Cystic Fibrosis our focus

The use of ports in cystic fibrosis

Factsheet – August 2015

The use of ports (totally implantable venous access devices) in cystic fibrosis

Introduction

This factsheet is designed to give you some information about ports. It answers the questions most frequently asked by people with cystic fibrosis (CF) and gives you the opportunity to discuss ports with family, friends and carers.

The information is only meant as a general guide, as care and treatment is designed to meet your individual healthcare needs. Your own specialist nurse, physician/paediatrician, consultant or surgeon will be able to further advise you personally about having a port inserted and the aftercare required.

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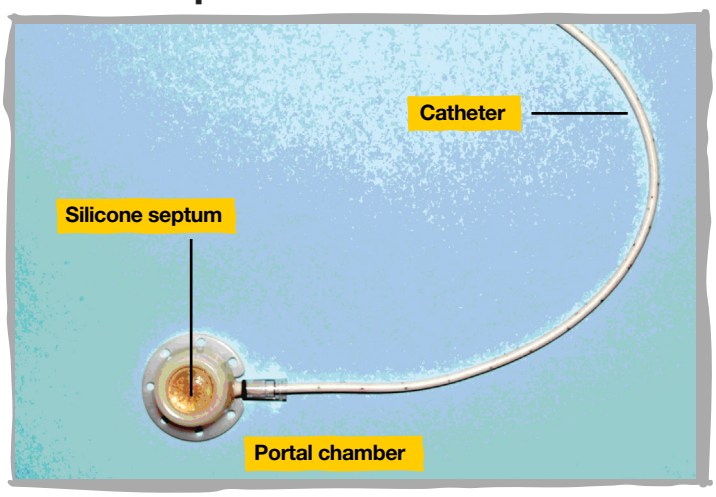
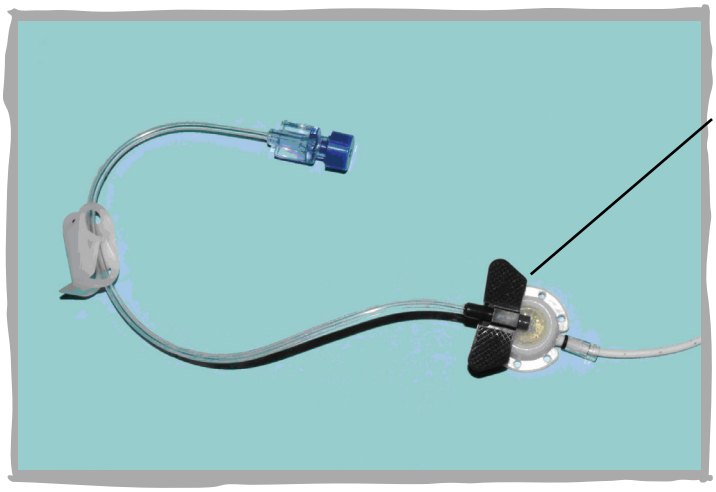
What is a port?



A port, or portacath as it may be called, is a totally implantable venous access device (sometimes called a TIVAD), which is placed under the skin as a means of delivering medication to the body easily and effectively. A port comprises two main parts, as shown in the diagram above:

- a **portal chamber**, which can be made of special plastic or titanium (a strong, lightweight metal), and has a silicone septum (injection area), and
- a **catheter**, which is a fine tube connected to the portal chamber.

Medication is given through the port by inserting a special needle through the skin into the portal chamber and injecting or infusing the drugs, which will travel along the catheter into the venous system (the veins).



Ports are either round or oval and are available as an adult size, low profile (so they are less visible) or paediatric size. Some very small ports have been specially made to be placed in the arm.

The size and type of port you require can be discussed with your medical and surgical teams.

Who are ports for?

Ports can be used by people with CF who require long-term, frequent intravenous (IV) antibiotic treatment or who have poor venous access ('difficult veins').

Ports are not usually considered for people with CF who have short-term treatment needs or who have infrequent courses of IV antibiotics. Again, your medical team will advise if a port is suitable for your treatment needs.

How are ports put in?

Having a port inserted requires a small operation. This is usually carried out under a general anaesthetic but can, if required, be performed using a local anaesthetic. Children will almost certainly be given a general anaesthetic.

A small incision is made for the catheter to be threaded through a large vein leading to the heart. The other end of the catheter is then tunnelled into the tissue under the skin and connected to the portal chamber that has been inserted into a pocket under the skin. This may require a second small incision.

Operation times can vary according to the method of placement of the port and the individual patient concerned, but on average it takes about 45 minutes to one hour, plus some time spent recovering from the anaesthetic. An overnight stay is usual following the operation but for some patients the insertion of a port may be combined with a treatment episode with IV antibiotics, requiring a longer period in hospital.

There may be some bruising or swelling over the area and slight discomfort following the operation, but this generally disappears within the first week. The stitches are usually under the skin and will dissolve.

What will the port look like – will I have a scar?

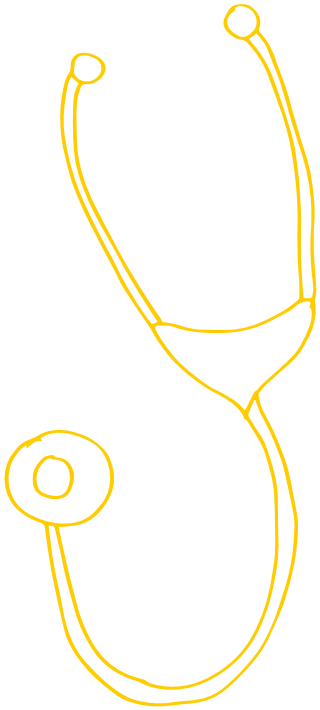
The port is implanted under the skin. There are no tubes or surgical devices visible. If you are quite slim there may be a bump visible under the skin where the portal chamber has been inserted. Otherwise, depending on your build and the position of the port, it may not be visible at all.

There will be a small scar up to 5cm long where the portal chamber has been inserted and possibly another where the catheter has been threaded into the vein. Each individual heals differently but most people find the scars are minimal and fade well.

Ports can be placed in different positions on the body but the most common site is on the upper chest wall. Other positions could be side of the chest wall or arm. You should be given the opportunity to discuss this fully with your team and surgeon placing the port.

Before insertion of needle

With needle in place for treatment



How long will the port last?

If the port is well cared for it can last many years. The silicone covering the portal chamber can take about 2,000 punctures (needles) for the adult size and about 1,500 for the smaller paediatric size. This will vary slightly according to the needle size used.

Most patients will have a needle put in at the beginning of a treatment episode and all the drugs will be injected through a tube connected to the needle. The frequency of the needle change will depend on the length of your course of treatment, the practice of your CF centre and other factors, such as incorrect needle position or line infection.

The port will also need flushing (see 'Who looks after the port?' at the bottom of this page) every four to six weeks when not in use. Therefore, if you work out how often you are likely to need to have your port accessed (flushes and IV courses), you will see it is intended for long-term use.

Occasionally, ports stop working properly, perhaps because of a blockage or 'kinking' of the catheter, or because the catheter has sprung a 'leak' and developed a small hole. This is unusual and is usually after the port has been in some considerable time. In these cases the port is removed and replaced if required.

Does it hurt to use the port?

Local anaesthetic cream can be applied over the port area prior to the needle being placed and is extremely effective. When this is used you will not feel the needle but may sense a small painless push as it goes in. Some patients prefer local anaesthetic ('freezy') spray. After a while, sensation over the port may reduce and many patients choose not to bother with local anaesthetic preparations. Inserting the needle is very quick, as there is no need to look for a vein.

Does the port need any special care between treatment courses?

If the port has not been used for four to six weeks (this may vary depending on your centre/clinic), it is necessary to flush the system with a fresh heparin solution. This is to avoid blood clotting in the line, and is quick and easy to do. Instead of the needle remaining in for a course of treatment, a heparin solution is injected into the port and the needle removed.

Who looks after the port?

Accessing and flushing the port is carried out by specially trained nursing and medical staff using sterile techniques. Patients and carers may be taught how to do this for a more independent lifestyle, however this would need to be discussed with your local team.

Does a port affect X-rays?

It is perfectly safe to have X-rays or scans when you have a plastic or titanium port. You will need to let the radiologist know that you have had a port inserted. The port will be visible on a chest X-ray.

Will the port limit any of my activities?

The port is a totally enclosed system and therefore you are able to shower, bathe and swim as normal. You will also be able to continue with most sporting activities. However you may be asked to avoid contact sports such as boxing, judo and rugby. Ports are made from durable materials but it is wise to refrain from sports that are likely to cause severe body blows.

When the port has been accessed for treatment there will be a dressing covering it and you should avoid getting it wet or any vigorous activity that may dislodge the needle.

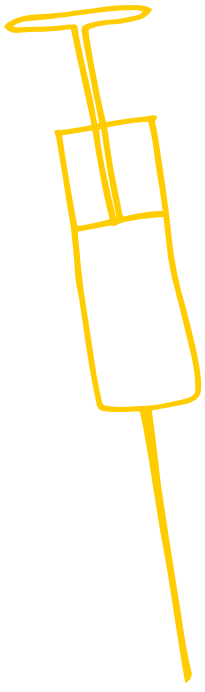
Many children and adults continue with education or work during a course of treatment via the port. A member of your care team will be happy to liaise with schools or employers.

What if I no longer need the port?

The port can stay in the body providing it is flushed each month. Alternatively it can be removed surgically.

So what are the overall benefits of having a port?

- A port gives instant venous access.
- IV drugs can be given painlessly, without the side effect of sore veins.
- Ports can be used for infusions (drips) or bolus drugs (syringe push).
- The system is under the skin with no visible tubes outside the body as with central venous lines.
- As the port is under the skin, there is less risk of infection.
- No tubes or catheters are visible when the port is not in use.
- A port is less likely to be damaged than a central venous line.
- You can bathe, shower and swim when the port is not in use.
- It leaves hands and arms free for writing, general activities and driving.



Are there any disadvantages or special considerations to ports?

- A small operation and usually a general anaesthetic are required to insert a port.
- The port may be visible as a bump under the skin.
- Ports are less suitable for patients with only short-term treatment needs.
- Staff and patients or carers need to be specially trained to access ports.
- Special needles must be used to avoid damaging the port.
- When not in use the port must be flushed every four to six weeks with a heparin solution.
- Strict sterile technique is necessary when accessing the port to prevent infection.
- An operation is required to remove the port.

Summary

This factsheet aims to give clear information and answer most of the questions you have regarding ports, their placement and the ongoing care they require. It aims to cover general information that can be discussed in further detail with your healthcare team. They will know you well and will be able to answer questions and give appropriate information particular to you. Together, you will then be able to make a decision regarding port placement that is right for you.

Further information

The Cystic Fibrosis Trust provides information about cystic fibrosis through our factsheets, leaflets and other publications.

Most of our publications are available through our helpline and can be downloaded from our website or ordered using our online publications order form. Visit cysticfibrosis.org.uk/publications.

The Cystic Fibrosis Trust helpline can help you with a range of issues, no matter how big or small. Our trained staff can provide a listening ear, practical advice, welfare/benefits information or direct you to other sources of support. The helpline can be contacted on 0300 373 1000 or helpline@cysticfibrosis.org.uk and is open Monday to Friday, 9am – 5pm.

Calls to 0300 numbers cost no more than 5p per minute from a standard BT residential landline. Charges from other landlines and mobile networks may vary, but will be no more than a standard geographic call and are included in all inclusive minutes and discount schemes. If you are worried about the cost of the call please let us know and we'll call you back.

You can also find more information at our website cysticfibrosis.org.uk.

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More factsheets available at:
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