



You and your vascular access device

What is vascular access?

Vascular access is a common procedure for people receiving care, involving accessing the person's veins or arteries for many different types of treatments. Your health provider may decide you need a vascular access device (VAD) inserted if you need additional fluids, medications, blood products or continuous blood pressure monitoring. If you need a blood sample taken, this is also considered vascular access, however it usually only involves taking blood from the veins or arteries without leaving a device in place (known as venipuncture).

What types of VADs are there?

A VAD consists of a connector (called a hub), a hollow tube divided into one or more sections (called lumens), and a flexible catheter tip that ends within a blood vessel. Depending on the treatment required, your health provider will decide what type of device is needed. Your health provider will consider many factors when choosing a VAD most appropriate for you based on your condition, length and type of treatment as well as your values and preferences. The table below describes the two main types of VADs.

Type of device	What it's used for	Examples
Peripheral VAD, which includes: <ul style="list-style-type: none"> peripheral intravenous catheter (PIV) peripheral arterial catheter 	<ul style="list-style-type: none"> short-term treatment administration of fluids, medications and/or blood products continuous blood pressure monitoring blood sampling (from the arterial line) 	 <p>Peripheral intravenous catheter</p>
Central VAD, which includes: <ul style="list-style-type: none"> central venous catheter (CVC) peripherally inserted central catheter (PICC) implanted venous access device (port) 	<ul style="list-style-type: none"> long-term treatment situations where the person has difficult venous access or failed attempt at peripheral access catheter tip ends a large blood vessel which allows irritating medications or solutions to be administered continuous blood pressure monitoring 	 <p>Peripherally inserted central catheter</p>

Who inserts VADs? Does it hurt?

A member of the health-care team, such as a nurse or doctor, will insert the VAD. The health provider may use technology to help insert the device and see the blood vessel, such as an ultrasound device. Some devices such as implanted ports may need to be inserted by vascular access specialists in hospitals.

Your health provider will use appropriate pain management strategies when inserting a VAD, however you may feel some pain. Depending on the type of VAD being inserted, many different forms of pain management options are available for you. Pharmacological pain management strategies (e.g., medications) as well as non-pharmacological pain management strategies (e.g., cold or distraction techniques) may be offered to you prior to the procedure. It is important to discuss these options with your health provider prior to the procedure.

What are some possible complications of VADs?

To ensure safe insertion and care of VADs, your health provider will monitor for complications. If you notice any redness, swelling, leaking, warmth or pain at the VAD insertion site, you should let your health provider know immediately, as these may be signs of complications. If the device is dislodged or out of place in the blood vessel, it can lead to leakage of the fluid or medication into the surrounding tissues, which may cause other health issues.



Learning more about your VAD from your nurse and health-care team can help reduce complications, improve self-management and ensure safe treatment.

This health education fact sheet was developed using content from the RNAO best practice guideline (BPG) *Vascular Access, Second Edition* (2021), available [online](#). It provides you with information to help you make decisions regarding your health. All of RNAO's BPGs are available for public viewing and free download at RNAO.ca/bpg.