

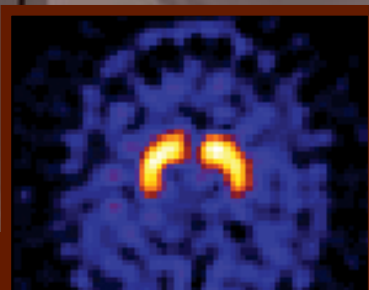
The Regional Medical Physics Service



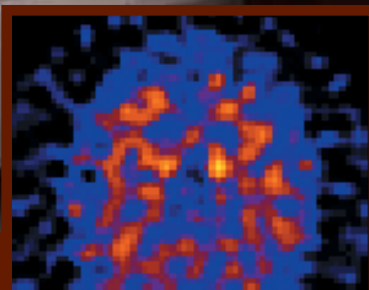
Freeman Hospital: introduction of a new Nuclear Gamma Camera



Thermal imaging to detect blood flow problems



Normal brain scan



Abnormal brain scan

quickly and in a way that matches its performance to other treatment machines in NCCT so that patients can be transferred with confidence to different linear accelerators in the event of a machine failure. Medical Physicist, Andrew Buckle, is seen here preparing to make radiation output measurements on the new machine.

Freeman Hospital

Amongst the developments in the Medical Physics Unit at Freeman Hospital this year has been the installation of a Nuclear Medicine gamma camera with two imaging detectors. This new camera will offer a number of benefits for patients, especially those attending for investigation of heart disease. In addition the reduced scan time for many patients will mean that more patients can be accommodated. Peter Jackson, Chief Nuclear Medicine Technologist, explains the operation of the camera to new Technologist Mary Halewood.

Other developments have included the introduction of hearing screening for newborn babies, the investigation of children suffering from scoliosis and, as illustrated here, thermal imaging on patients with blood flow problems. Further patient investigations are being developed and include evaluating the treatment of patients with abnormal heart rhythms and determining bladder pressure without the need to insert a catheter into the body.

Royal Victoria Infirmary

The engineering workshop in the RVI Medical Physics Unit has for several years offered a design, development and manufacturing service to the hospital that has resulted in the manufacture of a wide range of items and which recently have included:

- A pipette cleaner for the Department of Reproductive Medicine at the Centre for Life. This device automates the cleaning of the pipettes used during *in vitro* fertilisation, freeing up staff to undertake other tasks.

- Anal dilators for the Department of Paediatric Surgery.
- A collection trolley for the harvesting of umbilical cord blood for the Department of Haematology.
- An imaging chair for the Nuclear Medicine service that was specifically designed to accommodate children having kidney imaging. This has proved very popular with both patients and staff and the design has been adopted by a commercial manufacturer.

This year the facilities in the workshop were substantially enhanced by the installation of a computer controlled lathe, which replaced a lathe that had seen over 40 years of service! The modern facilities of this new lathe will enable Chief Technologist Robert Beckwith to machine work more accurately and in a shorter time than was previously possible. It will also automate the process of making more than one similar item.

Newcastle General Hospital

A team of medical physicists and technologists, led by Professor David Williams and Dr John Fenwick, has been instrumental in setting up a first class nuclear medicine brain imaging service for patients with psychiatric and neurological problems within Newcastle. This initiative, in collaboration with clinicians from the Trust and researchers within the Institute for Ageing and Health led by Professor John O'Brien, is focusing on studies of the brain in patients with dementia, those with Parkinson's disease and in neurosurgical patients. Novel agents in imaging the brain are being investigated and this work is putting Newcastle at the forefront of research into degenerative brain disease.

Professor Brian Diffey

Clinical Director
August 2003

The Department joined the Trust as its 21st Clinical Directorate in April 2002, whilst maintaining an identity as a regionally organised and managed service. Some 300 staff are based at fourteen hospitals across the North East and Cumbria and provide a wide range of clinical, scientific and technical services. Around 50% of the staff are based in the Newcastle Hospitals providing services directly to the Trust and just a few of the developments over the past year are highlighted.

Northern Centre for Cancer Treatment

A new linear accelerator was delivered in March 2003. The machine incorporates a number of sophisticated technical features that will permit state-of-the-art treatment of patients with cancer.

The radiotherapy physics team of clinical scientists and technologists were able to develop innovative techniques to commission the new machine

Royal Victoria Infirmary: Robert Beckwith working on the new lathe



Northern Centre for Cancer Treatment: delivery of new Linear Accelerator

