



York and Scarborough
Teaching Hospitals
NHS Foundation Trust

Button-hole Cannulation for Haemodialysis

Information for patients, relatives and carers

① For more information, please contact:

Renal Unit

The York Hospital
Wigginton Road, York, YO31 8HE
Tel: 01904 725370

Harrogate Renal Satellite Unit
Lancaster Park Road, Harrogate HG2 7SX
Tel: 01423 554513

Easingwold Satellite Unit
Acorn Court, Church Avenue, Easingwold YO61 3HD
Tel: 01904 724800

Scarborough Hospital
Woodlands Drive, Scarborough, YO12 6QL

Contents	Page
What is button-hole cannulation?	3
What are the advantages of button-hole cannulation? ...	4
Are there any disadvantages or potential risks to button-hole cannulation?	5
Can everyone have the buttonholes?	6
Screening prior to button-hole formation.....	7
Screening once the buttonholes are in place	8
How are the buttonholes formed?.....	9
Forming your own buttonholes	9
Self-cannulating your buttonholes	10
Tell us what you think of this leaflet	11
Teaching, training, and research.....	11
Patient Advice and Liaison Service (PALS).....	11

What is button-hole cannulation?

Button-hole technique is a way of cannulating (putting needles into) your fistula. The needles are put in at exactly the same place, at the same angle, every dialysis treatment. This allows a track, or tunnel to form – a bit like the track formed in an earlobe piercing. The track goes from the surface of the skin to the outside wall of the blood vessel. A scab forms on the skin over each button-hole site once the needles are removed. This scab is carefully removed before new needles are inserted at your next dialysis.

What are the advantages of button-hole cannulation?

It is thought that the button-hole technique may help to avoid some of the problems associated with sharp cannulation, such as swollen areas (or aneurysms) in the fistula which can look like 'lumps' on your arm.

Some people who have dialysis treatment say that once the tracks are formed, cannulation with the button-hole technique is less painful than with sharp cannulation. This means that you may not need to use any local anaesthetic prior to cannulation. Not all people share this opinion, and some people using sharp cannulation do not use local anaesthetic either.

Some people wish to self-cannulate on dialysis. A proportion of these people feel that self-cannulation is easier with a buttonhole, but once again not everyone shares this opinion.

Are there any disadvantages or potential risks to button-hole cannulation?

There is a higher risk of infection at the button-hole sites, compared with sharp cannulation. Any infection introduced through the buttonholes could get into your bloodstream and cause septicaemia. This can make you very ill, can cause infection in other parts of the body (for example in a joint, around the spine or on the heart valves, and can be fatal.

To avoid infection, extremely careful skin cleaning is very important. You will need to wash your hands and fistula arm before preparing for cannulation. The buttonholes are then disinfected before and after the scabs are removed prior to insertion of the fistula needles. It is vital that this is done thoroughly every time.

Can everyone have the buttonholes?

This technique is only suitable in fistulae and not in grafts.

It can be difficult to form buttonholes in some people. If this is the case, you will need to go back to sharp cannulation.

People with particular skin conditions or other risk factors, which put them at increased risk of complications of infection (such as a replacement heart valve), may be advised that it would be unsafe to have button-hole tracks formed due to the extra risk involved. Your nurse can discuss this with you and your consultant. Your consultant will have a full picture of your medical history and be aware of any risk factors that may affect the advisability of using buttonholes in your particular circumstances. If you wish to discuss this further with your consultant this can be arranged.

Screening prior to button-hole formation

Because of the increased risk of infection, we will need to take some swabs before starting the process of making the buttonholes. The swabs are to look for the bacteria MSSA and MRSA. They are taken from your nostrils, throat, and groin and from any sores or wounds on your skin.

MSSA stands for 'methicillin sensitive staphylococcus aureus'. This is a common type of bacteria. Most people have these bacteria on their skin from time to time and remain healthy. It is a bacteria that will respond to a range of different antibiotics should it cause an infection.

MRSA stands for 'methicillin resistant staphylococcus aureus'. This is the same type of bacteria as MSSA, but has become resistant to some types of antibiotics, making it more difficult to treat should it cause an infection.

Many people carry MSSA and MRSA on their skin and in their nose without being aware of it. This does not cause any harm in people who are fit and healthy.

However, because you are having, or planning to have, buttonholes formed there may be an increased risk of infection in the buttonholes if you carry these bacteria on your skin.

If the swabs are positive you will be offered some treatment to clear the bacteria. This is called 'eradication therapy'.

Your nurse will explain this therapy to you if you should need it. You will have further swabs taken 48 hours after completing the eradication therapy. If these are negative, you can commence formation of the button-hole tracks. However, if the swabs remain positive, we will discuss with your consultant regarding any further treatment. If the swabs stay positive you may not be suitable for button-holes due to an increased risk of infection.

Screening once the buttonholes are in place

We will take swabs every three months for MRSA and MSSA. If the swabs are positive, you will be given treatment to clear the bacteria.

If you develop an infection due to the buttonholes your consultant will discuss with you the need to stop using them and go back to sharp needle cannulation

How are the buttonholes formed?

An experienced dialysis nurse will be allocated to form your tracks, and this should commence within 7 days of having negative swab results. It can take up to 12 sessions for the tracks to fully form. This needs to be planned in advance to ensure the same nurse is available for each dialysis treatment during this time. Initially standard 'sharp' fistula needles are used. Once the tracks are formed, specially designed 'blunt' needles will be used. From this time all nurses familiar with the button-hole technique will be able to needle your fistula using the blunt needles.

If your allocated nurse is unavailable whilst the tracks are being formed, another member of staff will put your needles in. They will have to avoid the tracks and so they will place your needles in a different place in your fistula. This is because a 'false' track could be formed if someone places sharp needles at a different angle or depth to the original track former.

Forming your own buttonholes

If you wish to form your own button-hole tracks, an experienced dialysis nurse will be allocated to you to support you during this time.

Self-cannulating your buttonholes

If you wish to put your own needles in once the tracks are formed, talk to the nursing staff. They will teach you how to do this safely in order to reduce the risk of getting an infection. You will be taught to wash your hands thoroughly, prepare your pack and put in your needles in a way to minimise the risk of infection. It is important to continue to do this exactly how you have been shown.

Once you are self-cannulating the nurses will re-assess your technique from time to time to ensure you continue you do this in the safest possible way. If the nurses have any concerns about your technique, they will let you know and will support you to correct any problems with your technique, in order to keep you safe from the risk of getting an infection.

If at any time you wish to stop self-cannulating, let the nursing staff know.

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:

Maggie Higginbotham, Clinical Educator for Renal Services, telephone 01904 721852 or email Maggie.Higginbotham@York.Nhs.Uk.

Teaching, training, and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email pals@york.nhs.uk.

An answer phone is available out of hours.

Leaflets in alternative languages or formats

Please telephone or email if you require this information in a different language or format, for example Braille, large print or audio.

如果你要求本資 不同的 或 式提供，電
或發電

Jeżeli niniejsze informacje potrzebne są w innym języku lub formacie, należy zadzwonić lub wysłać wiadomość e-mail

Bu bilgileri değişik bir lisanda ya da formatta istiyorsanız lütfen telefon ediniz ya da e-posta gönderiniz

Telephone: 01904 725566

Email: access@york.nhs.uk

Owner	Maggie Higginbotham, Clinical Educator for Renal Services
Date first issued	October 2015
Review Date	September 2025
Version	v2 (reissued September 2022)
Approved by	Renal MDT
Document Reference	PIL 929 v2.2
© 2022 York and Scarborough Teaching Hospitals NHS Foundation Trust. All Rights reserved.	