



Tunnelled Central Line Insertion

Tunnelled central line insertion

A tunnelled central line, also known as a Hickman or Groshong line, is a type of Central Venous Access Device (CVAD) that is often used in patients who require chemotherapy to be given by infusion over several months or for patients having long term intravenous nutrition (TPN). This type of line is often placed in people who want to self-administer treatment at home as the end of the line can be easily accessed by patients' themselves.

What is a tunnelled central line?

A tunnelled central line is a type of line that is inserted into one of the large veins of the neck or chest, passes under the skin and exits the skin on the chest wall, usually about 10cm below the collar bone. About 10-15 cm of the line is left outside the chest at the exit site and when not in use needs to be covered by a dressing.

How is the tunnelled central line inserted?

The insertion process usually takes about 45 minutes and takes place in an operating theatre. Sedation is administered via a small cannula placed in the back of the hand and local anaesthetic is then given to numb the skin. This has a mild stinging effect for a few seconds only. Note that the sedation is intended to make you feel less anxious, it will not usually make you go right off to sleep like a general anaesthetic.

The tunnelled central line is normally inserted on the right side of the body but may sometimes be inserted on the left for clinical reasons. The vein scan you receive on the day of the procedure and your clinical history will guide this decision. Once the skin is numbed the small tube is placed in the vein, passed under the skin, and then brought out at the exit point on the chest. Some stitches are placed to hold the line in place but once the line has been in for a few weeks these stitches can come out.

X-rays are taken in theatre to confirm that the port is in the correct position.

Preparing to have a tunnelled central line inserted

All patients will need to have MRSA swabs taken ideally 1 week prior to the procedure (to allow time for processing and to allow time for treatment if the swabs are positive. If you have started chemotherapy you will need to have blood tests taken 24 hours prior to the procedure, if not then blood tests taken within the last 8 weeks will normally suffice. Most blood thinning drugs e.g. Rivaroxaban, Warfarin, Apixaban, will need to be stopped. You will be advised how many days before the procedure you need to stop taking these medications if necessary.

On the day you may eat up until 6 hours before the time of your procedure. You may drink water freely up until the time of admission.

You should ensure that someone is available to collect you and drive you home afterwards as you cannot drive (or operate machinery) for 24 hours after having had sedation.

What is visible afterwards?

There may be a 2-3 mm scar at the base of the neck. In some cases you may be able to see and feel the small silicone tube as it runs over the collar bone, particularly if you are very slim. You will be able to see about 10-15 cm of the line exiting the body on the chest.

What should I expect afterwards?

You will be able to go home about an hour after the procedure is finished but you will need someone to drive you home and should not drive yourself (or operate machinery) for 24 hours due to the sedation received during the procedure.

There will be some mild tenderness over the insertion site and you may have a slightly stiff neck on the side of port insertion for a few days. Simple painkillers e.g. paracetamol and/or ibuprofen will suffice.

Aftercare

If you have skin glue over the wound you may shower the next day but do not rub the area until fully healed and do not fully immerse it in water (bathing/swimming) for 14 days or until wound is fully healed. The skin glue will fall off naturally by about 7 days.

It is inadvisable to engage in any vigorous activities involving the upper limbs e.g. golf, swimming for approximately 2 weeks.

In order for the tunnelled central line to be kept in working condition it needs to be flushed by one of the chemotherapy nurses every week.

What should I watch out for afterwards?

Mild tenderness and/or neck stiffness is to be expected. However, moderate to severe pain perhaps with swelling or redness of surrounding skin could indicate an infection. If concerned please contact your chemotherapy centre in the first instance so that the line insertion site can be inspected.

If you have a temperature or fever/chills at any point you should contact your chemotherapy centre immediately for assessment.

A thrombosis (blood clot) is a risk in anyone having chemotherapy and any sort of line in the vein raises this risk slightly – if you experience any swelling of, or pain in, the arms or head and neck you should seek medical attention immediately.



Dr Ben Gupta BMedSci BM BS FRCA
Consultant Anaesthetist
Enquiries@bristolvascularaccess.com

Complications

Having a tunnelled central line inserted is generally a very safe procedure. Use of modern imaging techniques (ultrasound and x-ray) has helped to reduce complications associated with this procedure but small risks still remain.

Damage to structures surrounding the vein can occur e.g. to nearby arteries, nerves, or to the lung, causing it collapse (very rare). Infection can occur, either to the skin overlying the line or within the line itself. Sometimes this can be treated with antibiotics but occasionally the line will need to be removed.

Thrombosis means a blood clot in the vein and whilst this is a risk for anyone having chemotherapy, any sort of tube in the vein likely increases this risk.

Tunnelled central lines can (rarely) move position over time or break and become blocked and unusable. If this was the case then the line might need to be repositioned or even removed and re-sited.

Further Questions

If you have any further questions about having a port inserted then please e-mail Dr Ben Gupta at enquiries@bristolvascularaccess.com or call Bristol Vascular Access on 07498 219558 (8-5pm).