

Central Venous Access Device and Site Selection

Device Selection

For acutely ill persons requiring infusion of an irritant medication, hemodynamic monitoring (such as central venous pressure), or frequent blood draws for 2 weeks or less, a nontunneled central venous catheter and a peripherally inserted central venous catheter (PICC) are usually appropriate.

For people with acute kidney failure requiring central venous access for kidney replacement therapy for 2 weeks or less, a nontunneled dialysis catheter and a tunneled dialysis catheter are usually appropriate. For therapy duration of more than 2 weeks, a tunneled dialysis catheter is usually appropriate.

For people with cancer diagnoses requiring central venous access for weekly chemotherapy infusion for more than 2 weeks, a chest port and an arm port are usually appropriate.

For people requiring continuous or very frequent intravenous medications (except for total parenteral nutrition, which is nutrition given through a vein if someone can't eat or drink) for more than 2 weeks, a PICC and a tunneled central venous catheter are usually appropriate.

For people requiring long-term total parenteral nutrition and who have another reason for needing central access, a tunneled central venous catheter (double lumen) and a double-lumen PICC are usually appropriate.

For people with chronic kidney disease requiring central venous catheter infusions for more than 2 weeks, a tunneled central venous catheter (single or double lumen) is usually appropriate.

Site Selection

For people with acute illness requiring a central venous catheter for 2 weeks or less, the right or left internal jugular vein, right or left subclavian vein, and upper extremity vein are usually appropriate.

For people with chronic or end-stage kidney disease requiring a central venous catheter, the right or left internal jugular vein is usually appropriate.

For more information, see the Vascular Access Procedures (https://www.radiologyinfo.org/en/info/vasc_access) page.

— By Elaine Liang and Gregory J. Czuczman, MD. This information originally appeared in the *Journal of the American College of Radiology*.

Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2025 Radiological Society of North America, Inc.