



**PakuMed.
For treatment.
And for everyday life.**

We offer implantable port catheter systems for medication, dialysis and parenteral nutrition amongst other indications.

Once inserted, they must function properly for weeks, months or possibly even for years.

Port-catheter systems concern not only the illness, but also the life of the patient.

Every system from PakuMed stands for three aspects: they are tailored to the indications and requirements, they are simple and safe in operation and during the treatment and offer a high degree of wearing comfort.

Patient care guide

TITAN-PORT catheter systems

Standard

Dear patient

your doctor has recommended a PakuMed port catheter system because your treatment requires the frequent administration of medication or fluids into your bloodstream. The nursing staff may also need blood samples.

A port catheter system provides a permanent and long-term access to a vessel. This, fully implanted, may give you quality of life and comfort, as well as protecting your smaller blood vessels.

This guide will help you to understand more about the "port" and clarifies possible questions and care instructions for your TITAN-PORT catheter system.

This booklet is only a point of reference.

Your doctor or nursing staff will remain your first source of information. However, as the manufacturer of your port catheter system, we want to ensure that you get a good insight and understanding.



Content

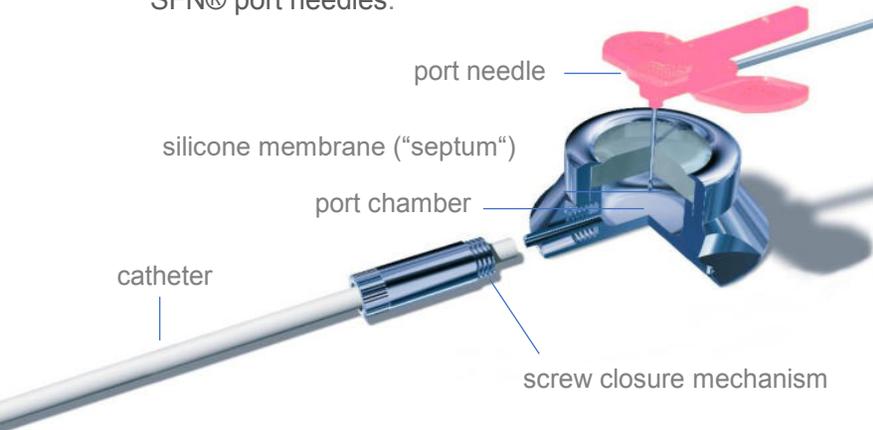
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What is a port?

The **TITAN-PORT** catheter system is a fully implantable port catheter system. Usually referred to simply as a "port", it provides a continuous venous access to the bloodstream that can be used for more frequent applications. The implantation of the port catheter is usually carried out on an outpatient basis under local anaesthetic. The port catheter system consists of two parts: the so-called **port chamber** and the **port catheter**.

The port chamber is a hollow body made of titanium, in which a stable silicone membrane is embedded. For therapy, the **port chamber** is punctured with an appropriate port needle. We recommend using only guaranteed non-coring port needles, e.g. the SFN[®] port needle.

The **port catheter** is a tube made of silicone or polyurethane, which is firmly connected to the port chamber and is placed in a central blood vessel. All parts are made of high quality, well-tolerated material and can thus remain in the body for years. Our quality enables to puncture the port up to 3000 times with non-coring SFN[®] port needles.



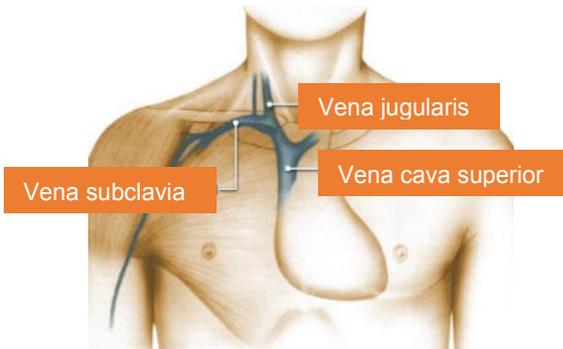
*Cross section of a TITAN-PORT catheter system with port needle
(by PakuMed medical products gmbh)*

Where is the port located?

- The port catheter system is placed completely under the skin. You can feel a slight elevation where the port chamber sits.
- The palpable port chamber is mostly located approximately below the collarbone. Your treating doctor together with you will determine the exact position.
- A small scar (3-5cm), which usually occurs in the area where the implanted port catheter system, heals after 4 weeks.
- The catheter is placed in a large vein that carries blood to the heart.



Palpation of the port chamber



Left: View of the main veins in the chest



Right: Implanted port catheter system under the skin with implantation pocket (example)

What are the advantages of a port?

Long-term vascular health

- ✓ A port allows your blood vessels to be spared, as smaller veins in arms or hands do not need to be punctured. By puncturing the silicone membrane in the port chamber with a special port needle, access to the bloodstream is established. This is especially important for treatment with chemotherapy.

Comfortability

- ✓ Once implanted, a port can remain in place as long as your doctor makes sure it works and you still need it.
- ✓ There is no need for a potentially unpleasant "search" for veins to take blood samples.
- ✓ X-rays and CT (computer tomography) are possible at any time. **MRI** (magnetic resonance imaging) is conditional. Show your **implant card** to your treating doctor.

Lifestyle

- ✓ Compared to other centrally placed vascular accesses, implanted ports allow you to pursue your normal everyday activities: showering, swimming and running are no problem either.
- ✓ A port under the skin also provides protection against infection.

Increased privacy

- ✓ Implanted ports lie completely under the skin. There is no longer any exposed device. Ports are small and are barely visible. No one needs to know about your treatment unless you want them to.



What is a port used for?

The TITAN-PORT catheter systems allow repeated access to the vascular system, e.g. for:

- long-term permanent access to the central vascular system
- systemic chemotherapy
- regular administration of medication
- regional chemotherapy
- blood collection for poor peripheral vascular status
- long-term infusion therapy
- pain therapy
- before, during and after operations, especially for malignant diseases
- treatment of HIV diseases
- parenteral nutrition (artificial feeding)



*Sample of an implanted TITAN-PORT after wound healing
(by PakuMed medical products gmbh)*

How is the port used?

The port can be used in several ways, incl.

- bolus injections

The drug is administered in a single injection and the needle is then immediately removed from the port.

- continuous infusion

The port needle can remain in the port for **up to 48 hours** (recommended). The port needle can be used to administer medicines and fluids, such as artificial food that takes a bit more time.

- blood collection

The port can be used to take blood samples for further testing. Afterwards, care should be taken to ensure that the system is rinsed sufficiently with saline solution.



How is a port punctured?

- The system can be immediately used after implantation. To puncture the port catheter system your doctor will need special port needles, such as the **SFN® non-coring needles**. Other needles could damage the membrane of your port. Port needles are disposable products.
- Puncturing is done under sterile conditions. We recommend sterile gloves for the user and mouth protection for you and the doctor or nursing staff.
- The skin area around the port has to be disinfected and air-dried. The port is then fixed under the skin with sterile gloves. Before application, the port needle is deflated with a syringe by filling the tube with saline solution. Then the needle is punctured through the silicone membrane. When it is fixed with a sterile *patch* it can remain in the port for the duration of use. You can sit or lie down comfortably during the treatment.
- For longer infusions, we recommend inserting a sterile *slit compress* between the skin and the port needle to avoid pressure points.
- In general, you should observe yourself daily and pay particular attention to the port chamber environment (redness, inflammation, swelling, etc.) and to possible swelling of the lymph nodes under the armpits. Please inform your doctor and nurse immediately of any changes.
- You should avoid strenuous activities in the first few days after the implantation.



SFN® port needle with safety system (example)

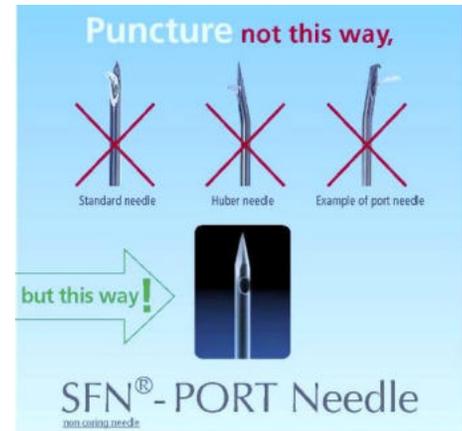
SFN[®] safety port needles

Safety system of SFN[®] port needles explained in 3 steps:

1. Puncture:
fix the port with one hand, with the other hand puncture the port needle straight to the base plate until the port needle touches the titanium base of the port chamber.
2. Remove:
fix the port with one hand, pull out the port needle with the other hand.
3. Click the safety system:
the safety system is released audibly. Now guide the protective flap over the port needle with the hand holding the needle and let the flap audibly click into place.



Safety system of the SFN[®] port needle by PakuMed



Demo of different needles: “not this way but like the non-coring SFN[®] port needle by PakuMed”

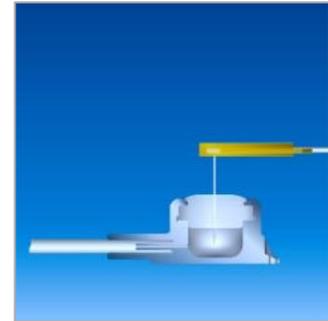
Care instructions:

The correct care of the port catheter systems is mandatory for the longevity of the systems.

- Before a treatment, the correct position of the port chamber must be palpated and it must be ensured that there is no wound or infection.
- The port catheter system may only be punctured with a non-coring port needle.
- Puncture vertically to the base plate of the port chamber (see illustration)
- Ensure sterile, germ-free puncture.
- After infusions, regular flushing is necessary.

This is especially important before and after the administration of blood and between different infusions. The doctor and/or nurse flushes the catheter with a syringe of 10 ml (with 10-30 ml 0.9% saline solution) after the treatment.

If the catheter is not used or if there is a longer therapy break, it should be flushed every **3 months** to prevent the port catheter system is blocked.



SFN® port needle: puncture vertically up to the base plate of the port



It is particularly important to **always** flush the system sufficiently.
We recommend pulsating rinsing (rinse-stop-rinse-stop-rinse)!

Please refer to the instructions for use for further information!

What complications could occur?

- There is a possibility that there is a higher resistance during the puncture and that the blood cannot be withdrawn from the catheter. This means that the port catheter system might not be free.
 - It is often helpful to change the position of the upper body or to take a deep breath and hold your breath for a short time.
 - Perhaps a small clot (thrombus) has formed which is possible to dissolve with a suitable medication.
- Slight redness on the port chamber could be an indication of an inflammation. Pain and possible swelling in the shoulder/arm/neck area could be an indication of venous thrombosis. If there are any changes of any kind, please inform your doctor.
- Burning pain after infusion of a medication, possibly in combination with blistering on the skin or swelling in the area of the port chamber might be due to by a leakage. Please inform your doctor or nursing staff immediately!
- Permanent pressure or friction caused by e.g. car belts, bags, bag backs etc. should be avoided.
- The instructions for use (IFU) which are included to each product should be made available to the attending physician and nursing staff. Further information on possible complications can be found in there.

Further FAQs

Who pays for the port?

Please contact your health insurance company with your question, as insurance companies have different regulations. Generally, the insurances will cover the costs.

How long can a port remain implanted and how can it be removed later?

The port can remain in place for as long as necessary to treat the disease. Afterwards it can be easily removed by a short surgical procedure under local anaesthetic. If the port does not bother you, your doctor will probably advise you to keep the port system for a while so that you can use it directly in the event of repeated therapy.

Does the port trigger an alarm during security checks?

TITAN is non-magnetic. It is therefore unlikely to be registered during security checks. However, if an alarm is triggered, simply show your implant card.

Are there certain clothes that I should not wear?

This question should be clarified with your doctor, as it depends on where your port is located.

Do I have to wear a patch over the port?

Generally no, only for the time of wound healing after the implantation. If the port is punctured, a patch is used for the duration of the treatment to stabilise and protect the port puncture needle. After therapy no patch is required.

You can find more information/ FAQs on our website: www.pakumed.de.

Further information sources

→ More information about your port and SFN® port needles can be found on:
www.pakumed.de

Other products by PakuMed: Special Ports

- dialysis
- extracorporeal apheresis
- ascites / peritoneal dialysis
- G-port
- fetal
- side
- drainage

SFN® needles

ANOKRYO- COMBI-SET



You can also watch a film on our YouTube channel about the puncture with our patented non-coring port needles (search for: PakuMed "SFN® Port Needles").

Contact

Do you have any questions?

Our experienced team will be happy to advise you.



Wishing the best for your health
your PakuMed Team

Your opinion matters!

If you would like to share your experience with our ports and port needles,
we would be happy to send you a form!

