INFORMATION & NEWS

The Queen Square Radiosurgery Centre

Newsletter

Spring Edition

ICON - FACTS

Eligibility *- More patients eligible for treatment*

Side effects *- Reduce risk to critical functions*

Verification *- Improved checks on patient position*

Adaptive *- Adapt plans when changes are seen*

Comfort *- Frame and mask options*

Accuracy *- Infrared motion monitoring*

Patients *- Option to pre-prepare treatment*

UPGRADE OFFERS NEW HOPE FOR PATIENTS

A NEW generation of precision brain treatment has begun at Queen Square following a major upgrade.

The first patients have been treated using the new Gamma Knife Icon at Queen Square Radiosurgery Centre.

The new machine expands and improves the range of treatments on offer, allowing more patients with malignant and benign brain conditions to be treated with stereotactic radiotherapy. The new machine gives the option of treating in a thermoplastic mask rather than a metal frame.

This allows treatment to be split over three to five sessions and means some patients with large tumours who were previously unable to have treatment are now eligible. The Icon also allows real-time monitoring of patient movement using infrared cameras during mask-based treatment. It also has an integrated 'cone beam' CT scanner, which allows us to verify patients' position before treatment. These advances combine to allow changes to the workflow so some patients can have their treatment planned before they arrive in the department.

Mr Neil Kitchen, Consultant Neurosurgeon and Clinical Director of the Queen Square Gamma Knife Centre, said: "The Icon system expands our options to meet patient-specific needs.

"It provides the unrivalled precision and accuracy for which Gamma Knife has long been known and gives us the flexibility to deliver treatment in single or multiple sessions.

"This expands the range of indications that we can treat to include larger tumours and offers frameless treatment for some patients.

"As a national centre of excellence it is important that we continue to have the latest technology available to us."

Queen Square Radiosurgery Centre works in partnership with University College London Hospitals NHS Foundation Trust to run NHS England's Stereotactic Radiosurgery Supra Centre for the South of England.

Kevin Sullivan, Divisional Manager of UCLH Cancer Services, said: "We are pleased to work in partnership and welcome their investment in upgrading to a Gamma Knife Icon .

"It adds to the armamentarium available to our clinicians and offers opportunities for considerable benefits for patients.

Catherine (pictured), the first patient to be treated in a mask, said: "It was much less scary than I had expected. The whole thing has been so laid back."

Oncologist Dr Naomi Fersht on why the Icon upgrade is so important - see p2

NHS University College London Hospitals NHS Foundation Trust

RAISING AWARENESS

QSRC staff have launched a programme of visits to hospitals and charities to raise awareness of radiosurgery treatment. The presentations are designed to inform doctors and others about how Gamma Knife may benefit patients.

The QSRC team has visited North Middlesex Hospital University NHS Trust, King's College Hospital NHS Foundation Trust and Barking, Havering and Redbridge University Hospitals NHS Trust as well as the British Acoustic Neuroma Association. Further visits are planned in the future including presentations to professional groups.

Awareness of radiosurgery remains relatively low compared with other forms of radiotherapy and it is hoped the visits will leave colleagues better informed.

QSRC Gamma Knife centre is the NHS Supra Centre for the south of England, which means it is able to carry out the most complex radiosurgery treatments to the brain.

• If you would like the team to visit your trust or charity then please get in contact on 020 3448 4077

PATIENT CASE STUDY

- See page 3

DR NAOMI FERSHT - CONSULTANT CLINICAL ONCOLOGIST, UCLH

UCLH clinical oncologist Dr Naomi Fersht explains why the upgrade to the Gamma Knife Icon model will mean improved treatment options for patients:

Gamma Knife Icon represents a big step forward in the treatment of brain tumours. The new model builds on what was already a highly accurate system by improving and increasing the options we can offer to patients.

One of the key differences is that we will be able to treat to a broader range of tumours. It will be much easier to target large lesions or those close to critical parts of the brain, such as the optic nerves that are crucial to vision. It will also be easier to treat people with a large number of tumours. This is particularly good news for patients with brain metastases - cancer that has spread from other parts of the body.

The upgrade means we now have the option of delivering treatment to patients in a metal frame or a thermoplastic mask. This gives us the opportunity to give greater consideration to the individual's best clinical interest and comfort. Infrared cameras are used to monitor the patient's position during mask-based treatment and will detect movements of less than a millimetre. The use of masks also means we can deliver treatment over a number of days if necessary – known as 'fractionation'.

The new model includes CT imaging technology for the first time. The scanning attachment lets us take pictures of our patients to assist us in the planning process, adapt treatments and check for accuracy.

One of the most important changes is that all these technological advances combine to allow us to adapt our treatment to the patient's needs. The treatment pathway can be streamlined and adjusted so people spend less time in hospital and are able to return home sooner. It can also cut down on the number of scans needed, as diagnostic images can sometimes be used to plan treatments.

The Gamma Knife Icon promises to be a significant breakthrough in the treatment of brain tumours.

GK SOCIETY MEETING

QUEEN Square physicists and radiographers were among experts who discussed the use of multiple Gamme Knife treatments at a radiosurgery conference.

Therapeutic radiographers Alexander Polonsky and Sinead Murphy as well as physicists Ian Paddick and Alex Dimitriadis attended the meeting of the European Leskell Gamma Knife Society.

Mr Paddick, President of the International Stereotactic Radiosurgery Society, gave a talk on the relative merits of delivering treatment in a single or multiple treatments. He also spoke about ways to raise radiosurgery standards internationally through accreditation schemes.

The meeting was held in Toulouse, France, where a Gamma Knife Icon has recently been installed at the University Cancer Institute Toulouse.

The society was founded in 1998 as a forum for Gamma Knife clinicians, physicists and researchers to exchange information, experiences and clinical techniques.

CONTACT US

QSRC Gamma Knife Centre
Lower Ground Floor
Chandler Wing
The National Hospital for Neurology and Neurosurgery
Queen Square
London
WC1N 3BG
Telephone: +44 (0)20 3448 4077
Fax: +44 (0)20 3448 4078
Email: info@queensquaregammaknife.co.uk
Referrals:
uclh.gammaknifemdt.queensquare@nhs.net
www.queensquaregammaknife.co.uk
Executive Director: Lynne Brooks

CLINICAL TEAM

CONSULTANT NEUROSURGEONS
Mr Neil Kitchen
Miss Mary Murphy
Miss Joan Grieve
Mr Andrew McEvoy
Miss Huma Sethi
Mr Lewis Thorne
Mr Robert Bradford
Mr Jonathan Hyam

CONSULTANT PAEDIATRIC NEUROSURGEONS
Mr Greg James
Mr Martin Tisdall

CLINICAL FELLOW
Dr Cornel Tancu

CLINICAL ONCOLOGISTS
Dr Naomi Fersht
Dr Francesca Solda

CONSULTANT NEURORADIOLOGISTS
Dr Katherine Miszkiel
Dr Prem Rangi
Dr Peter Cowley
Dr Matt Adams

PHYSICISTS
Ian Paddick
Alex Dimitriadis
Phil Tapper

GENERAL MANAGER
Katie Jeanson

THERAPEUTIC RADIOGRAPHERS
Alexander Polonsky
Will Kinnaird
Sinead Murphy

NURSE
Rebeca Sanchez Szetei

ADMINISTRATIVE TEAM
Emily Brooks
Ameena Pierre-Davis

ABOUT US

The Queen Square Radiosurgery Centre provides a radiosurgery service for NHS and private patients treating brain tumours and other intracranial indications.

The Gamma Knife is not a knife at all, but a highly sophisticated, device that focuses high-energy gamma radiation on the affected area inside the brain.

Gamma Knife radiosurgery is an effective and non-invasive alternative to traditional surgery. We are one of two NHS England National Centres of Excellence who provide specialist care and support for patients including those with rare and complex conditions.

The centre enjoys a significant number of strengths from the well-established integration with other areas of expertise within the University College London Hospitals NHS Foundation Trust (UCLH) and Great Ormond Street Hospital.

It is located in the National Hospital for Neurology and Neurosurgery, the UK's largest dedicated neurological and neurosurgical hospital.

THE MAN IN THE PLASTIC MASK

PATIENT CASE STUDY

AN aversion to school might be considered entirely normal for most 10-year-old boys. But for Andrew Wallace it was the first sign that something was seriously wrong. Balance problems, severe headaches, difficulty writing and sickness had left him reluctant to attend his school in Yorkshire back in 1978.

It was only when he fell into a thorn bush and was unable to get out that he was taken to hospital and a doctor finally recognised he was suffering the effects of a brain tumour.

The surgery at Hull Royal Infirmary was accompanied by radiotherapy to his whole head to ensure the entire tumour was eradicated. After a long and difficult period of rehabilitation, in which he had to learn to walk and write again, Andrew was able to rebuild his life, getting a degree and postgraduate qualification. What he didn't know was that over the coming years, his body was reacting to the effects of that radiation treatment to his young brain. He started to struggle with movement which eventually got so bad he had to leave his job working as a personnel manager in the rail industry.

Almost 20 years after his initial treatment, he was diagnosed with a radiation-induced meningioma.
"It came as a complete surprise to be to be told I had the meningioma," he said. "I had no idea I was at risk and I was later told that these days they wouldn't give that same type of treatment to children for my condition.
"I had been to the doctor for back problems but it turned out to be related to the pressure in my brain." Andrew underwent surgery in 1997 and then again in 2003 to remove a number of meningiomas, although several small lesions were left as they posed no immediate problems. The operations again allowed him to rebuild his life and during this time he moved to London to start work as an officer of the House of Commons, where he still works today.

Andrew, 10, just weeks before being diagnosed

His care was eventually switched to the National Hospital for Neurology and Neurosurgery where Mr Neil Kitchen took over his follow-up care. So when the remaining tumours got to a size where they started to be a concern, Mr Kitchen suggested Gamma Knife treatment.
"I really didn't want to have any more surgery," said Andrew. "Obviously I'd rather not have been having anything done but in the circumstances it was the best outcome for me.
"I was told I would need to have more than one Gamma Knife treatment so it was a nice surprise to hear I could have a mask rather than a frame."

Andrew, 51, was one of the first patients to be treated in a mask at QSRC, following an upgrade of the Gamma Knife treatment machine to an Icon model in August 2018. The thermoplastic mask was heated in a specialist oven to allow it to be moulded to fit the exact contours of Andrew's face. He had three separate treatments targeting 14 tumours, during which he was monitored by an infrared camera to ensure he didn't move.
"It was a bit tight and restraining at first but I quickly got used to it. When I think about having the frame three times, it was by far the best option," he said.
"The only things you hear are some funny whooshing noises. And you feel the bed move so you are aware it is targeting different areas.
"It was a bit of a surprise to be able to walk out afterwards and not have to stay overnight. But after the first one I felt normal and I rushed off to catch a train."

Andrew, who enjoys keeping fit with walking and swimming, is now awaiting his follow-up appointment and will be monitored over the coming years to see how the meningioma reacts to treatment.

DRIVING BAN RESEARCH

QUEEN Square Gamma Knife is taking part in research looking at whether driving bans for patients with secondary brain tumours are too severe.

The study will examine current DVLA rules which bar patients with brain metastases from getting behind the wheel for up to two years after treatment.
Doctors will analyse patient data to see how likely they are to have seizures following Gamma Knife radiosurgery.
The current rules were based on older studies carried out when there were fewer treatment options for patients with brain metastases, most of whom had advanced disease.

The advent of Gamma Knife as one of the standard treatments for brain metastases means patients tend to be younger, fitter and live longer. The research is being led by Consultant Neurologist Dr Jeremy Rees, from the Brain Tumour Unit at the National Hospital for Neurology and Neurosurgery.
"The main aim of the study is to look at the issue of brain metastases and epilepsy," he said.
"We are looking to understand better the incidence of epilepsy and most importantly the risk of epilepsy developing after Gamma Knife.
"My suspicion is that if patients don't have seizures beforehand they are not going to have seizures after Gamma Knife and so they are at low risk with regard to driving and eligible to keep their licence."

Current DVLA rules mean anyone who has Gamma Knife for a single brain metastasis is banned from driving for one year, and anyone who has treatment for multiple metastases is banned for two years.

@NHS

QSRC therapeutic radiographer Will Kinnaird spent a week curating the @NHS national Twitter feed to raise awareness of Gamma Knife treatment. The social media platform, which has around 40,000 followers, invites a different health professional to take over each week.

Will covered a range of subjects relating to Gamma Knife, including the history, planning and delivering treatment and the conditions it treats.

He also spoke about life as a therapeutic radiographer and some history about the National Hospital for Neurology and Neurosurgery, where QSRC is based.

The week of tweets received just under one million 'impressions', bringing information about the service to wide range of health professionals and patients.
"I was overwhelmed by the positive response from social media users," he said. "People seemed to be blown away by the high level of precision we offer with our treatment.
"It was really good to engage with such a huge audience and I was pleased to be contacted by a lot of people working in radiotherapy and oncology."

Will took over the @NHS account after a former patient suggested it would be a great way of raising awareness of the treatments on offer.