

## Comparison of the Major Types of Central Venous Catheters (CVCs)

Catheter Type	Entry Site	Duration of Use	Advantages	Disadvantages	Comments
Nontunneled CVCs	Percutaneously inserted into central veins (internal jugular, subclavian, or femoral vein)	Short term*	<ul style="list-style-type: none"> <li>■ Percutaneous insertion</li> </ul>	<ul style="list-style-type: none"> <li>■ Require local anesthesia</li> <li>■ May be inserted in the operating room</li> <li>■ Dressing required over site</li> <li>■ Risk of infection</li> </ul>	<ul style="list-style-type: none"> <li>■ Account for the majority of central line–associated bloodstream infections (CLABSIs)</li> <li>■ More commonly used than long-term CVCs</li> </ul>
Tunneled CVCs	Implanted into internal jugular, subclavian, or femoral vein	Long term†		<ul style="list-style-type: none"> <li>■ Require surgical insertion</li> <li>■ Require local or general anesthesia</li> <li>■ Increased cost</li> </ul>	<ul style="list-style-type: none"> <li>■ Lower rate of infection than nontunneled CVCs</li> <li>■ Dacron cuff inhibits migration of organisms into catheter tract when ingrown</li> </ul>
Implantable ports	Inserted in the subclavian or internal jugular vein. Tunneled beneath the skin; subcutaneous port accessed with a noncoring needle.	Long term	<ul style="list-style-type: none"> <li>■ Improved body image (low visibility of port)</li> <li>■ Patient comfort</li> <li>■ Local catheter site care and dressing not needed when not in use</li> </ul>	<ul style="list-style-type: none"> <li>■ Require surgical insertion and removal</li> <li>■ Require general anesthesia</li> <li>■ Increased cost</li> </ul>	<ul style="list-style-type: none"> <li>■ Lowest risk for CLABSI</li> </ul>
Peripherally inserted central catheter (PICC)	Inserted percutaneously into basilic, brachial, or cephalic vein and enters the superior vena cava	Usually short to intermediate	<ul style="list-style-type: none"> <li>■ Ease of insertion, usually at the bedside by a specially trained registered nurse</li> </ul>	<ul style="list-style-type: none"> <li>■ Can be difficult to position in central vein</li> <li>■ Potential for occlusion</li> </ul>	

\* Short term: usually less than three weeks.

† Long term: weeks to months.

**Sources:** Adapted from O'Grady NP, Alexander M, Burns LA, Dellinger EP, Garland J, Heard SO, Lipsett PA, Masur H, Mermel LA, Pearson ML, Raad II, Randolph AG, Rupp ME, Saint S; Healthcare Infection Control Practices Advisory Committee (HICPAC). Guidelines for the prevention of intravascular catheter-related infections. *Clin Infect Dis*. 2011 May;52(9):e162–193. Epub 2011 Apr 1; Larson SD, Mancini MC. Vascular access, surgical treatment. *Medscape Reference*. Jan 25, 2010. Accessed Jul 11, 2013. <http://emedicine.medscape.com/article/1018395-overview#showall>.