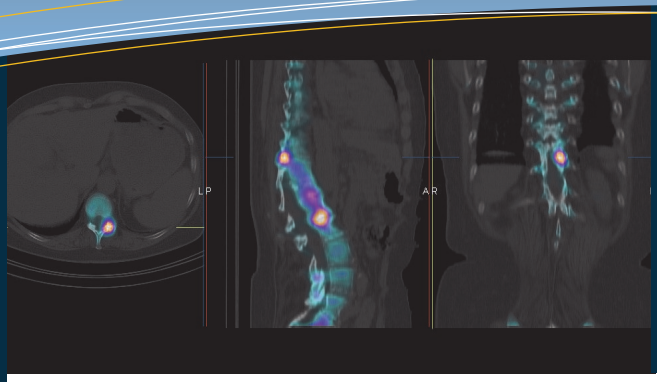
Autumn
2012

Nuclear Medicine Imaging and Therapy

molecular imaging newsletter



Nuclear Medicine
Christchurch Hospital
a service of the
Canterbury District Health Board

News in brief

- We welcome Dr Sue O'Malley as Clinical Leader of the Nuclear Medicine Department.
- SPECT/CT imaging is now fully operational at Christchurch Hospital. We are receiving a steady flow of requests for SPECT/CT bone scans.
- Our referral form is online:
  External to the CDHB go to: cdhb.healthpathways.org.nz and the form is under "Referral and Claim Forms"

  Internal to the CDHB go to the CDHB intranet and the form "Nuclear Medicine Request Form" is under Workplace Forms (A-Z).
- We accept ACC referrals and there are no residual payments expected of patients. All we require are details of the accident and the ACC number.

Nuclear Medicine Department
Christchurch Hospital
Private Bag 4710
Christchurch 8140
Phone: 03 364 0890 (reception)
03 364 0867 (referrals)
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www.cdhb.govt.nz/nuclear-medicine

The new newsletter...

Welcome to the first edition of our newsletter on molecular imaging and therapy. This is an exciting area of medicine and we have introduced this newsletter to share our views on current best practice and to provide useful information about our service. Over the coming newsletters we will share with you medical specialists' professional opinions on how to make best use of our service.

Referrer survey

This newsletter comes to you with a survey form. We use the results of this survey to decide where to focus our service improvement efforts. It's hard to judge from the inside how well we are doing, so we appreciate your feedback - positive, negative, or both. Please take a couple of minutes to help us out.

Why weight?

We can't wait. Many of the radioactive labelled pharmaceuticals we administer to patients for imaging are prepared in advance of the patient arriving in the Department. These radiopharmaceuticals are adjusted for patient weight to make best use of the radioactivity administered. Readjusting for patient weight causes more radiation exposure to the person preparing the injection and usually delays the scan. This is why we need an accurate patient weight when you submit a request for a scan.

Welcome to Dr Sue O'Malley

Dr Sue O'Malley has taken over as Clinical Leader of the Nuclear Medicine Department following the retirement of Dr John Turner in December 2011. Sue is a cardiologist and nuclear medicine specialist with a special interest in nuclear cardiology. She undertook her nuclear medicine training at the Austin Hospital in Melbourne and has extensive experience in nuclear medicine both in the public and private sector. Her first undertaking in the Department was to revamp nuclear cardiology imaging.

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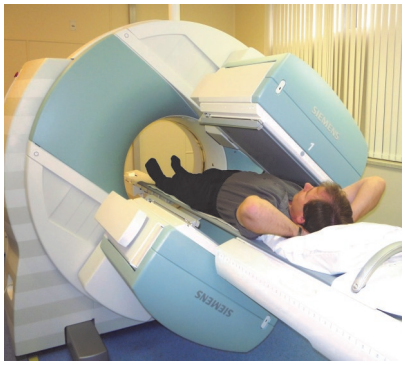
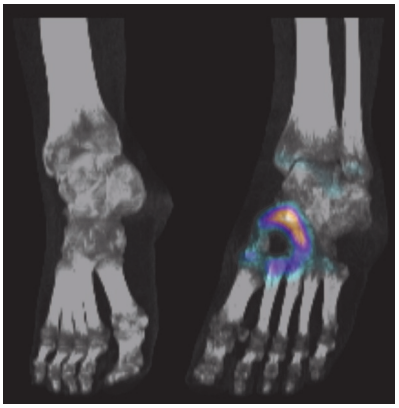
What is SPECT/CT imaging?

SPECT/CT is a combination of nuclear medicine cross-sectional imaging (SPECT) and computed tomography (CT) imaging that gives anatomical detail to the functional detail from the nuclear medicine images. One may think that the cameras would be huge machines, but as the picture below shows they aren't and most patients cope well with the scans because of the 'open' nature of the two SPECT detectors. Unlike MRI or PET/CT, the scanner 'donut' is very short and the patient is only in it briefly during the CT scan.



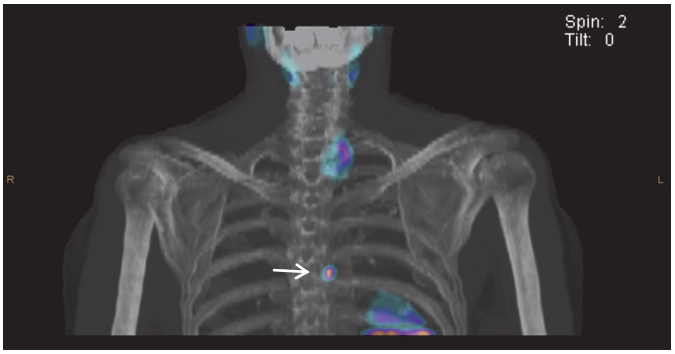
Hybrid SPECT/CT scanner at Christchurch Hospital

The SPECT and CT scans are fused to give an image where the CT is in grey scale and the nuclear medicine scan is in pseudo-colour. This imaging is proving very useful in bone imaging, myocardial perfusion imaging, specialist tumour imaging, parathyroid imaging, and melanoma sentinel lymph node imaging prior to surgery.



Bone SPECT/CT scan of the foot showing bone destruction surrounded by increased tracer uptake in the bone.

We are continuing to explore other possible protocols for SPECT/CT imaging, such as pre-surgical thyroid SPECT/CT imaging.



Pre-operative parathyroid SPECT/CT scan showing an ectopic parathyroid adenoma in the anterior mediastinum (localised on the sagittal views).

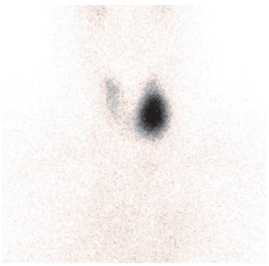
The routine continues

Bone scans and thyroid scans dominate our referrals from both GPs and medical specialists. Some referrers are unaware that we provide other scans such as renal, lung, hepatobiliary, parathyroid, cardiac (both myocardial perfusion and ejection fraction/wall motion analysis), brain perfusion, tumour and infection, and gastric emptying. Please see the website panel entry "Information for Medical Practitioners & Nursing Staff" for a full list of currently available scans and details of clinical indications.

Our imaging and therapy is free for Canterbury patients, and inter-DHB charges are managed by the CDHB for patients from outside of Canterbury.

Therapy news

The treatment of hyperthyroidism and thyroid cancer with radioactive Iodine-131 continues to be main radionuclide therapy performed in Canterbury. Although there are a number of other therapies on the horizon such as the use of radioactive microspheres for the treatment of liver tumours, we wait patiently for the clinical support to perform such treatments.



Thyroid scan

Earthquake recovery operations

The Department suffered superficial damage from the February, June, and December 2011 earthquakes, but one of the benefits of being in a hospital building with high earthquake standards was that we were operational again very quickly. Thanks to the dedication of staff we were scanning patients by the Friday after the February 2011 earthquake. Routine invasive inspections have been performed and some recovery repairs are required, but these we will planned with patients in mind and we will keep disruptions to a minimum.

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