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Figure1

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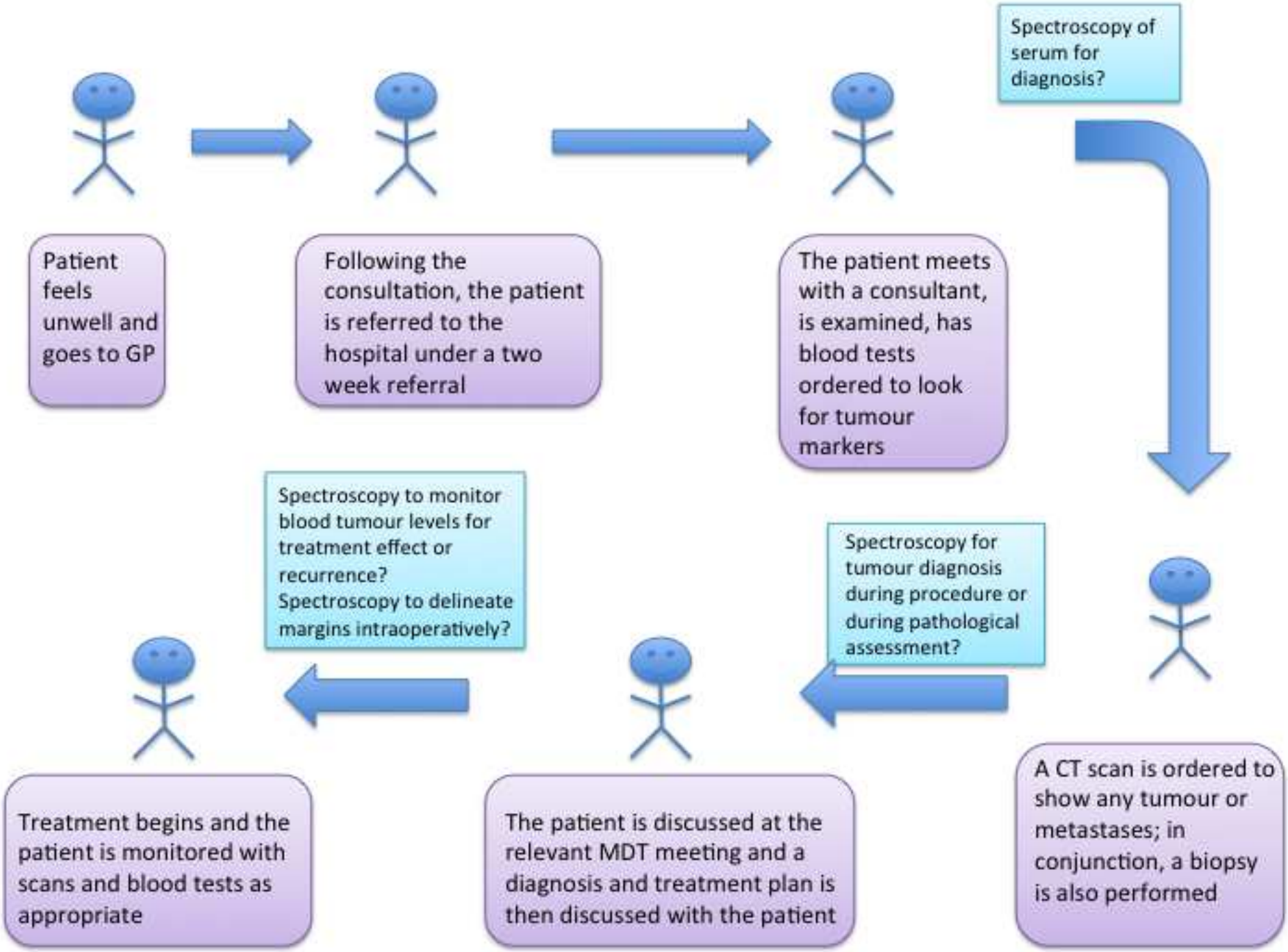

# LETTER OF GENERAL INTEREST

## Are new technologies translatable to point-of-care testing? More importantly, are they wanted?

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The point-of-care testing (PoCT) market is rapidly expanding and by 2021 it is predicted it will be worth 36.96 billion dollars (1). It has many facets, one of which is tumour/cancer markers. In order to develop a new test for clinical use, a biomarker needs to be identified and a quick and simple detection method developed. This then goes through many steps before clinical use including the all-important step – can it detect cancer earlier than current methods?

As variants of emerging technologies such as vibrational spectroscopy or nuclear magnetic resonance (NMR) spectroscopy show promise, there are hopes these approaches could be used in the clinical forum. However, the point at which these might fit into the diagnostic pathway remains unclear (Figure 1). For example, vibrational spectroscopy has had many proof-of-concept studies, looking at a variety of uses, including biofluids (2). The uptake of this technology has been slow in the clinical environment (3). It has not yet improved on current clinical methods, with cases misclassified and malignancy missed (4).

No clear usage has been found that is superior to the current clinical practice of intraoperative frozen sections and formal histopathological examination. It is clear that the scientists developing these technologies need direction. With the Government's push to reduce the time to diagnosis of cancer patients, will PoCT be a useful adjunct or are the sensitivities and specificities sub-optimal? The current clinical pathway allows for a specialist-led personalised plan for patients (see Figure 1), focusing on the patient - PoCT puts diagnosis back in the GP's surgery and places a lot of pressure on the GP to deal with hopes and expectations currently handled by a practiced secondary care team. Not only will their information be limited to a simple PoCT indicator, no radiology would be available nor is an appropriate oncology clinician available to give treatment information.

Therefore it is difficult to see how technology designed to circumvent the diagnostic process and provide instant answers fits into the current clinical pathway. Whilst point-of-care testing is crucial in some areas surrounding cancer diagnostics, careful thought is required to ensure that precious research funding is correctly distributed for the development of clinically-useful tools in the areas that need and require them. This will only be possible with open communication between scientists and clinicians; neither can make new technology work alone.

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Figure Legend:

Figure 1; The current patient pathway for suspected malignancy with areas spectroscopy may be able to provide input.

Declaration of Interests:

The authors declare no conflicts of interest.

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