

Intermittent pneumatic compression stockings reduce deep vein thrombosis and mortality after stroke

Start and end dates of work covered by case study

April 2014-September 2015

Headline quote

'The results of the Clots in Legs Or sTockings after Stroke (CLOTS) 3 Trials undertaken by researchers at the University of Edinburgh clearly showed that Intermittent Pneumatic Compression (IPC) sleeves can reduce the number of stroke patients who develop Deep Vein Thrombosis and improve survival rates' – Professor Tony Rudd, NHS England National Clinical Director for Stroke. (NHSIQ, 2014)

Lead AHSN and joint partners

Oxford AHSN, Thames Valley Strategic Clinical Network (TVSCN), NHS Improving Quality (NHSIQ), Oxford University Hospitals NHS Trust, Buckinghamshire Healthcare NHS Foundation Trust, Frimley Health NHS Foundation Trust, Milton Keynes NHS Hospital, Bedford Hospital NHS Trust and Royal Berkshire Hospital NHS Foundation Trust.

Key points at a glance

Deep vein thrombosis (DVT) is a common cause of death in immobile hospital patients, but is potentially avoidable. Stroke patients have a high risk of developing DVT. The CLOTS 3 Trial showed that the use of IPC sleeves led to around a 30% relative reduction in DVT and an improvement in overall survival by six months.

Background Summary

A large trial at the University of Edinburgh showed that IPCs worn by immobile stroke patients reduced the incidence of deep vein thrombosis and mortality. As part of a major national programme to improve outcomes and reduce mortality in stroke patients, NHS Improving Quality (NHS IQ) secured £1m 'pump priming' money to fund six month's supply of intermittent pneumatic compression (IPC) sleeves for all stroke units in England in April 2014. The Oxford AHSN Clinical Innovation Adoption (CIA) programme working in collaboration with TVSCN and NHSIQ supported the rollout, implementation and adoption of IPC Sleeves across six acute Trusts within its region.

Challenge identified and actions taken

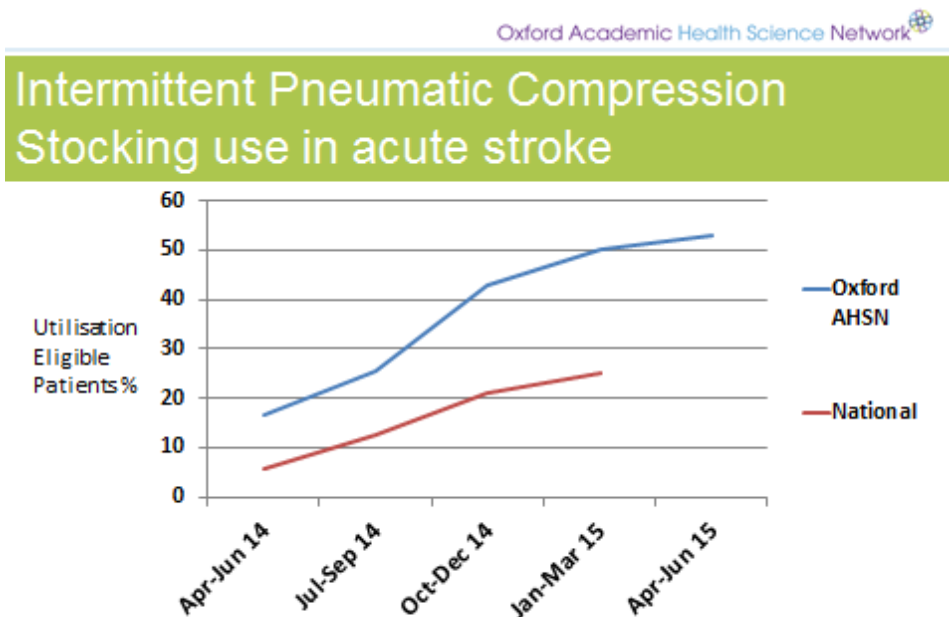
The purpose of this project from the perspective of the Oxford AHSN and the TVSCN was not to prove or disprove the research and clinical outcomes of the CLOTS3 Trial. The evidence from the CLOTS 3 Trial demonstrated that IPC sleeves are effective in preventing DVT and consequently reducing mortality in patients who are initially immobile after being hospitalised with acute stroke. The objective of the project was to implement and embed the IPC technology across all those Stroke Units partaking in the project within the AHSN region (whilst ensuring all immobile patients as per criteria are given the IPC sleeves) so as to achieve the trials stated outcomes of a 14% overall improvement to overall survival in 6 months. The following actions were taken:

- Ensured that protocols for the use of IPC Sleeves across Stroke Units within the AHSN and TVSCN region were shared, standardised and aligned where clinically and operationally appropriate
- Monitored and reviewed the uptake and utilisation of IPC Sleeves across Stroke Units (through monthly extracts of local Sentinel Stroke National Audit Programme (SSNAP) data obtained from local SSNAP coordinators), to include ensuring patients are given sleeves within 72 hours of being admitted to hospital
- Disseminated the AHSN and TVSCN IPC Dashboard at the monthly TVSCN Cardiovascular Network meetings to aid discussion and feedback to Stroke Units on how utilisation and uptake of IPC Sleeves can be improved
- Evaluated the project in order to capture the experiences of the Stroke Unit participants and highlight the processes, outcomes and any lessons learnt from the programme. In addition, work with the Stroke Unit Clinical Leads to reduce further the variation in utilisation of IPC Sleeves across the region

Outcomes

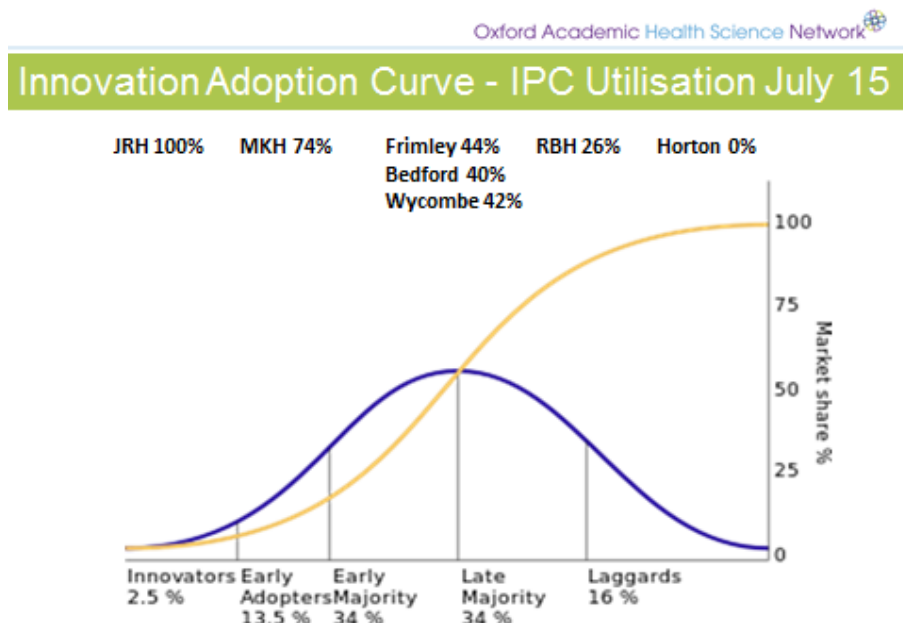
The project has delivered successfully against its intended goal which was the adoption of the use of IPC sleeves in eligible stroke patients in all six hospital Trusts in the Oxford AHSN region. In addition, this has released improvements in the quality of patient care and a reduction in incidence of DVT as per the CLOTS 3 Trial evidence. In addition, all Stroke Units within the region have a protocol in place for the prescription and management of IPC Sleeves.

Since April 2014 to date 53% of patients admitted to Stroke Units within the AHSN and TVSCN Region received IPC Sleeves which is outperforming the national rate of 25% (Graph One below shows the comparison).



Plans for the future

Oxford AHSN CIA programme team is in the process of meeting with the Clinical Lead for Stroke Service from each Trust to understand what can be done to further reduce the variation in utilisation of IPC Sleeves across the region and improve uptake. Graph Two below shows the variation in utilisation between Stroke Units in the context of the Rogers Innovation Adoption Curve.



In addition, the AHSN recommends the introduction of a nurse led prescribing protocol for IPCs across the region which will take away the reliance on stroke consultants to prescribe the sleeves, provide a way of patients admitted at

weekends (or any other time) to be prescribed sleeves in the absence of a consultant. It is hoped that this would help increase the prescribing and speed of application of sleeves within Stroke Units.

Contact for further information

Dominic Balchin, Clinical Innovation Adoption Manager, Oxford Academic Health Science Network, Magdalen Centre North, Robert Robinson Avenue, Oxford Science Park, OX4 4GA

Dominic.Balchin@oxfordahsn.org

AHSN Core Objectives

A – Promote health equality and best practice

B – Speed up adoption of innovation into practice to improve clinical outcomes

C – Build a culture of partnership and collaboration

Clinical priority or enabling theme/s

2 – Enhancing quality of life for people with long term conditions

3 – Helping people recover from episodes of ill-health or following injury

4 – Positive experience of treatment and care