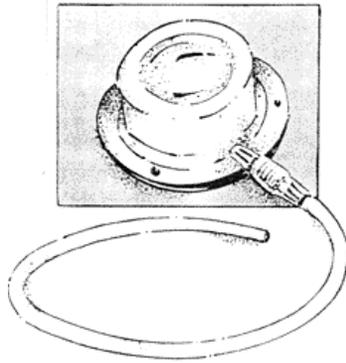


About a VAD (Vascular Access Device)

This is a Vascular Access Device or VAD.
A VAD is made up of 2 parts:

1. An *injection port* that looks like a small hat. The “crown” of this “hat” is made from a silicone rubber material which reseals after each needle is removed.



2. A thin flexible tube called a *catheter*. The catheter has a socket at one end that connects it to the port.

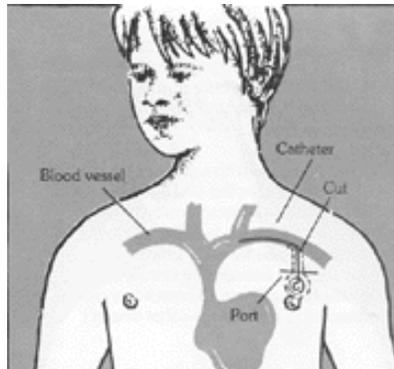
The small veins that run close to the skin - those that can be reached with a needle - have thin walls. The strong chemicals in some medicines irritate the walls of the small blood vessels and damage the tissues around them. This makes it difficult and painful to give many treatments and take blood.

The VAD catheter carries the medications into a large blood vessel with strong walls.

Large blood vessels are deeper in the body. When the chemicals flow into a large blood vessel they are diluted by the quantity blood in that vessel. They do less damage to the healthy tissues. The chemicals flow quickly through the large channels of these big blood vessels so there is less chance of them pooling in one area and irritating it.

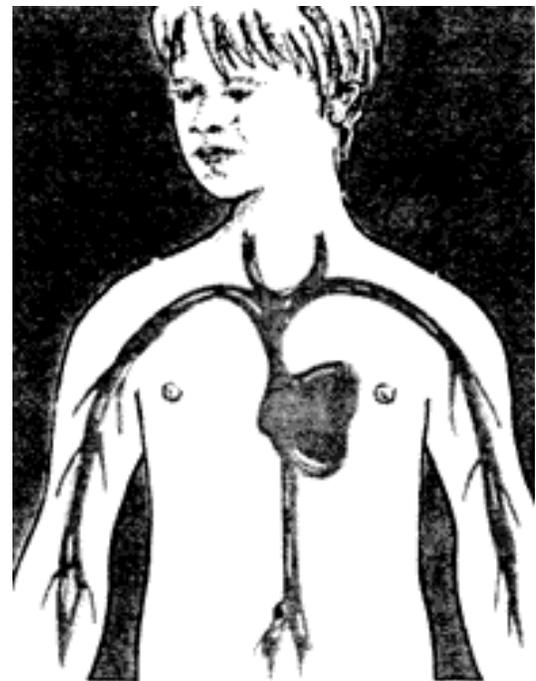
When it is in place it looks like this:

The tip of the catheter lies in the superior vena cava, a large blood vessel leading to the heart. The other end is connected to the port with a special lock.



The whole device sits just under the skin.

A VAD provides a safe way into a blood vessel. It can stay in place for as long as needed - years even.



Using a VAD causes less pain and less damage to the blood vessels and tissues.

A VAD is recommended for people whose treatment will involve many needle pokes into blood vessels:

- Many injections of medications into the blood stream.
- Many blood samples.
 - o Taking blood from the VAD has some drawbacks. Therefore, some blood samples may need to come directly from a vein. Also, if you are only scheduled to have blood drawn, it will be taken from a vein in the arm rather than using the VAD.
- Transfusions of blood products, e.g. blood, platelets or bone marrow.

There are other benefits to a VAD.

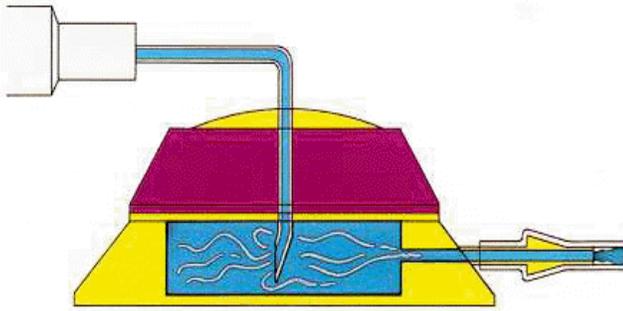
Because the whole system is covered by skin:

- The skin is a natural protection from germs. The chance of infection is less.
- The VAD needs very little special care.
- The person is free to do most activities, even swimming.
- You can wash the area in the normal way in a shower or bath.

The VAD works like this when it is in place:

A special needle with a fine point (Huber needle) is attached to a syringe or tubing. The needle goes through the skin and into the crown of the port. Because the needle is going only through skin, it is much less painful than deeper injections. The medication or other product is then injected quickly or dripped slowly into the port. From there it flows through the catheter into the bloodstream. A dressing may be applied to the area to secure the needle in place.

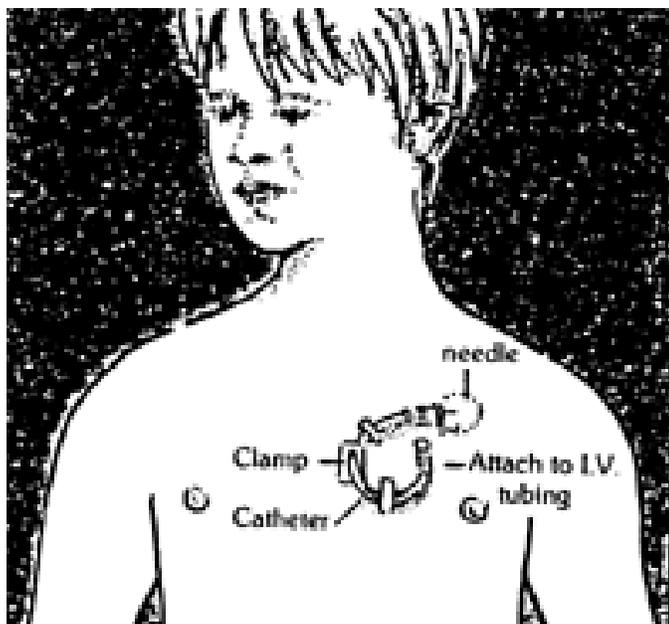
If treatments are daily or several times in the week, the needle and tubing can be left in the VAD for up to 10 days. This means fewer pokes and less distress for the person. Emla cream may be applied to numb the skin covering the port one hour prior to accessing the VAD.



Implanting (putting the VAD in place) is a fairly simple surgery.

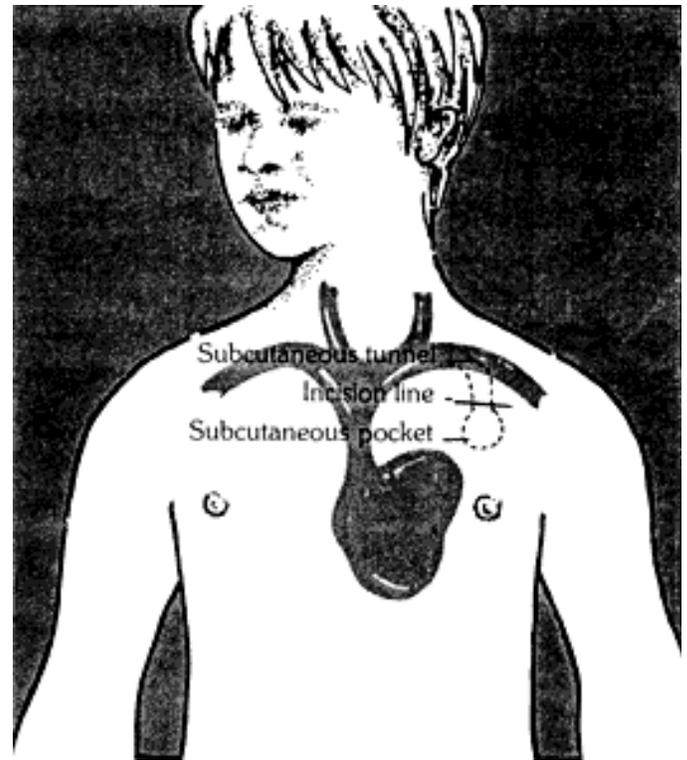
It takes about 60 minutes. As a rule, a surgeon does it in the operating room under a general anesthetic.

In most cases, the best place for the VAD is just below the collar bone. Sometimes, because of the type of treatment, a different place is chosen. The surgeon will discuss the best position with you.



Surgery to place a VAD:

1. A small cut is made a little below the collar bone.
2. The catheter is threaded through this into a major vein.
3. The surgeon uses an x-ray to make sure that the tip of the catheter is correctly in the vein.
4. Next the surgeon makes a little “pocket” under the skin to hold the port. S/he puts the port into the pocket and connects the catheter to the port.
5. Fluid is flushed through the VAD to make sure it is working well.
6. The pocket is stitched closed. These stitches will either dissolve in time or a nurse will remove them in about two weeks. The incision in the neck is also stitched and steri-strips are usually placed over the incision. These will come off in a few days.
7. Once the wound has healed, the only sign of the VAD will be a small bump on the chest.



People with a VAD should:

- Carry an identification card at all times to notify other health care professionals that you have a VAD.
- Tell the doctor when you are going to have dental work done. S/he may want to prescribe an antibiotic as a protection against infection. It is easy for germs to enter the blood stream through the gums.
- Watch for and inform the doctor of any problems like:
 - o a feeling that the port has moved
 - o pain or tingling around the port.

At the first sign of an infection call your doctor:

- redness, swelling, tenderness or oozing around the port
- fever
- aches or flu-like feeling



Contacts

Community nurse: _____

Telephone: _____

Doctor: _____

Telephone: _____

Hospital nurse or other contact: _____

Telephone: _____

At Children's & Women's Health Centre of British Columbia we believe parents are partners on the health care team. We want you to be as informed as possible. This brochure will answer some of your questions. Please ask about things you do not understand and share your concerns.

If you have any questions, please call one of the contacts listed above.

Developed by the health care professionals of the Oncology Haematology/BMT Department and Parenteral Therapy with assistance from the Department of Learning & Development.