

Innovation in Molecular Radiotherapy: towards dosimetry for Lutathera patients

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What is Lutathera?

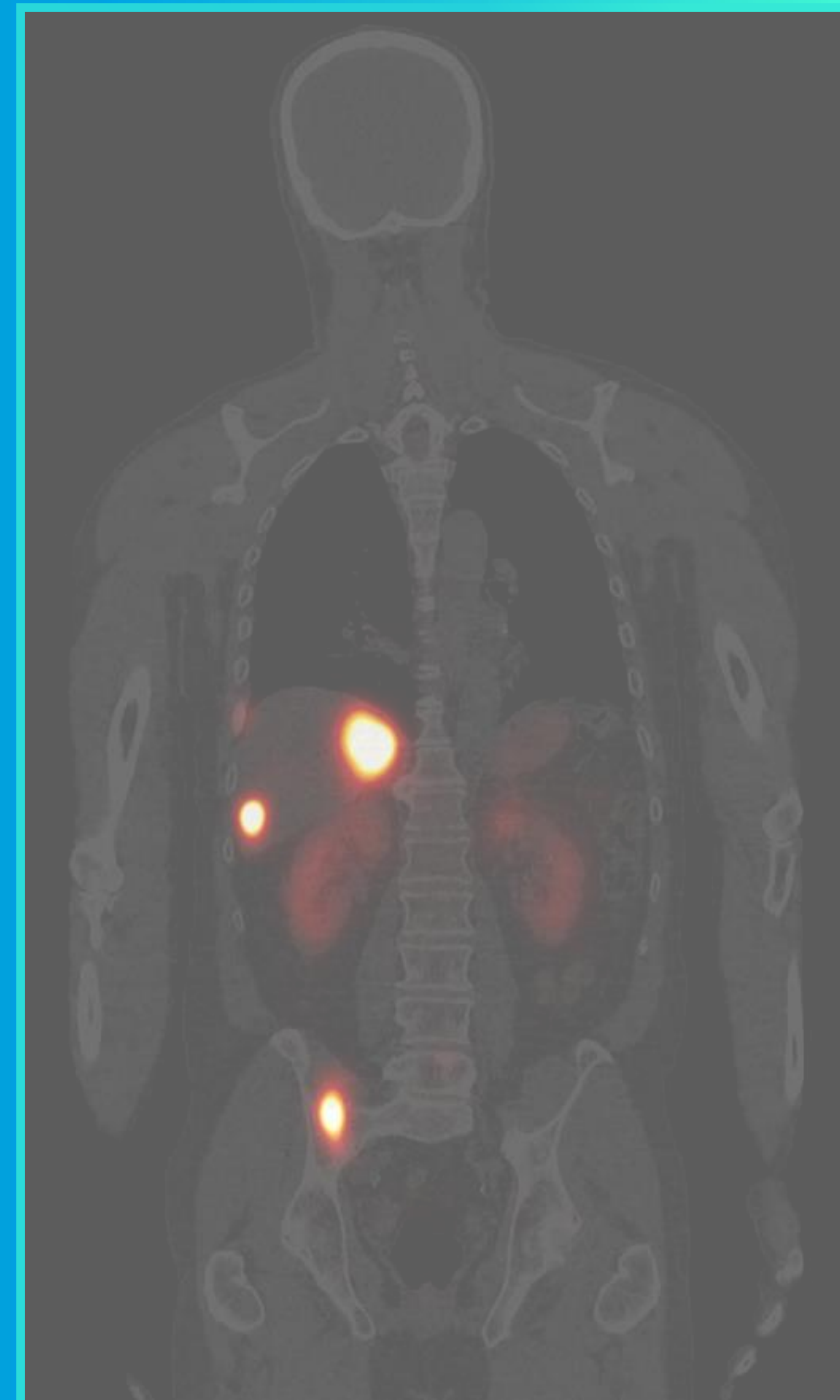
[177]Lu-Oxodotreotide (Lutathera) is a molecular radiotherapy used to treat neuroendocrine tumours (NETs). Patients from across Scotland are treated at Gartnavel General Hospital (GGH) in Glasgow: Lutathera is given as 4 7.4GBq fractions, 8 weeks apart. Patients are imaged the morning following treatment using a gamma camera, before returning home.

What is dosimetry?

Images are currently assessed qualitatively.

Dosimetry uses post-therapy imaging to quantify the overall uptake of Lutathera to areas within the body.

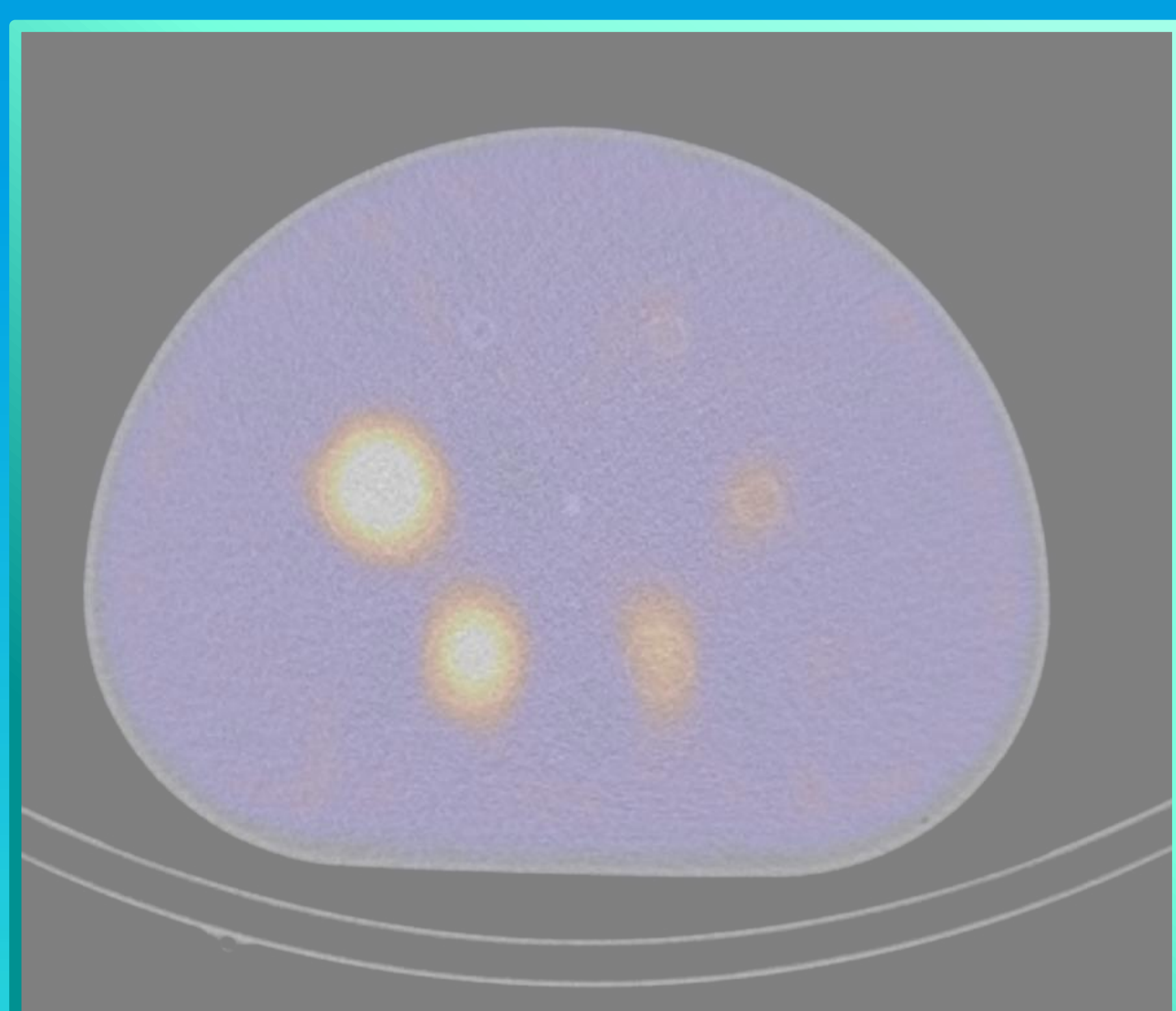
This can help clinicians monitor the response of tumours, and predict side effects and patient response to treatment.



Developing dosimetry locally

Dosimetry requires multiple sets of images, taken over the course of a week using a calibrated gamma camera. Previously the only suitable gamma camera was at GGH - this would not be practical for most patients, who are not all local to Glasgow.

Multiple gamma cameras across Scotland have been calibrated to allow Lutathera patient imaging. This has shown that reproducible imaging and dosimetry can be acquired, even when using scanners from different manufacturers located across Scotland.



Innovation to improve patient outcomes

This is a first step to establishing a pan-Scotland dosimetry service for Lutathera.

In the future this may allow patients to receive personalised treatments; using their dosimetry imaging to optimise the amount of Lutathera they are given each treatment fraction to maximise the damage to tumour cells while minimising side effects.