

Frequently asked Questions (FAQ)

regarding use of Intermittent Pneumatic Compression (IPC) in stroke patients

1. Why is the Kendall SCD Express system recommended?

The Kendall SCD Express system was used in the CLOTS 3 trial. No other system has been tested in a large randomised trial in stroke patients. IPC systems vary in the sort of compression they provide and it is unknown whether alternative IPC systems would have similar benefits for patients.

2. Can we use Huntleigh's flowtron system instead of Kendall SCD Express?

The Huntleigh system has not been tested in any large randomised trials, so we do not know whether it is as effective as the Kendall SCD Express system. However, if you don't have access to the Kendall system it would probably be reasonable to use the Huntleigh system.

3. Which patients should receive DVT prophylaxis with IPC?

Patients who have had either an ischaemic or haemorrhagic stroke and who are immobile (i.e. not able to get to the toilet without the help of another person). There is no evidence that patients who can walk independently benefit from IPC.

4. Are there any contraindications to IPC use after stroke?

Yes, IPC is not recommended in patients with severe leg oedema due to heart failure, severe peripheral vascular disease or open wounds on the legs in the area where the sleeves would be applied. Caution should be applied in patients who are confused and attempting to mobilise (see Q 20)

5. Can patients who have been thrombolysed receive IPC?

Yes

6. Should we apply IPC even if the patient is for palliative care only?

No, this would not be logical. One important benefit of IPC is that it increases the patient's chances of surviving. If this is not the purpose of treatment then IPC is not indicated.

7. How soon after admission should the IPC be started?

DVTs may develop within the first day or two of admission. It is therefore logical to start the IPC as soon as is practical after admission?

8. If the patient is receiving prophylaxis with heparin or LMWH should they have IPC?

Yes, IPC is likely to further reduce the risk of DVT as well as improving the patient's chances of survival.

9. What length of sleeves should we use?

Thigh-length sleeves. These were the only ones tested in the CLOTS 3 trial. We do not know whether knee-length or foot compression would be as effective.

10. What size should I use?

To determine the correct size of sleeve you must measure the patient's thigh circumference at its widest point. Then look at the sizing chart on the packet of sleeves. If the patient is fitted with the wrong size of sleeves the IPC is likely to be ineffective.

11. How tight should the sleeves be?

If the sleeves are correctly applied you should be able to just fit two fingers between the patient's skin and the sleeves at the knee. If you can fit three fingers in, the sleeves are too loose and may not work properly.

12. Could we use knee-length sleeves or foot compression instead?

If the thigh-length sleeves are available they should always be used. The shorter sleeves have not been tested in any large randomised trials. However if only knee-length sleeves are available they should be used until the thigh-length sleeves become available.

13. Can the IPC sleeves be applied over pyjamas or trousers

Yes, IPC sleeves can be applied over pyjamas, thin trousers or on a bare leg. They probably won't be effective if applied over thick trousers such as denim jeans.

14. If the patient has a skin condition on one leg, can one use the IPC on the other?

Yes, if only one sleeve is applied and attached to the controller, the controller will detect this and apply compression to one leg only.

15. Should patients wear graduated compression stockings (e.g. TED stockings) under the IPC sleeves?

No, graduated compression stockings are not effective in stroke patients and increase the risk of skin problems.

16. What can we do if the patient wants the IPC removed because the sleeves are uncomfortable?

First establish why the patient wants them removed? For instance if they are too hot, applying them to a bare leg, or using a bedside fan may make the patient more comfortable. Second remind the patient that the IPC will reduce their risk of DVT and improve their chances of survival. Third establish whether the patient is willing to wear the sleeves for part of the day or night, or just on one leg.

17. If the patient is only willing to wear the sleeve on one leg which one should be used?

Most post stroke DVTs affect the weak leg. Therefore it is best to apply the sleeve to the weak leg in this circumstance.

18. If the patient is unwilling to keep the IPC on during the night what can we do?

If the patient is unwilling to wear them day and night, even after reminding them of the likely benefits of the IPC, negotiate using the IPC just during the day.

19. If the patient develops a DVT, what should we do with the IPC?

We don't know the answer to this question. It is reasonable to keep the IPC on, as long as the patient does not find it uncomfortable. There is little evidence that this increases the risk of PE and there is some evidence that IPC might actually speed up the resolution of DVT.

20. If the patient is confused and trying to mobilise without supervision what should we do?

Such a patient may well be at risk of falls and injury. If the patient cannot be supervised closely enough to guarantee that they won't get out of bed unsupervised then the IPC should be removed. Obviously, the cause of the confusion should be sought and treated if possible.

21. If the sleeves are removed, or IPC is switched off, can we simply restart the IPC?

Yes. People worry that if the IPC is temporarily stopped the patient may develop a DVT and then applying IPC to a patient with a DVT might cause a pulmonary embolus. There is little evidence that this is actually a risk. Indeed, there is some evidence that IPC might actually speed up the resolution of DVT (see Q 19.).

22. What does a flashing red light mean on the Kendall SCD Express controller?

This usually indicates that either the sleeve is too loose, the tubing within the sleeves has become detached or the tubing between the sleeve and the controller is kinked.

23. Can the patient wear IPC whilst sitting out in a chair.

Yes. The Kendall SCD Express system detects this and makes an adjustment to the compression the system provides – the venous refill detection system was invented to offer effective compression to patients in all positions.

24. Can the patient have physiotherapy whilst wearing IPC sleeves?

Yes. The controller is fitted with a battery to allow the patient to receive IPC even when away from their bed. However, the physiotherapist may wish to turn off the compression, or remove the sleeves during therapy. This is fine but remember to re-apply the sleeves afterwards and restart the controller.

25. How long should the patient continue with IPC?

The CLOTS 3 trial tested the IPC for up to 30 days. However, the IPC may be removed before this time if

- *The patient becomes independently mobile;*
- *The patient finds the IPC too uncomfortably;*
- *There are concerns about the condition of patient's skin on their legs under the sleeves?*
- *The aims of treatment become palliative;*

- *The patient is discharged home or to a destination where IPC cannot be supervised.*

26. Would you ever use IPC beyond 30 days?

IPC has not been tested in stroke patients beyond 30 days. However, if a patient is still immobile and becomes ill with infection or dehydration then their risk of DVT may be increased enough to justify the re-application of IPC for a period until they are better.

27. Would you send a patient home with the IPC device?

No. The use of IPC in the home situation has not been tested.

28. Can we wash the sleeves ?

No, if the sleeves become soiled they should be replaced.

29. Can we re-use the sleeves for another patient?

No, this will increase the risk of cross infection. The sleeves are designed for single patient use. They should be disposed of after use.

30. Can we clean the tubing and use it for another patient?

Yes, the tubing can be re-used for another patient. Both the controller and the tubing should be cleaned between patients. Use a gentle detergent.