

Continuous veno-venous hemofiltration (CVVH)



What is CVVH?

Continuous veno-venous hemofiltration, also called CVVH, is a form of continuous renal (or kidney) replacement therapy that is like dialysis (also called CRRT). It is a continuous therapy that takes place in the hospital over a long period of time. It happens at the patient's bedside in the hospital.

CVVH gently removes fluid and waste products from the blood when the kidneys fail to work as they should. Kidney failure has many causes. Therefore, the length of time your child will need CVVH varies and will depend on how the kidneys heal.

How is CVVH done?

- Your child will need a large I.V., called a vascular catheter or "vascath". We will:
 - Place it in a large vein in either the intensive care unit (ICU), interventional radiology (IR) or the operating room (OR).
 - Give pain and sedation medicines to your child. This will help them feel sleepy, so they will not feel pain or move during the placement of the catheter.
 - Prepare the CVVH machine and fill the tubing with sterile saline.
- Once the line is placed in the correct vein, we will connect the tubing from the CVVH machine to your child's new vascath at the bedside.
 - The machine will pull the blood from the body through one side of the vascath.
 - It then pushes the blood through the artificial kidney or hemofilter. This removes extra fluid and waste products from the blood.
 - The pump will return the "clean" blood to the body through the other side of the vascath.
- We will use a medicine to help the blood move smoothly through the tubing. Citrate or epoprostenol (Flolan) helps prevent the blood from clotting while it is in the tubing.
- CVVH lowers the natural calcium levels in the blood. We will give calcium to your child through an I.V. to replace what is lost.

Who will care for my child while they receive CVVH?

- A dedicated group of nurses who have had special training will care for your child while getting CVVH.
- During CVVH, a nurse will be assigned to your child only.
- A member of the Advanced Technologies team will also be available at all times to help with CVVH as needed.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

Continuous veno-venous hemofiltration, continued

What tests does my child need while they receive CVVH?

We may test:

- Small amounts of blood from the CVVH tubing and your child's I.V. This will help us monitor the machine, as well as your child's calcium levels.
- Other labs. This will help us adjust the CVVH to fit your child's exact needs.

How long will my child need CVVH?

Your child will need CVVH until:

- The kidneys begin working again, **or**
- Enough fluids and waste products have been removed from the blood.

This may take only a few days, but it could take longer. Sometimes the kidneys may not completely return to normal. When this happens, the kidney (or renal) doctors will talk with you about other treatment options for your child. CVVH does the work of the kidneys while your child's kidneys are trying to heal and get better.

Are there any side effects?

Your child may have:

- Lightheadedness
- Nausea (upset stomach)
- Vomiting (throwing up)
- Tingling in the mouth, fingers, chest, feet or legs

Although not as common, your child may also have:

- Fever
- Chills
- Back pain
- Trouble breathing
- Itching
- Hives

How can I help keep my child safe?

To help keep your child safe:

- We ask that you wait to give your child any food or drink until after the doctor or nurse says it is OK.
 - **It is very important that we know everything your child is eating and drinking.**
 - Please help us by telling us what and how much your child eats or drinks at any time – no matter how small.

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Continuous veno-venous hemofiltration, continued

- The nurse will check your child and the CVVH machine every hour – even during the night.
- The CVVH machine does make noise.
 - It alarms at least 1 time every hour. This is to alert the nurse.
 - The machine's noises and alarms play an important part in keeping your child safe.
 - They cannot be silenced.
- Sometimes the CVVH machine works best when your child is positioned a certain way in bed. If your child's movement limits the machine's ability to work as it should, we may ask you to help us keep them positioned in a different way.

This teaching sheet contains general information only. Talk with your child's doctor or a member of your child's healthcare team about specific care of your child.

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