Scottish Stroke Improvement Plan

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Examples where Stroke Nurses are key to improvement

• Implementation of Intermittent Pneumatic Compression to reduce risk of post stroke DVT/PE and to improve survival
• Supporting delivery of hyperacute stroke treatments

• Improving stroke unit nurses’ knowledge and skills is central to this effort
• Monitoring uptake of training via the Training Template is vital.
Venous thromboembolism after stroke

DVT  20%  5% symptomatic  PE  10%
Intermittent Pneumatic Compression
CLOTS 3

Immobile Stroke patient
Day 0-3 of admission

Routine care
IPC

Routine care
No IPC

Duplex of both legs at 7-10 days

Duplex of both legs at 25-30 days

6 months follow up
Probability of Death within 6 months

Hazard Ratio = 0.86 (95% CI 0.73 - 0.99) p=0.042

Cumulative Hazard

IPC

No IPC

Hazard Ratio = 0.86 (95% CI 0.73 - 0.99) p=0.042
Conclusion from CLOTS 3

• IPC is feasible and safe
• IPC is an effective form of VTE prophylaxis  NNT = 28 for proximal DVT
• It improves overall survival NNT~ 43 for death in 30 days
• Effective in ischaemic & haemorrhagic stroke
• Recommended by SIGN and NICE
Use of IPC by Health Board
Optimising use on your stroke unit

- Identify local champion(s)
- Include in their appraisal
- List of all nursing staff – ensure all have undergone training
  - Module at www.stroketraining.org
  - Practical experience on ward
- Some limited training for medics, physios etc to be aware and to ensure switched on
- A further workshop on 27th October 2015
Intermittent Pneumatic Compression
Six steps to prevent DVT and improve chances of survival after stroke

1. Is patient able to walk without help to the toilet?
2. Is the patient on an end of life pathway?
3. Has the patient got skin breaks on both legs?
4. Has the patient got severe oedema?
5. Has the patient got severe peripheral vascular disease

If any answers Yes
Do not offer IPC
(tick reason)

If all answers No
Offer IPC

If patient has capacity discuss
• Pros – reduced DVT and improved chances of survival
• Cons – possible discomfort, noise and mild skin problems

If agrees to IPC

1. Measure thigh at widest point
2. Select appropriate size of thigh-length sleeve
3. Apply sleeve – checking fit
4. Attach to controller
5. Turn on controller
6. Check working properly – no alarms after 30 mins
7. Record “Thigh length IPC” use on medication chart – 3x daily

Tick reason for permanently removing sleeves – date of removal? / /

- Patient becomes mobile
- Patient entered onto end of life pathway
- Has worn for a month
- Patient refuses to wear IPC despite encouragement
- Skin problems or falls caused by IPC sleeves
- Other. Specify …………………………………….
Optimising use on your stroke unit

• Introduce pathway on ward
  – In patients admission pack
  – Laminated version on wall
• Link with local SSCA auditor
• Obtain monthly reports of use
• Exception reporting to establish why not offered
If agrees to IPC

- Select appropriate size of thigh-length sleeve
- Apply sleeve – checking fit
- Attach to controller
- Turn on controller
- Check working properly – no alarms after 30 mins
- Record “Thigh length IPC” use on medication chart – 3x daily
The next big thing!!
In ischaemic stroke an artery blocks
The brain damage increases over hours
Open the blocked artery
reduce the brain damage
Methods to unblock arteries

• Thrombolytic drugs (CLOT busters)
  – Proven to be effective in large trials
  – Improves outcomes if given within 4.5 hrs

• CLOT retrieval (thrombectomy)
  – Needs an interventional neuroradiologist, angiogram suite and team
Time is brain – earlier reperfusion, less brain damage, better outcome

Odds ratio of good outcome adjusted for age & stroke severity

Better with rt-PA

Worse with rt-PA

Interaction: $\chi^2=5.80$ (p=0.016)

Stroke Thrombolysis Trialists Collaboration  Lancet August 2014
No reperfusion treatment
Alteplase within 3 hours

No treatment: 3-6 months untreated outcomes

Alteplase < 3 hrs

- Disabled
- Independent
- Dead
Alteplase within 3 hours of ischaemic stroke

Net benefit
CLOT retrieval

• Can unblock large arteries
  – In patients who have had alteplase
  – In patients who cannot have alteplase
Clot retrieval

Need
• Catheter lab with appropriate staffing
• Appropriate kit
• Very short “door to groin” times!
MR CLEAN (n=500)
CLOT retrieval within 6 hours of ischaemic stroke

Treat 100 patients
25 will avoid disability
Stroke nurses contribution?

STAT trained outreach nurses can:
• Confirm eligibility rapidly
• Facilitate immediate scanning
• Minimise door to needle times for thrombolysis
• Care for the patient through the process
• Provide post procedure care of arterial puncture
• Monitor the patients post procedure