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Calculation skills in chronic pain management: answers

Ruth Broadhead

QUESTION 1

Ben, aged 52, has type 2 diabetes mellitus and has been commenced on gabapentin capsules for neuropathic pain. The *British National Formulary* (Joint Formulary Committee, 2019) states that he should be prescribed the following regimen:

- Day 1 – gabapentin 300mg capsule once daily
- Day 2 – gabapentin 300mg capsules twice daily
- Day 3 onwards – gabapentin 300mg capsules three times a day

- a. How many capsules will Ben take in the first 7 days?
 - 18 capsules
- b. How many capsules will you prescribe for 1 month's supply from the day of commencement (28 days)?
 - 81 capsules
- c. Ben tolerates this dose and you prescribe a further 1-month supply at his review. The pack size of gabapentin 300mg capsules = 100 capsules/pack. How many full packs will you request in order to supply Ben with an adequate amount of tablets for 28 days' treatment and how many capsules will remain?
 - 1 pack (100) to be supplied with 19 capsules left after 28 days

QUESTION 2

Janet, aged 45, was prescribed buprenorphine transdermal patch 10 micrograms per hour / one patch weekly. After 3 months' use, her pain is not adequately controlled and you decide to increase the strength of the patch by 50%.

- a. What is the new strength of the buprenorphine transdermal patch?
 - 15 micrograms per hour/one patch weekly
- b. If there are 4 patches in a pack, how many packs will she use in 12 months? Assume a calendar month is 28 days.
 - 12 packs

- c. The cost of one pack of 4 patches is £49.15. What is the total cost for 6 months' supply?
 - £294.90

QUESTION 3

Morphine sulfate 2mg/ml oral solution (Oramorph) is prescribed for Ian who is in chronic pain at the end of life. The recommended dose for Ian is 10mg every 4 hours.

- a. How many ml of morphine sulfate should Ian take per dose?
 - 5ml
- b. How many ml of morphine sulfate will Ian require in 24 hours?
 - 30ml
- c. Ian is supplied with a bottle containing 300ml. Assuming Ian takes the full-recommended dose; calculate how many days his oral solution will last.
 - 10 days

QUESTION 4

Charlotte has chronic back pain due to previous orthopaedic surgery. Tramadol hydrochloride (modified-release) was prescribed and she has been taking one 200mg tablet every 12 hours for 6 months. Charlotte has decided she wants to reduce this medication. As a prescriber, you agree to reduce the strength by 25% every 2 weeks.

- a. What is the strength of tramadol that you will prescribe first?
 - 150mg tablet every 12 hours
- b. How many tablets will you prescribe for the first 2 weeks' treatment?
 - 28 tablets
- c. After 6 weeks, what strength of tramadol will Charlotte be prescribed?
 - 50mg tablets every 12 hours