Tunneled central venous catheter (CVC) home care instructions for pediatric patients

In the beginning of the treatment, a central venous catheter (CVC) is inserted for all children in the operating room in order to prevent jabs when collecting blood samples and ease the administration of medicines.

The silicone rubber catheter is guided through the superior vena cava near the heart. The catheter is tunneled subcutaneously in order to maintain its position as much as possible. The catheter becomes properly attached to the skin about three (3) months after the insertion of the catheter. For this reason, it is important to ensure that the catheter is correctly attached and to make sure that nothing pulls on the catheter. Be careful of the catheter especially when dressing or undressing the child. It is recommended to avoid lifting the child under the armpits during the first few months due to the risk that the catheter will move around. **Sauna bathing and swimming are prohibited with a catheter.**

Exit site protection and skin care

Transparent semi-permeable film (IV3000 or Leucomed T) is used to protect the exit site of the catheter. The film is changed at least every week (every 7 days). In addition, the film is always replaced if it is detached, dirty or the exit site is covered in excretion. The CVC exit site should always be cleaned when changing the film or dressing or if there is blood around the catheter exit site.

If the skin of the child/adolescent becomes irritated by the material of the film or if there is excretion around the CVC exit site, an opaque, sterile wound dressing (Mepilex Border Lite) should be used. In this case, the CVC should be freshly checked and cleaned every other day and always when taking a shower or bath.

The tube part of the catheter should be attached to the skin by means of a tape (Mepitac) to prevent the catheter from moving around.

**Do not wet the exit site of the catheter during the first two weeks after insertion. After that, you can take a shower without the film. After taking a shower, the CVC exit site should be cleaned as instructed. Always keep the adhesive tape in place during a shower or bath. If you notice redness, yellowish or clear excretion or pain around the exit site of the catheter, contact the Pediatric Hematology and Oncology Ward (tel. 050 579 4424).**

Cleaning the exit site

Wash your hands with liquid soap and dry with a clean hand towel or kitchen paper.

**Disinfect your hands** and collect the necessary equipment onto a clean surface:

* Alcohol hand sanitizer
* Medical gloves
* Sterile pads moistened with alcohol (A12t 80%)
* (Sterile wipes moistened with sterile kitchen salt solution if bloody excretion around the exit site of the catheter)
* Clean film or dressing
* Mepitac tape to support the catheter
* **Disinfect your hands and put on medical gloves**
* Check the catheter exit site and condition of the skin. Apply pressure with your fingers on the skin around the exit site and observe if there is any redness, warmth, pain or excretion. Remove the dressing and old tapes. (If needed, you can leave e.g. one Mepitac tape on to support the catheter during cleaning)
* **Disinfect your hands and put on medical gloves**
* If there is blood around the exit site of the catheter or elsewhere under the film, wipe it off first with sterile pads moistened with kitchen salt. If there is a scab around the exit site of the CVC, do not try to remove it. The scab will come off in time. Do not apply creams on the exit site
* Wipe the clean catheter exit site and the area under the film with sterile alcohol pads. Always wipe away from the insertion site, making sure the direction the alcohol flows is away from the insertion site.
* Let the alcohol dry on the skin
* Cover the exit site with a new film or wound dressing
* Remove the gloves and disinfect your hands
* Tape the catheter with Mepitac tapes

[Cleaning a child's tunneled central vein catheter (CVC) at home](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fapi.screen9.com%2Fpreview%2F6WmcOK2rNqfCGAjEmiN8KTxmZvwJ6UzrxEPcumfObJToZXiILa8mHZRw3VYXixMp&data=05%7C02%7CSihteeri.ity%40pohde.fi%7C1805fbab97c94f5d4c5a08dd1d9fbdc5%7C9837ed87b3784f49a0d1fb48e67da013%7C0%7C0%7C638699294089067524%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=esCpCwOQNtx%2F0PBMjp%2Bp2vkO7%2FUxdBWLjM6GaCWs5Bs%3D&reserved=0) (video)

Rinsing

The CVC should be rinsed at least every three (3) days to prevent blockage. If the CVC does not give blood or you feel unusually strong resistance despite the lock being open, do not try to force the kitchen salt solution into the catheter. Put a sterile cap on the catheter and contact the Pediatric Hematology and Oncology Ward (tel. 050 579 4424).

Wash your hands with liquid soap and dry with a clean hand towel or kitchen paper.

**Disinfect your hands** and collect the necessary equipment onto a clean surface:

* Alcohol hand sanitizer
* Medical gloves
* Sterile pads moistened with alcohol (A12T 80%)
* Sterile pads moistened with sterile kitchen salt solution (if bloody excretion around the exit site of the catheter)
* 2 sterile 5 ml syringes (one syringe for heparin)
* 1 ml of heparin solution (100 IU/ml)
* Injection needle
* 2 sterile caps
* 1-3 10 ml pre-filled syringe 0.9% NaCl (kitchen salt)
* **Disinfect your hands.**
* Remove any air from the kitchen salt solution syringe.
* Clean the rubber stopper of the heparin bottle with a sterile gauze moistened with alcohol (A12T 80%) and draw the heparin into the syringe with a needle. Close the syringe with a sterile cap.
* Take out the catheter.
* Disinfect your hands and put on medical gloves.
* Make sure that the catheter lock is closed, remove the cap, and if there is blood around the catheter opening, clean the blood 0.9% with sterile pads moistened with NaCl. After this, clean the outer surface of the catheter opening by wiping with sterile pads moistened with alcohol for 15 seconds and allow to dry for 5-10 seconds.
* Place the 5 ml empty sterile syringe into the catheter by twisting clockwise. Open the lock.
* Slowly draw 2-3 ml blood ("waste blood") into the syringe and close the lock. Unscrew the syringe anticlockwise.
* Place the prefilled kitchen salt solution syringe into the catheter by twisting clockwise.
* Open the lock and flush the CVC using a pulsating technique (rinse-pause rinse), close the lock.
* Unscrew the syringe anticlockwise.
* Insert a syringe containing 1 ml of heparin solution into the catheter.
* Open the lock and slowly inject the heparin solution into the catheter. Close the lock.
* If there is any blood left at the opening of the catheter, clean the blood with sterile pads moistened with 0.9% NaCl. After this, clean the mouth of the catheter with sterile pads moistened with alcohol for 15 seconds and allow to dry for 5-10 seconds.
* Put a new sterile cap on the end of the catheter.
* If the head of the catheter touches for example a shirt, the mouth of the catheter must be cleaned again with sterile wipes moistened with alcohol for 15 seconds.
* If the end of the syringe touches a piece of clothing or any other surface, use a new sterile syringe.

Blood sample collection

Wash your hands with liquid soap and dry with a clean hand towel or kitchen paper.

**Disinfect your hands** and collect the necessary equipment onto a clean surface:

* Alcohol hand sanitizer
* Medical gloves
* Sterile pads moistened with alcohol (A12T 80%)
* Sterile pads moistened with sterile kitchen salt solution
* 3 sterile 5 ml syringes (for heparin, "waste blood" and blood sample)
* blood sample tube
* 1 ml of heparin solution (100 IU/ml)
* 1 injection needle
* 2 sterile caps
* 1-3 10 ml pre-filled syringe 0.9% NaCl (kitchen salt solution)
* **Disinfect your hands.**
* Remove any air from the kitchen salt solution syringe.
* Clean the rubber stopper of the heparin bottle with a sterile pad moistened with alcohol (A12t 80%) and draw the heparin into the syringe with a needle. Close the syringe with a sterile cap.
* Take out the catheter.
* **Disinfect your hands and put on medical gloves.**
* Make sure the catheter lock is closed, open the cap. If there is any blood around the opening of the catheter, clean the blood with sterile pads moistened with 0.9% NaCl. Clean the mouth of the catheter with sterile pads moistened with alcohol for 15 seconds and allow to dry for 5-10 seconds.
* If the head of the catheter touches for example a shirt, the mouth of the catheter must be cleaned again with sterile pads moistened with alcohol for 15 seconds.
* Place an empty, sterile 5 ml syringe into the catheter. Open the lock.
* Slowly draw 2-3 ml of blood into the syringe. ("Waste blood" which is not used for samples because it contains heparin solution and kitchen salt solution). Close the lock.
* Place another 5 ml empty sterile syringe for the blood samples and withdraw the required amount of blood calmly. (2-3 ml/blood sample tube) Close the lock. Remove the blood sample syringe and place it back on the protective syringe paper.
* Place the kitchen salt solution syringe into the catheter by twisting clockwise.
* Open the lock and flush the CVC using a pulsating technique (rinse-pause rinse). Close the lock.
* Unscrew the syringe anticlockwise.
* Insert a syringe containing 1 ml of heparin solution into the catheter.
* Open the lock and slowly inject the heparin solution into the catheter. Close the lock.
* (If there are any blood marks on the catheter, wipe them off first with sterile pads moistened with 0.9% NaCl. Clean the mouth of the catheter with sterile pads moistened with alcohol for 15 seconds and allow to dry for 5-10 seconds.)
* Put a new sterile cap on the end of the catheter.
* Transfer the blood sample from the syringe into the blood sample tube:
  + Open the blood sample tube
  + Transfer the blood with the syringe into the sample tube along the edge of the tube.
  + Close the blood sample tube
  + Swirl the tube calmly 8-10 times
  + **Remove your gloves and disinfect your hands.**
  + Attach the blood sample stickers to the blood sample tubes and deliver them to the laboratory without delay.