is considerable fusion on those (3) fragments where sutures are visible.

*Sex*

Orbital margin is scored at 2 – F?

The cranial fragments and limbs are quite gracile

Site: **Loose Howe**

Inhumated remains

2 fragments of a sacrum which are black/brown in colour 1 part is a lower body and the other is part of the posterior.

Cremated remains

*Weight*

<5mm: 20g

10mm>: 15g

Cranium: 000.8g

Vertebrae: 000.2g

Limb: 000.5g

Unidentified: 35g

*Size*

Maximum: 45.46mm

Minimum: 2.5mm

The remains are mostly brown with some tan-cream colour and larger vertebral fragments are tan/grey in colour. Fractures are linear and transverse.

The remains are mostly undiagnostic, but include small pieces of rib and vertebrae, very small undiagnostic fragments of limb shaft, one fragment of alveolar bone, 4 fragments of cranium (one is a zygoma), 2 large fragments of vertebrae.

*MNI*

One adult

*Age*

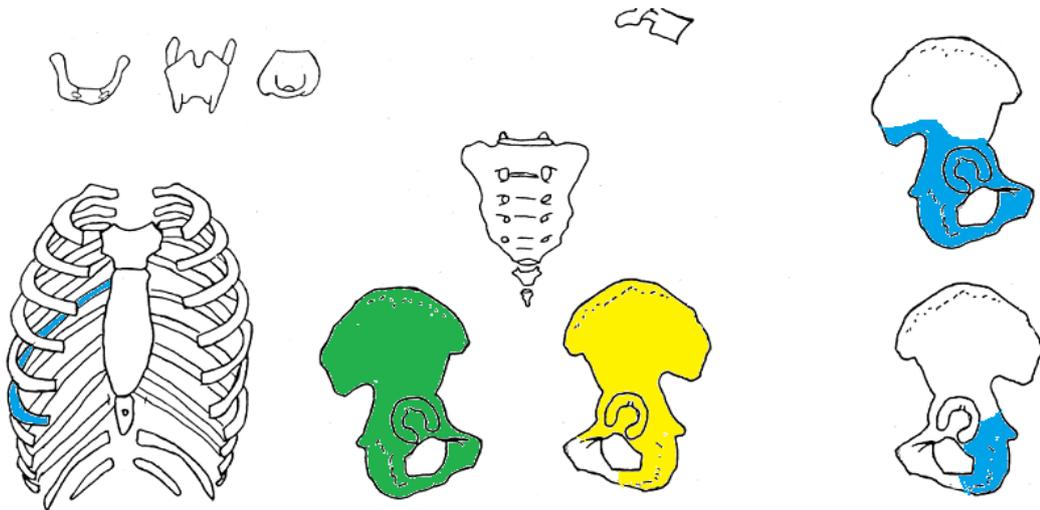
Adult

*Sex*

NP

Site: **Folkton – Sharp Howes 2**

A female individual is represented here by green bones, a male by blue and, yellow remains indicate adult remains which may belong to the female but it is not certain. Also were the remains of a juvenile aged around 6 years.



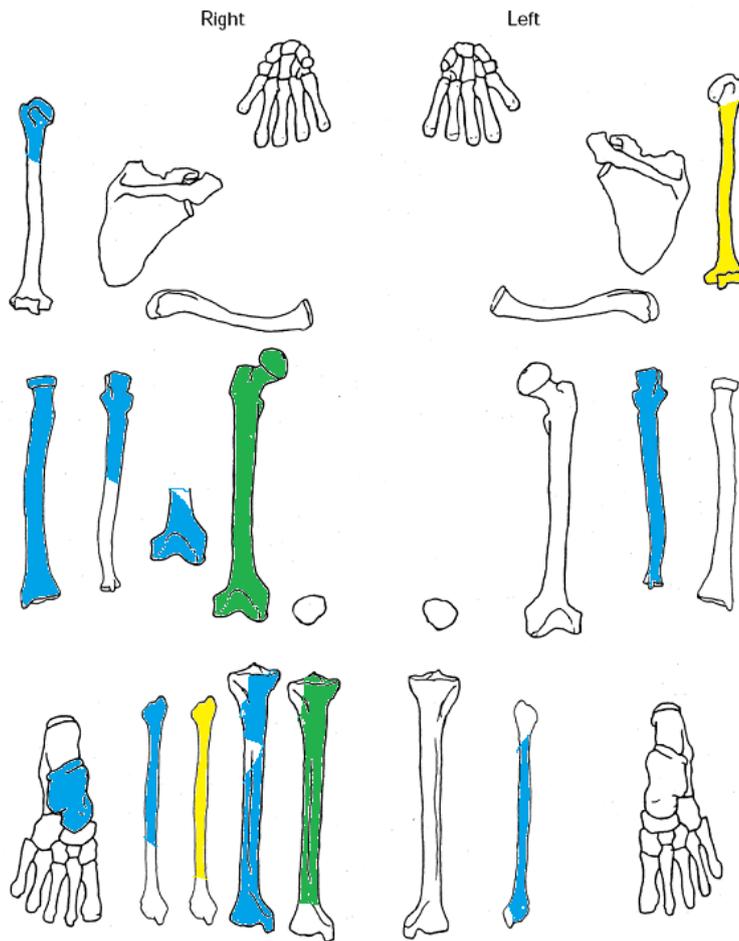


Figure 153: Visual inventory of the remains from Sharp Howes 2

**Female remains**

Right complete pelvic bone, one left femur with a third trochanter, one incomplete right tibia, possibly one part of right fibula.

**Sex**

Small acetabulum, sciatic notch scored at 1, pre-auricular sulcus visible, long pubic arch, slight sub-pubic concavity, obturator foramen is small and triangular.

**Age**

Auricular surface has come billowing and is scored as late phase 3-early phase 4

Pubic symphysis incomplete but scored at phase 2/3

**Metrical analysis**

Femur maximum length – 416mm

**Pathology**

The tibia has some periostitis which appears healed

#### Male remains

Partial right pelvis with no ilium, 1 right talus, one right rib, one proximal half of ulna (strongly defined brachial tuberosity and trochlear notch), one right distal large femur, 2 parts of right tibia, one part of fibula – left. One right distal two thirds of radius. One proximal radius which conjoins with other distal part (large radial tuberosity), one right humeral head, one complete left ulna (large).

#### Sex

Pelvis has a short pelvic arch, no pre-auricular sulcus or sub-pubic concavity, obturator foramen is triangular, sciatic notch scored at 2, acetabulum is large, ischio-pubic ramus is thick.

#### Age

Pubic symphysis is scored at early phase 4

Partial auricular surface is scored at phase 5

Juvenile remains comprised of - 1 right femur with unfused ends (maximum length 236), also a right unfused ilium. The acetabular surface of which has developed the articulation strip for the ischium which occurs c.6yrs.

#### Uncertain remains

One left pelvic bone which is missing the pubis, may belong to the female (auricular surface phase 4).

One humerus without head does not fit with male one, has a strong deltoid but is otherwise gracile. It is eroded at the distal end but shows some surface alteration indicative of O.A.

One fibula – left, most of shaft and distal end

Part of left pelvic bone (acetabulum and ischium)

Site: **Cold Eaton**

#### Weight

<1mm: 1g

<5mm: 8g

<10mm: 194g

Cranium: 44g

Rib: 6g  
Upper limb: 29g  
Lower limb: 47g  
Pelvis: 6g  
Unidentified: 230g

#### *Size*

Minimum: 8.37mm  
Maximum: 53.62mm (limb); 48.12mm (cranium)

The remains were mostly tan to brown in colour with some white-grey fragments. There were also some small black fragments. Overall this does not seem to have been an efficient cremation. Fracture patterns were linear, transverse, stepped and spiral.

The remains mostly consist of limb and cranium; one part of acetabulum, one part of the scapula glenoid, one damaged radial head. Rib fragments, one part of a 3<sup>rd</sup> molar, one gonial angle, one part of the left mandible (with alveoli from I1 to P2) another part of alveoli and one mandibular condyle with O.A.(?).

There are two tiny bones, one of which is probably rodent.

#### *MNI*

1 adult

#### *Age*

Cranial sutures are visible at the external lambda – partial fusion

#### *Sex*

Gonial flare is slight, the remains are quite small and gracile = F????

Site: **Pockley barrow**

#### Cremation

#### *Weight*

<1mm: 47g  
<5mm: 22g  
<10mm: 370g

10mm>: 470g

Hand and foot: 17g

Animal: 8g

Femur: 34g

Tibia: 14g

Unidentified: 570g

Ulna: 12g

Cranium and mandible: 73g

Ribs: 21g

Articular bone: 13g

Radius: 11g

Humerus: 21g

Miscellaneous flat bone: 20g

Vertebrae: 10g

Miscellaneous limb: 90g

#### *Size*

Minimum: 3.83mm

Maximum: 61.18mm (limb); 42.07mm (cranium)

The remains are white to tan in colour, the tan colour seems to be dirt however. Fracture patterns are spiral, curved, linear, stepped, transverse, mosaic and branched.

One left mandibular condyle, one glenoid fossa (for mandible), one wormian bone, two pieces of frontal with internal crest. One part left zygoma, two parts of alveolar bone – one of which is mandibular, one distal big toe phalanx, 4 manual distal phalanges, two parts of proximal radial head, one distal femur articular (popliteal) surface, edge of an auricular surface, part of a patella, vertebrae include part of C-1 and other undiagnostic fragments – some show signs of O.A.

#### *MNI*

1 adult

#### *Age*

Cranial sutures show partial to complete fusion. One molar root shows open foramen.

*Sex*

Large mandibular condyle (left) indicates M??

*Burial 4*

16.2g of cremated bone which is almost all undiagnostic. There is one upper limb fragment which is white in colour

*Inhumation – burial 6*

These remains are badly preserved and crushed. The remains are barely identifiable – some are merely small crushed fragments adhered to mud – removal of the mud would lead to complete disintegration. Most of what survives appears to be rib and vertebrae.

The remains include – one scapula fragment, cranial fragments, part of a humeral head

Teeth are also highly fragmented with only fragmented crowns surviving, there are a couple with roots. The teeth include – 5 premolars (4 upper and one lower), 3 incisors (one upper central and 2 lateral), 6 parts of molar.

*MNI*

1 adult

*Age*

Sutures are visible – partial to obliteration

Dental wear indicates quite a young adult probably in the early 20s

*Sex*

One left mastoid is small and scored at 2 = F????

*Pockley remains marked – 1985.6-1 39*

14 tooth fragments – just crowns surviving

Lower – left and right M1s, M2s, p1s, p2s

Upper left and right M1s

Also upper – 1 M2, 1 M3, 1 canine and one p1

All of the above look very young and unworn except for slight wear on the upper M1s

Lovejoy (1985) indicates an age of 18 to 24, but the age seems likely to be at the adolescent end of this range due to the lack of wear on the other teeth.

There is one LEH on the canine about half way down the crown

Site: **Herd Howe**

Pottery fragments were found mixed in with these remains.

#### *Weight*

<1mm: 32g

<5mm: 19g

<10mm: 9g

10mm>: 6g

Limb: 3g

Miscellaneous flat bone: 2g

Axial bone: 2g

Cranium: 7g

Unidentified: 53g

#### *Size*

Minimum: 2.08

Maximum: 30.66mm (limb); 30.92mm (cranium)

The remains are white with blue staining on some fragments. The remains are very fragmented and crushed, fractures are linear, transverse and spiral.

The remains include two petrous portions (left and right), part of the occipital, a cranial fragment with porosity (possible lesion?) – see photo

Limb bones include two possible femur shafts, several fragments of epiphyseal ends (includes 2 parts of vert, a proximal ulna, and two parts of hand/foot)

#### *MNI*

1

#### *Age*

These remains represent a juvenile individual – probably a neonate or young infant.

Tooth crowns include a fragment of incisor (deciduous) crown and one deciduous 1<sup>st</sup> molar crown which is not fully formed

*Sex*

NP

Site: **Ashford**

**Ashford (21a)**

*Weight*

<1mm: 1g

<5mm: 21g

<10mm: 113g

10mm>: 146g

Charcoal: 18g

Lower limb: 43g

Ribs: 1g

Cranium: 55g

Articular bone: 10g

Hand/foot: 0.5g

Upper limb: 22g

Unidentified: 151g

*Size*

Minimum: 3.41mm

Maximum: 37.10mm (cranium); 49.32mm (limb)

The remains are cream to pale brown in colour, fracture patterns are linear, transverse, spiral, step, mosaic and branched.

The remains include general miscellaneous cranial fragments, two fragments of alveoli, the border of an auricular surface, a few articular fragments including one part of talus. One part of a phalanx, the limb bones are not diagnostic except for upper/lower. Teeth include one lower incisor, and one half of a lower molar root.

*MNI*

1 adult

*Age*

Sutures are visible on the occipital bone, overall partial to complete fusion

**Ashford (23a)**

*Weight*

<5mm: 2g

<10mm: 69g

10mm>: 161g

Upper limb: 48g

Lower limb: 17g

Pelvis: 1g

Axial: 5g

Miscellaneous flat bone: 8g

Cranium: 47g

Unidentified: 106g

*Size*

Maximum: 92.54mm (limb); 36.12mm (cranium)

Minimum: 4.35mm

The remains are white-cream in colour, fractures are linear, transverse, curved and branched.

The remains include one vertebra, part of an atlas, undiagnostic cranial fragments except some occipital and one part of zygoma.

*MNI*

1

*Age*

Sutures show partial fusion

*Sex*

Small atlas suggests F??

Site: **Goodmanham**

3 cranial fragments

Two are undiagnostic and probably parietal, the other is occipital and quite thin, all three are quite eroded.

### 17.13 Analysis of the remains from Brackenber

#### Brackenber <13> [112]

This cremation deposit represents one individual, an adult in the middle to older age range. This individual may be a female. The larger cranial fragments which have survived were all from the right side, this may indicate that this person was laid on their left side to be cremated.

The large amount of charcoal which was mixed in with the deposit may indicate that the remains were 'scooped' up from the pyre rather than picked out.

#### *Weight*

<1mm: 161g (residue)

<5mm: 148g

<10mm: 443g

10mm>: 511g

Also

<5mm: 415g larger residue of unsorted charcoal and bone

Charcoal separated from cremation deposit: 46g

Vertebrae: 9g

Ribs: 6g

Scapula: 4.5g

Miscellaneous flat bone: 17g

Pelvis: 1g

Hand and foot: 13g

Articular bone: 15g

Cranium: 88g

Mandible and maxilla: 9g

Femur: 30.5g

Tibia: 14.5g

Fibula: 3g

Ulna: 16g

Radius: 7g

Miscellaneous lower limb: 27g

Humerus: 20g

Miscellaneous limb: 145g

Teeth: 6g

Unidentified: 640g

#### *Size*

Maximum: 133.65mm (limb); 53.03mm (cranium)

Minimum: 1.74mm

The remains were cream to pale brown in colour, fracture patterns were: linear, transverse, mosaic, spiral, branched and spalled. There were conjoining cranial fragments and numerous surviving tooth fragments.

Identifiable fragments include:

Vertebrae: C-2, as well as other cervical, thoracic and lumbar vertebrae are represented.

Cranium: one part of a right temporal, a right zygomatic, one fragment of zygo-temporal arch, a large fragment of the right mandible, a fragment of right maxilla, one fragment of mandibular condyle, several fragments of sphenoid and ethmoid, one internal frontal crest, one glabella, one piece of parietal.

Scapula: part of a border and also a left acromion and part of a glenoid fossa.

Humerus: one fragment of distal humerus.

Hand and foot bones: several metacarpals and phalanges, part of a talus.

Overall all limbs are represented

*Minimum Number of Individuals (MNI): 1 adult*

#### *Age*

There is full closure of the cranial sutures, but no obliteration which indicates a middle to older adult (30+)

#### *Sex*

Possible Female??

#### *Dentition*

There were 35 small tooth fragments which are not identifiable to tooth

9 molar fragments

2 lower lateral incisor roots

2 upper incisor roots

1 canine root

There were also three tooth crowns: one canine, one worn premolar and part of a molar crown – worn flat

#### *Palaeopathology*

There was extra bone on the ends of a distal phalanx

There was osteophytosis on the vertebral facets, lipping of the mandibular fossa and possible button osteomae on a fragment of parietal bone.

#### Brackenber <11>

This is part of the same individual as <12>

#### *Weight*

<1mm: 1g

<5mm: 5g

<10mm: 7g

10mm>: 15g

Cranium: 5g

Teeth: 0.5g

Unidentified: 22g

#### *Size*

Maximum: 27.52mm (cranium)

Minimum: 2.53mm

The remains were white-tan in colour

#### *MNI*

The teeth indicate a minimum of one adult individual

#### *Dentition*

There were 10 fragments of teeth, of which 3 were identifiable. These included: 1 premolar root, 1 upper lateral incisor root and part of an incisor crown.

Brackenber <12>

Part of same individual as <11>

*Weight*

<1mm: 3g

<5mm: 38g

<10mm: 62g

10mm>: 15g

Cranium: 6.9

Limb: 14g (mostly forearm)

Teeth: 2g

Unidentified: 98g

*Size*

Maximum: 36.90mm (limb)

Minimum: 2.40mm

The remains are white to pale brown in colour; fracture patterns are linear and transverse.

*MNI*

See <11>

*Age*

Adult, not possible to give a more specific age

*Sex*

Not possible

*Dentition*

25 tooth fragments

5 crown fragments – includes 3 molar, one worn incisor, one premolar

2 lateral incisor roots  
2 molar root fragments  
1 upper central incisor root

Brackenber <5>

Part of same individual as <6>

*Weight*

<5: 1.5g

<10mm: 0.3g

Unidentified: 1g

*Size*

Maximum: 11.06mm

Minimum: 1.59mm

The remains are white-tan in colour and mostly unidentified.

*MNI*

This very small deposit of cremated remains represents one juvenile

*Age*

An infant

Brackenber <6>

Part of same individual as <5>

*Weight*

<1mm: 3g

<5mm: 8g

<10mm: 12g

10mm>: 10g

Unidentified: 31g

Cranium: 2g

Teeth: 0.7g

Vertebrae: 0.1g

*Size*

Maximum: 18.05mm

Minimum: 2.43mm

The remains are white-tan in colour; fracture patterns are transverse and linear.

*MNI*

One infant aged around 6-18 months

*Dentition*

1 central deciduous incisor, of which only the crown is developed

2 molar crowns and part of a third

Part of a lower premolar crown

Also part of a deciduous tooth root which is oval in cross section

Brackenber <8>

*Weight*

<1mm: 1g

<5mm: 16g

<10mm: 32g

10mm>: 21g

Cranium: 27g

Rib: 0.3g

Vertebrae: 0.3g

Limb: 2.4g

Teeth: 1.3g

Unidentified: 42g

*Size*

Maximum: 38.80mm (cranium); 24.18mm (limb)

Minimum: 1.96mm

The remains are white-tan in colour; fracture patterns are split, branched, linear and curved.

Identified fragments: part of a second cervical vertebrae and two fragments of frontal which conjoin. Overall the remains are mostly cranial bone and teeth.

*MNI*

1

*Age*

Adult – tooth roots appear closed, but it is not possible to give a more specific age to this individual

*Sex*

The large robust fragments and the frontal bone indicates a possible male??

*Dentition*

10 fragments

2 premolar roots, 1 upper central incisor and 1 upper lateral

*Non-metric traits*

This individual has a retained metopic suture

Brackenber <10>

*Weight*

<1mm: 45g

<5mm: 83g

<10mm: 197g

10mm>: 134g

Miscellaneous limb: 60g

Humerus: 9g

Radius: 9g

Residue: 45g  
Unidentified: 272g  
Miscellaneous flat bone: 4g  
Hand and foot: 2g  
Vertebrae: 11g  
Charcoal: 0.3g  
Ribs: 3g  
Cranium: 13g  
Articular bone: 4g  
Pelvis: 8g  
Ulna: 4g  
Teeth: 0.8g  
Lower limb: 7g

#### *Size*

Maximum: 71.20mm (limb); 36.48mm (cranium)

Minimum: 2.83mm

The remains were mostly pale brown with around 30% white-tan; fracture patterns were branched, V-shaped, transverse, linear and curved.

#### Identified fragments

Hand and foot: one metacarpal, one proximal phalanx shaft, 3 fragments of intermediate phalanges and one distal.

Vertebrae: part of the second cervical – transverse facet, one lumbar body, part of C-1

Pelvis: part ischium, auricular surface, iliac blade and pubic arch.

Cranium: one right zygomatic arch

Part of mandible

One fragment of Humerus with MSM?

#### *MNI*

1 adult

#### *Age*

Adult, cranial sutures indicate at least partial fusion

### *Sex*

The size of the limbs and thickness of the cortex along with the mandible indicates a probable female??

### *Dentition*

13 tooth fragments

1 premolar crown – lower 2<sup>nd</sup> with small amount of wear

4 molar root fragments

1 incisor root – lower lateral

1 upper incisor root – lateral?

#### **17.14: Analysis of the remains from Hades Hill**

##### *Weight*

Cranium: 65g

Vertebrae: 0.5g

Humerus: 13g

Ribs: 18g

Unidentified: 56g

Misc upper limb: 19g

Misc lower limb: 15g

Misc limb: 42g

Hand and foot: 2g

Pelvis: 5g

Scapula: 1g

Femur: 21g

Tibia: 27g

These remains were white-tan in colour and fractures were linear, transverse and crush.

##### *MNI*

1

##### *Age*

Young to middle age adult

##### *Sex*

NP