

The Department of Nuclear Medicine was established in 1968 and is primarily committed to providing patient services that involve the use of unsealed sources of medical isotopes either for therapy or diagnosis. It is especially active in training medical specialists in the field and nuclear medicine technologists who are an integral part of the provision of these services to patients.

The department is involved in research activities that support its principal areas of clinical involvement and, with the presence of a dedicated positron emission tomography (PET)/computed tomography (CT) scanner, is increasingly focused on improving the assessment and management of cancer patients treated at William Buckland Radiotherapy Centre and other Alfred Health centres. The department has had a strong research track record under the leadership of Associate Professor Michael Kelly who retired as director after nearly 30 years of service to The Alfred. The department's long history of actively participating in a series of multidisciplinary research projects with many other Alfred departments and the Baker IDI Heart and Diabetes Institute continues.

Several recently completed studies are now either published in peer reviewed journals or are in various stages of the publication process. These include a publication by Dr Thomas Barber, Nuclear Medicine Fellow, demonstrating PET/CT impacts on the treatment strategy in approximately in 45% of patients with pancreatic cancer. Dr Kenneth Yap has worked closely with colleagues from the Centre of Obesity Research and Education, Monash University, and has contributed as a co-author on two publications evaluating the effects of laparoscopic gastric banding on gastric emptying, supra- and infra-band transit and sensation of satiety using novel nuclear medicine techniques.

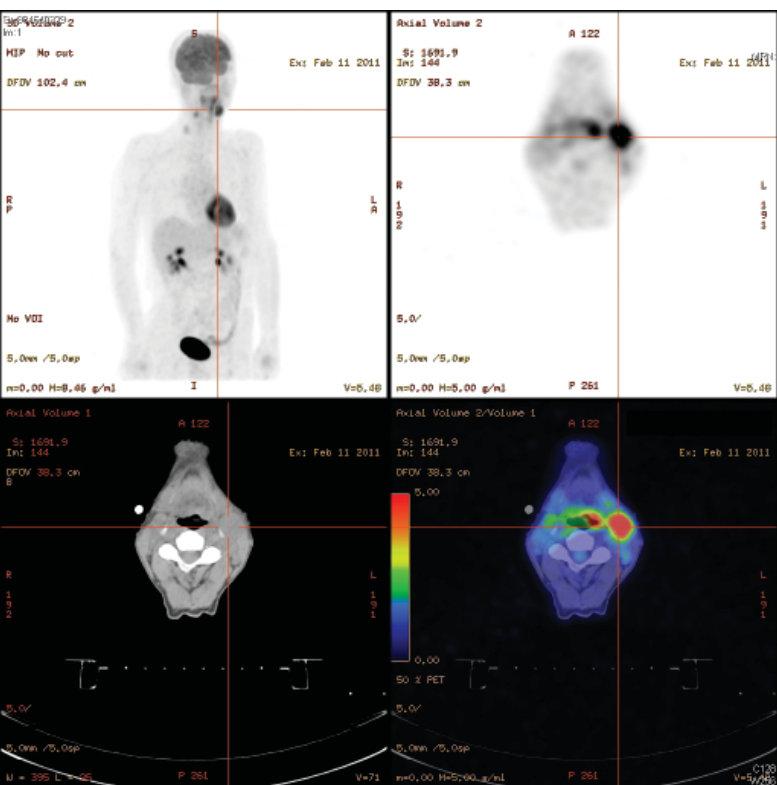


PET scan in patient with active inflammatory bowel disease.

Current Projects

- A pilot study of non invasive assessment of acute graft versus host disease of the gastrointestinal tract and treatment response following allogeneic haemopoietic stem cell transplantation using ¹⁸F-FDG PET (Dr Martin Cherk with Departments of Haematology and Gastroenterology)
- A pilot study to assess activation of cervical and upper thoracic brown adipose tissue in humans via beta adrenergic stimulation using ¹⁸F-FDG PET (Dr Martin Cherk with Baker IDI)
- Predicting chemotherapy induced hepatic injury on clinical, genetic and imaging parameters following treatment of colorectal carcinoma (Dr Martin Cherk with Gastrointestinal Surgery Unit)
- Frequency of undetectable serum thyroglobulin and thyroglobulin Ab in spite of whole body I-131 positive scans in thyroid cancer patients (Dr Martin Cherk and Professor Duncan Topliss, Endocrinology Unit)
- A pilot study of the use of magnetic seizure therapy for treatment resistant depression (Dr Kenneth Yap and Professor Paul Fitzgerald, Department of Psychiatry)
- Precision of LVEF measurements obtained during gated SPECT Sestamibi myocardial perfusion imaging (Dr Martin Cherk and Associate Professor Victor Kalff)
- Comparison of prone versus supine left ventricular ejection fraction from gated myocardial perfusion studies and gated cardiac blood pool scans (Dr Kenneth Yap and Associate Professor Victor Kalff)

PET/CT head and neck cancer demonstrating local spread.



Publications
3 Journal Articles