

I-124 PET/CT for Thyroid Cancer

This technology was funded through the New Technology Funding and Evaluation Program (NTFEP). The NTFEP funds the introduction and evaluation of new technologies that:

- ✓ Are safe and effective
- ✓ Provide better health outcomes
- ✓ Provide value for money
- ✓ Provide greater access to care.

The evaluation findings will inform recommendations regarding the future use and/or investment of the technology within Queensland.



What is the technology?

For thyroid cancer, surgical resection is the most common treatment. Following surgery, radioactive iodine (RAI) therapy with iodine-131 (I-131) is usually given for advanced cancers. Patients currently receive a standardized 'blind' empiric dose of I-131 based upon clinicopathologic risk stratification. Iodine-124 (I-124) is a new form of RAI that can be accurately imaged and provide high resolution three-dimensional images of remaining disease distribution. I-124 positron emission tomography (PET) assessment can guide a personalised calculation of the optimal amount of I-131 that can be safely administered to deliver a lethal dose of radiation to residual tumour.

What are the expected benefits?



I-124 therapy will provide high-resolution imaging for improved disease investigation and staging.



I-131 treatment will only be delivered to patients where demonstrated to be of benefit.



There will be a reduction in unnecessary hospital admissions where I-131 is likely to be ineffective.



Personalised dosimetry will calculate the correct I-131 dose for treatment, for improved disease control.



I-124 treatment should be well tolerated by patients, and most should be comfortable during the investigation.



Anticipated cost savings will allow for reinvestment into other treatment services.

Where is the evaluation occurring?

Department of Nuclear Medicine, Royal Brisbane and Women's Hospital (commencing 2017)

Want more information?

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