Introduction of the geko™ device at North Bristol Trust UK

Authors: Kizzy Hitchcock,[1] Lucy Austin[1] - Presented at the UK Stroke Forum, Liverpool 2022

Introduction

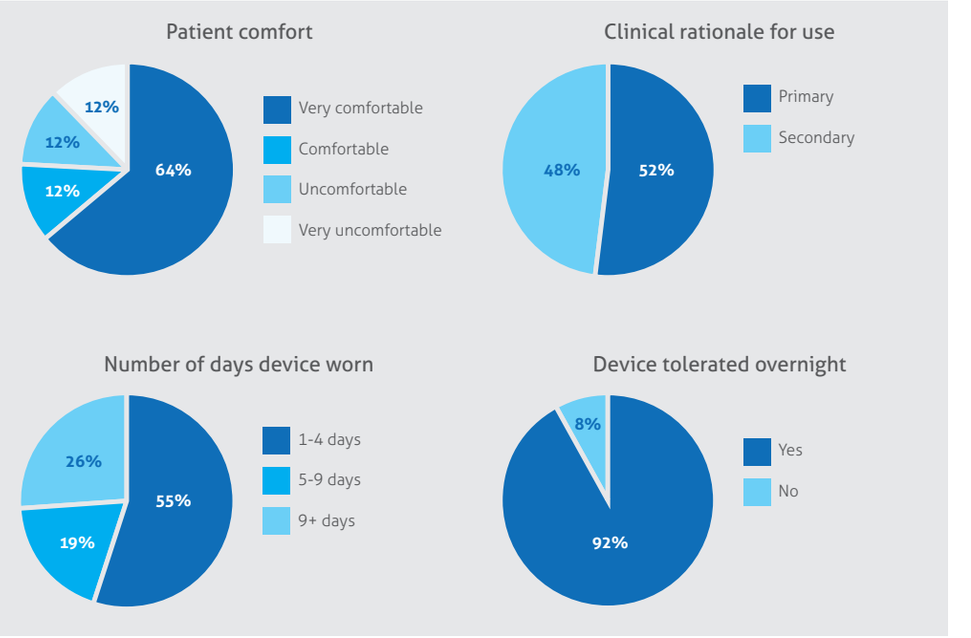
Stroke patients risk of developing Venous Thromboembolism (VTE) is significantly increased due to factors such as reduced mobility, therefore intermittent compression devices (IPC's) are prescribed to reduce this risk. Unfortunately, the number of patients that were admitted with a new stroke and were unsuitable for VTE prevention in the form of IPC's is common due to the demographic of patients who are at greater risk of stroke, for instance patients with congestive heart failure and lower limb oedema or those who are unable to tolerate IPC. A recent study at the Royal Stoke Hospital[2] quantified that 33% of stroke patients were unable to be prescribed or tolerate IPC during their acute stay. The CLOTS 3 study[3] reported that without IPC the VTE risk in immobile stroke patients could be as high as 8.7%. NICE guidance (MTG19)[4] recommends the use of the geko™ device when patients cannot be prescribed IPC to reduce the risk of VTE and we conducted an audit to review the introduction of the device to this cohort of immobile acute stroke patients.

Method

- We reviewed acute stroke patients admitted to the North Bristol Trust.
- In total 20 patients who were contraindicated or not tolerated were prescribed the geko™ device.
- Patients were closely observed via care plans over a 24 hour period.
- Feedback forms from a variety of ward staff reviewed the application of the device.
- Feedback forms from patients gathered information on how well they tolerated the device.

Issues and Considerations

- Some wards were closed due to Covid-19 outbreaks.
- Staffing issues made it difficult to provide device training sessions.
- Staff participation in collecting the data sheets was mixed.
- Patients were removing the geko™ device without informing staff.
- Initial feedback from staff was negative but with further training, education and support from Stroke ANP's the feedback was improved, and staff felt this was a positive change to the care pathway.



Summary of Findings

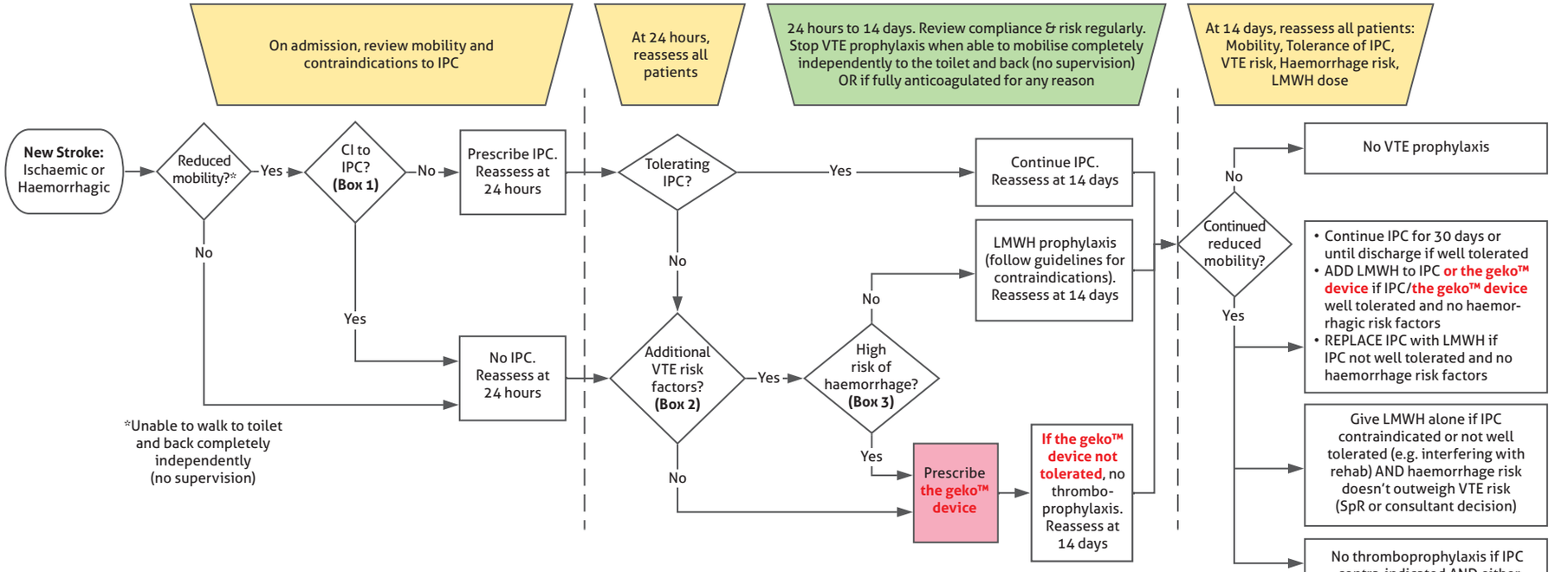
- Patients found geko™ more comfortable than IPC.
- Patients preferred geko™ overnight (92% concordance level reported) as IPC's impacted on quality of sleep.
- Reduced risk of patient falls with the geko™ device.
- Can be expensive as £22 a pair and must be changed every 24 hours although the NICE economic review states the device is cost saving vs. the cost consequence of no VTE prophylaxis.
- Care plans proved to be an effective means of correct device fitting.
- Staff gave positive feedback and felt the devices were easy to apply.
- Patients can wear the devices more easily than IPC's when sitting.

geko™ circulation support

NHS North Bristol NHS Trust

MDPO0675

Stroke VTE prevention protocol – including the geko™ device

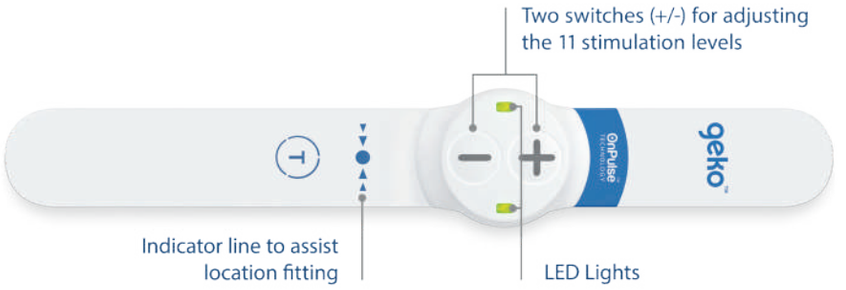


North Bristol Trust
VTE prophylaxis flow chart
including the geko™ device
v1.2, 12-07-21

Box 1: CI to IPC
Leg ulceration
Severe oedema
PVD with ischaemia
Dermatitis

Box 2: Non-stroke VTE risk factors
Leg ulceration
Past Hx DVT or PE
Active systemic inflammation
Obesity
Thrombophilia
Recent surgery

Box 3: Haemorrhage risk factors
Large Infarct: NIHSS >= 15 OR >1/2 MCA territory or complete PCA or ACA territory, or >1.5cm brainstem or cerebellum
Primary intracerebral haemorrhage
Current active haemorrhagic transformation
Thrombolysis
eGFR <60
Capilliary glucose >20 mmol/l
Uncontrolled hypertension (SBP >180 mm/Hg)



References

1. Stroke Advance Nurse Practitioner at Southmead Hospital Bristol, United Kingdom
2. VTE Prevention - Royal Stoke Stroke Poster (1383 patients)
3. Natarajan et al, The use of the geko™ device (a neuromuscular electrostimulation device) and the resulting activation of the foot and calf muscle pumps for the prevention of venous thromboembolism in patients with acute stroke
4. https://www.nice.org.uk/guidance/mtg19