The Neuro Network Programme

The Neuro Network is a programme led by The Walton Centre NHS Foundation Trust to enhance services for neurology patients. Programme Director Julie Riley explains how the neurology model benefits patients, clinicians and the wider health system.

Introduction
The Walton Centre has been working within and strengthening its hub and spoke neurology model for over ten years. This model sees The Walton Centre as the hub, supporting spokes or satellite sites in acute hospitals. Neurologists from The Walton Centre are present in the satellites for typically four days a week (normally two days per Consultant), holding outpatient clinics and undertaking ward consultations; the aspiration would be to continue to increase this over time. All have sub-specialisms and for the rest of the week are based at The Walton Centre.

The hub and spoke model is not a new concept and has been challenged for taking away from the acute hospitals the responsibility to ensure a fully functioning local neurology service. However, with a shortage of Neurologists, and the desire and clinical case for subspecialisation, it is increasingly difficult for local hospitals to provide a full neurology service. The hub and spoke model provides equitable local access with direct links into subspeciality care, enables common clinical governance, and has been successful for recruitment. With funding from NHS England, under the New Care Models Programme, The Walton Centre has a chance to prove how a networked model can enable clinically robust and sustainable neurology services to be provided throughout the country. What NHS England have asked for in return is a model that is replicable in other geographical areas – and potentially adaptable for other specialties – and that offers good outcomes for patients wherever they live, whilst being cost effective.

A whole system approach to neurology services – problem solving
There are around 10 million patients in the UK with long term neurology conditions and only around 600 Neurologists* (Source: Local adult neurology services for the next decade; Royal College of Physicians/Association of British Neurologists; June 2011). The Walton Centre has 36 Consultant Neurologists who serve a population of 3 million, in North West England and North Wales. Greater awareness, better tests, combined with an ageing population means creating a sustainable service for the next generation is a challenge.

The Neuro Network model
The Walton Centre’s hub and spoke model, currently in place across all 12 acute hospitals within the area it serves in Cheshire and Merseyside, is being strengthened ensuring the patient remains at the centre of care. The idea is to build services around the patient, encourage self-management and provide care closer to home but, further to this, support the wider health system. Hospitals, community services, commissioners, patients, carers, third sector groups have all being working hard, but mostly in isolation. The solutions have to be found together, through co-production and working in partnership.

The Neuro Network has enlisted the support of all these stakeholder groups from the first day of the programme. There has been a step change away from a paternalistic ‘we know best’ approach to one of listening to patients, carers and colleagues in primary and secondary care, and of being honest enough to discover what works and what doesn’t, being willing to stop, review and pivot, if need be.

The Neuro Network is building on The Walton Centre’s existing hub and spoke model to achieve an integrated service for neurology patients, linking all those involved in their care:
- Providing a formal advice line for patients to connect them to their specialist nurse quickly and reliably;
- Offering extra support to GPs through clinical pathways (starting with headache), educational support via protected teaching sessions, and a Consultant advice line;
- Supporting acute hospitals on a seven day basis through clinical pathways (starting with post seizure in A&E), telediagnosis and the Consultant advice line.

All of these developments have now been introduced and will be fully implemented by September 2017. Telemedicine is currently being piloted with the Countess of Chester Hospital, enabling Consultant Neurologists to examine patients with doctors in the acute hospital facility. This means the patient can be seen quicker, discharged or referred to the Centre, if appropriate – rather than waiting for the next ward consultation to take place.

The key development bringing services together is the team of locally based Integrated Neurology Nurse Specialists, experienced neurology nurses who have received academically accredited training across a range of neurological conditions to Master’s level under The Walton Centre’s Neurologists. They support patients and connect clinical staff in primary care, acute hospitals and the neurology centre – facilitated by IT - helping patients to self-manage and facilitating continuity of care. They have already been shown to prevent avoidable primary care, A&E and outpatient attendances.

Conclusion
The Neuro Network is not a completely new idea. It is about strengthening partnership working and shared decision making. It acknowledges that one model does not fit all but elements of it can be replicated to make services more sustainable. The success of the model is down to the flexibility of the workforce not working in isolation but in partnership. While The Walton Centre will continue to provide clinical neurology and be responsible for its governance, each partner in the Neuro Network has a responsibility for neurological care and has to take ownership. By working in a new way, with an agenda of collaboration, we are supporting each other to sustain a neurology service and not only maintain it but strengthen and grow it, so that patients are seen quicker, and get the best possible treatment and outcomes. This way not only gives the patient a better experience but also has the by-product of efficiency by seeing the patient in the most appropriate setting and according to their level of need. This networked approach has already been proven to work in major trauma and specialised rehabilitation services at The Walton Centre. As we enter the evaluation phase of the Neuro Network, it is exciting to think about the tangible change this programme of work can deliver.

To contact the Neuro Network.
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**Paper of the Month: May**


The use of non-vitamin-K-antagonist oral anticoagulants (NOACs) to prevent stroke in patients with atrial fibrillation is increasing worldwide. Compared to warfarin, NOACs seem to have less hemorrhagic complications, including intracranial hemorrhage. However, specific rapid reversal agents for NOACS are still lacking. Between the four NOACs available, dabigatran has shown to be superior to warfarin for stroke prevention, and it has the advantage to be quickly antagonized by idarucizumab in case of uncontrolled bleeding or other emergencies. Idarucizumab is a humanized Fab fragment of a monoclonal antibody able to bind dabigatran with high affinity. However, available data on the use of this antagonist in patients with acute stroke who need thrombolysis are still anecdotal.

In this retrospective German multicenter study, the authors report on the national need thrombolysis in patients with acute stroke who had subdural hematoma, and 1 subarachnoid bleeding. All had atrial fibrillation. TT was elevated at admission in 9 patients. After idarucizumab administration, no hematoma growth was observed in 10 patients. The median NIHSS improved of 5.5 points. One patient presenting with massive bleeding at admission died.

Although the study has obvious limitations such as the retrospective nature and the small number of patients, its findings are relevant to clinical practice, especially in emergency settings when intravenous thrombectomy is indicated. Idarucizumab has shown to be safe and efficacious in reversing dabigatran anticoagulant effects”, says Prof Thierry Moulin, Division of Neurology, Besancon, France.

“Idarucizumab seems to be effective also in limiting the expansion of intracranial bleedings in patients taking dabigatran. This effect might have an important role in reducing mortality and improve the outcome. Therefore, idarucizumab should be used in all patients with hemorrhagic stroke or intracranial hemorrhages”, says Prof. Hans-Christoph Diener, Department of Neurology, Essen, Germany.

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**Faculty of Neuropsychiatry Conference**

**Thursday 14 & Friday 15 September 2017**

**RCPsych, London**

A host of distinguished international academics and clinicians will be flying from various parts of the world to discuss important clinical and research themes through various session formats. Topics will include diagnostic and management issues of various Neuropsychiatric conditions.

The Neuroscience of ‘image, imagery and imagination’ will be explored by experts in this field. Clinical and medicolegal aspects of mild traumatic brain injury and challenges in the field of Epilepsy and Sleep disorders will also be discussed.

How far should memory services investigate patients will be debated by clinicians on various’ positions on the spectrum?

The event will consider how the humanities can inform contemporary understanding of epilepsy and the mind and how Neuropsychiatry is practised across various cultures today; along with exploring the potential for international collaborative working.

The conference will also give colleagues the opportunity to bring over challenging cases to discuss with experts!

**Full programme available on**

[www.rcpsych.ac.uk](http://www.rcpsych.ac.uk)

For booking and sponsorship queries please contact Virali Shah on 020 3701 2622 or virali.shah@rcpsych.ac.uk

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**Advanced Stroke Imaging**

**One Day course**

**8th November 2017**

This short course offered by the world leading UCL Institute of Neurology in Queen Square gives an overview of the neuroimaging of stroke and mechanical thrombectomy. This course will outline methods of quantifying the impact of the stroke using advanced imaging techniques – from penumbral and core infarct size through to methods of imaging recovery from stroke. It will also cover the more familiar aspects of imaging stroke such as using CT and MRI based modalities to evaluate infarcts and haemorrhages. There is an introduction to the benefits and applications of mechanical thrombectomy.

**Learning Outcomes:**

- To understand advanced imaging techniques used to quantify stroke recovery
- Describe cerebral neurovascular anatomy
- Understand how the ischaemic penumbra can be imaged

**Examples of lecture topics:**

- Cerebral Anatomy
- Imaging Stroke Recovery
- Ischaemic Stroke
- Haemorrhagic Stroke
- Introduction to Imaging for Stroke

For more information see http://onlinestore.ucl.ac.uk/conferences-and-events/faculty-of-brain-sciences/007-ucl-institute-of-neurology/007-007-stroke-one-day-course-advanced-stroke-neuroimaging-08112017

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