

# Tunnelled Line and Hickman Line Insertion

Radiology

## What is the aim of this leaflet?

The aim of this leaflet is to explain the procedure for patients undergoing a tunnelled line insertion. This leaflet is not meant to replace informed discussion between you and your doctor, but can act as a starting point for outlining risks and benefits.

## What is a tunnelled line insertion (hickman line)?

A flexible tube is placed (tunnelled) under the skin just below your collar bone and inserted into one of the veins in your neck. The end of the tube lies within a large vein in the chest. Usually the line is placed on the right side but occasionally it may need to go on the left. The line allows fluids or drugs to be given into your bloodstream without having to find a vein each time. A line may be necessary if you regularly have blood taken and it is difficult to find good veins. If necessary it can stay in for several months and you can go home with it in.

## Are there different types of tunnelled lines?

The space in the middle of the tube is called the lumen. Based on the number of lines needed for your treatment, you will have either a single or double lumen tunnelled (hickman) line.

## Who has made the decision?

The choice about which treatment is best for you will be made together with your doctor. This will be based on the risks and benefits of the treatment and your individual circumstances.

## Who will do the procedure?

Anaesthetists and interventional radiologists generally place tunnelled lines, and both use X-ray for this procedure. Interventional radiologists have special expertise in interpreting the images and using imaging to guide catheters and wires to insert the line correctly.

## Consent

We must seek your consent for any procedure or treatment beforehand. A written consent will be obtained from yourself by a doctor to give permission to have the procedure done. Your doctor will explain the risks, benefits, and alternatives where relevant, before you sign the consent. A referral will be made and your appointment will be arranged. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.

**The prevention of infection is a major priority in all healthcare and everyone has a part to play.**

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

## What are the benefits of having a tunnelled line (hickman line)?

- A tunnelled line is a reliable way for nurses and doctors to give you intravenous medicines (medicines that need to go directly into a vein), nutrients or to take blood samples
- It means you can avoid needle puncture every time you have treatment, which can be uncomfortable and stressful
- Some medications need to be given into a large vein rather than a small vein in the hand or arm
- The tunnelled or hickman line can remain in place for a long period of time so it can be used throughout your treatment

## What are the possible risks of a tunnelled line (hickman line)?

Serious complications are uncommon, but a number have been described.

- There is a very small risk that air may get into the venous system and get into the vessels of your lungs, causing problems with your breathing. This is a rare event but if it occurs it often settles by itself
- The lung is very close and it is possible to puncture the lung (pneumothorax) during placement of the line. This is extremely uncommon and the risk is about 1%
- A cuff on the line anchors it in place but lines may migrate in the first two weeks
- There is a small risk that an infection may occur due to insertion (within 14 days), but the greater risk is subsequent infections. These later infections can occur in two ways either in the tunnel track or within the line itself
  - Tunnel track infections can usually be treated successfully with antibiotics
  - Infected lines may need to be removed
- The risk of infection is generally around 5–10% but can be up to 50%. To avoid infections you must keep the skin around the line dry, clean and covered. Do not allow anyone to use the line who does not take all the sterile or non-touch precautions
- There are a number of complications that may occur after weeks or months following insertion. Venous thrombosis (blockage of the vein with clot) occurs in approximately 2– 8% of cases. If the arm that the line was placed in becomes swollen, you should contact your doctor as soon as possible
- Death as a result of the procedure is very rare
- **Radiation:** Ionising radiation may cause cancer many years or decades after the exposure. We are all at risk of developing cancer during our lifetime. 50% of the population is likely to develop one of the many forms of cancer at some stage during our lifetime. It has been estimated that undergoing this procedure may increase the chances of this happening to you to about 0.1 %. The requesting doctor and the doctor that will be performing your examination feel that the benefit of having the test or treatment outweighs the risk from the exposure to radiation. If you have further questions about the risk of exposure to radiation, please talk to your doctor during consent. **Please contact the X-ray Department as soon as you receive this appointment if you think you may be pregnant.**
- **Contrast agent:** The “dye” if used to show up the blood vessels, can have side effects for a minority of patients: 3 in 100 of patients experience nausea and hot flushes. 4 in 10,000 may have more serious effects including breathing difficulties
- Only rarely is the injection of dye required for this procedure. If a side effect does occur the doctors, nurses and radiographers are trained to deal with it

## Are there any alternative treatments and what if I decide not to have it done?

The consultant in charge of your care will discuss the alternatives with you which may include insertion of a different line (PICC). They will also discuss the consequences of no treatment.

## Where will the procedure take place?

The procedure will take place in the angiography suite; this is located within the radiology department. This is similar to an operating theatre in which specialised x-ray equipment has been installed.

If you are on a different ward, the angiography suite will liaise with your ward nurse and porters to arrange transport to your procedure.

## Are you required to make any special preparations?

Insertion of a line is usually carried out as a day case procedure under local anaesthetic (a medication used to numb an area of the body to reduce pain).

- You can eat and drink as normal unless a doctor or nurse has specifically said otherwise
- If you have any allergies or have previously had a reaction to the dye (contrast agent), you must tell the radiology staff before you have the procedure

If you are taking the following medication and the doctor has not discussed them during consent, please contact the X-ray department when you receive this information:

- Acenocoumarol, Apixaban, Aspirin, Bivalirudin, Dabigatran, Dalteparin, Danaparoid, Dipyridamole, Edoxaban, Enoxoparin (clexane) Fondaparinux, Heparin, Phenindione, Tinzaparin, Warfarin

## What happens during insertion?

You will be asked to get undressed and put on a hospital gown. You will need to lay flat on your back for this procedure. A nurse and radiographer will assist the radiologist during the procedure. The nurse will clean the skin on your chest and neck using an antiseptic solution. Local anaesthetic is injected at the line insertion site (usually in your neck). This may sting for a few seconds but will then go numb.

A small cut is made in the skin near your collarbone and the tip of the tube is threaded into a large vein. This is known as the insertion site. The tube is then pushed under the skin from the neck to the chest to reach the exit site where a second small incision is made. The exit site is the place where the tube comes out of the skin.

Occasionally contrast is used to highlight the anatomy. You may feel a warm sensation in your neck and face when this is injected. Stitches in the skin will hold the hickman line in place and a waterproof dressing will be placed over the line. When you leave the interventional radiology suite, the line will be fully functioning and ready for use.

## Will it hurt?

You may be able to feel the procedure but there should be no pain due to the local anaesthetic given at the access site. During the procedure you may feel pressure when the line is being tunnelled. There will be a nurse next to the X-ray table to look after you. If you are in any pain, do not hesitate to tell the nurse. Pain relief may be given at the time of the procedure if appropriate. You should discuss this with the doctor doing your procedure on the day.

## How long will it take?

Every patient is different, and it is not always easy to predict; however, expect to be in the radiology department for about an hour.

## What happens afterwards?

You will be taken back to your ward or the Day Case Unit. Nursing staff will carry out routine observations including pulse and blood pressure. You will be able to go home after a few hours of observation.

## Going home advice

- There are no physical limitations
- The tunnelled lines have a small dacron cuff which sits in the tunnelled portion (under the skin) and helps fix the catheter in place. It is wise to take great care over the first two weeks, until the cuff has anchored
- The wound should be kept completely dry for the first five days, and thereafter have showers rather than baths. When you have a shower you should keep the line covered
- Depending on your treatment plan, you may need to have the line flushed on a regular basis
- You should be able to drive unless you have been told otherwise. This will be confirmed at consent clinic. It is your own responsibility to drive if safe to do so. Information can be found on the DVLA website at: <https://www.gov.uk/guidance/general-information-assessingfitness-to-drive>
- If the access site becomes infected or you have other concerns call your GP or 111
- It is unlikely that the puncture site will bleed, but if this happens and you cannot stem the bleeding, you should follow the following instructions
- Press firmly on the site with your fingers
- Call NHS helpline on **111** or **999**, say you have a tunnelled line and the site is bleeding

## Trainees

A radiology trainee (qualified experienced doctors training in Radiology) or occasionally a student may be present during the examination. If you would prefer them not to attend, please let a member of radiology staff know.

## How to contact us

If you have any personal access needs, require wheelchair access or wish to speak to a member of staff for further information please contact the interventional radiology department on 01902 307999 ext. 6344 between 08:30 and 16:30 as the department cannot help with queries outside of these hours.

### **Angiography Suite / Interventional Radiology**

Second floor Radiology A2

New Cross Hospital

Wolverhampton

West Midlands

WV10 0QP

### **Patient Advice and Liaison Service**

New Cross Hospital

01902 695362

Email: [rwh-tr.pals@nhs.net](mailto:rwh-tr.pals@nhs.net)

## Further information

Further information about your examination is available from The British Society of Interventional Radiologists at:

<https://www.macmillan.org.uk/information-and-support/treating/chemotherapy/being-treated-with-chemotherapy/central-lines.html>

## English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

## Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

## Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

## Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਭਾਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

## Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

## Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。