



AHSN: Oxford

Reducing risk of venous thromboembolism and improving survival rates following stroke

Start and end dates of work covered by case study: April 2014-ongoing

Overview summary

Use of intermittent pneumatic compression (IPC) sleeves for patients immobilised following stroke is running at double the national average following work by the Oxford AHSN to spread best practice. From April 2014-December 2015 977 patients received IPC sleeves, potentially preventing 50 instances of deep vein thrombosis and 30 premature deaths.

Challenge identified and actions taken

Patients admitted to hospital with recent stroke (both ischemic and haemorrhagic) are at high risk of developing venous thromboembolism (VTE), which is a collective term for deep vein thrombosis (DVT) and pulmonary embolism (PE). VTE is a common and potentially avoidable cause of hospital mortality following stroke. Stroke patients have a higher risk of developing VTE due to alternation in the blood flow of weakened limbs and an abnormal tendency for the blood to clot more after stroke. These risk factors are exacerbated by prolonged immobility. The CLOTS3 trial (<http://www.dcn.ed.ac.uk/clots/>) found use of intermittent pneumatic compression (IPC) sleeves to be effective at preventing VTE and increasing the chance of survival in immobile patients if IPC is applied within three days. The trial showed IPC led to a 14% reduction in preventable deaths and 30% relative reduction in risk of DVT.

The Oxford AHSN worked with the Thames Valley Strategic Clinical Network, NHS Improving Quality and partner NHS trusts to embed IPC technology use across the seven stroke units within the region. Clinical Champions were identified and supported and protocols were shared, standardised and aligned, ensuring that best practice was taken into account. The uptake and utilisation of IPC sleeves was monitored, reviewed and evaluated.

Impacts / outcomes

- Intermittent pneumatic compression (IPC) sleeves have been adopted widely across the Oxford AHSN region at a rate double the national average.
- Within the Oxford AHSN region the proportion of patients admitted to stroke units who receive IPC sleeves rose from below 10% (20% in the immobile patient cohort) to 30% (60% in the immobile patient cohort) compared to the latest reported national rate of 16% (estimated to be 32% in the immobile patient cohort).
- 977 patients received IPC sleeves between April 2014 and December 2015. Applying these numbers to the CLOTS3 trial outcomes indicates that 50 instances of DVT and 30 premature deaths could potentially have been prevented in the six months following a stroke.

<p>Supporting quote for stakeholder / programme lead*</p> <p>“The IPC programme support from the Oxford AHSN resulted in a much earlier uptake than would otherwise have been the case.” Stroke unit lead clinician</p> <p>“Prevention of venous thromboembolism (VTE), a major cause of mortality following stroke, was a challenge as treatment with TED stockings and heparin were ineffective in stroke patients. The demonstration of the benefits of Intermittent Pneumatic Compression (IPC) stockings in preventing VTE was a key advance in stroke management.” Prof Gary Ford, Chief Executive, Oxford AHSN and stroke physician</p>
<p>Equality and diversity aspects of the project / working in partnership with patients and public*</p>
<p>Which national clinical or policy priorities does this example address?*</p> <p>Promoting health equality and best practice Speeding up adoption of innovation into practice to improve clinical outcomes Building a culture of partnership and collaboration</p> <p>Reducing premature mortality Enhancing quality of life for people with long term conditions Positive experience of treatment and care</p>
<p>Plans for the future*</p> <p>Ongoing discussions with stroke leads around how best to achieve further improvements with a particular focus on introducing a nurse-led prescribing protocol and an e-learning package.</p>
<p>Tips for adoption*</p>
<p>Contact for further information</p> <p>Tracey Marriott, Director of Clinical Innovation Adoption Tel. 01865 784988 Tracey.marriott@oxfordahsn.org</p> <p>Martin Leaver, Head of Communications, Oxford AHSN Tel. 07966 174 183 Martin.leaver@oxfordahsn.org</p>

**Optional sections to include if relevant for this case study.*