

Peripheral IV Catheters

Types	Peripheral IV	Implanted Vascular Access Device (IVAD)
Examples	Angiocath, Butterfly, Insyte, Intima, Jelco	Port-A-Cath, Mediport, PAS-port
Placement	Inserted into the small veins on the back of the hand, forearm, and crease of the elbow	A reservoir device is implanted under the skin at the chest or forearm with a catheter inserted into the large veins of upper chest or upper arm. Is generally not readily visible
Surgical Procedures	No	Yes
Cost	Minimal	Cost for device/surgery/local anesthesia/maintenance equipment/nursing care
Duration of use	For the length of the infusion and then removed	Continuously, barring complications
Special care	None	Requires flushing with saline and heparin with each use or monthly. Use of special angled needle. Requires strict sterile procedures. Requires sterile dressing if device remains accessed, and must be changed at least weekly or more frequently if needed
Risks	Infection, specifically at insertion site, bleeding, bruising, phlebitis, thrombosis, blood clots, embolism	Same as with peripheral but potentially more serious due to direct access to central circulation of the body. Infection can be at insertion site, access site or systemic (in the blood stream). Other problems may include catheter fracture and rupture, catheter dislodgement, air embolism, catheter occlusion, punctured lung during placement, catheter migration
Benefits	Inexpensive, easily placed, short term dwell time, complications minimal, and infrequent, requires no maintenance	Makes IV access readily available. May reduce number of attempts to obtain IV access. Is not readily visible
Considerations	Lowest risk of infection or complication. Catheter is removed after infusion is complete. Requires no ongoing maintenance Consider patient comfort in location of catheter placement	Small lump may be noticeable on upper chest or forearm where device is placed Placement should be in an area that is comfortable for the patient

Tunneled central catheters

Types	Tunneled central catheter	Peripherally Inserted Central Catheter (PICC)
Examples	Hickman, Broviac, Groshong catheters	Per Q catheter, Gesco catheter, V-Cath
Placement	A catheter is tunneled under the skin on the chest wall into the large veins of upper chest. Approximately 6–8" of tubing is external and visible at all times	A silicone catheter is inserted through a large vein at the crease of the elbow and threaded into the large vein of the upper chest. Approximately 4–6" of tubing is external and visible at all times. Requires a sterile dressing at the insertion site at all times
Surgical Procedures	Yes	No
Cost	Cost for device/surgery/local anesthesia/maintenance equipment/nursing care	Cost for placement, usually done by a nurse in the home or at a facility/maintenance equipment/nursing care
Duration of use	Continuously, barring complications	Limited to several months in general
Special care	Requires flushing with saline and/or heparin daily at minimum and with each use. Initially requires sterile dressing changes once/week and more frequently if needed. Special considerations for bathing initially. Eventually, dressing consists of a Band-Aid and no further special considerations for bathing	Requires flushing with saline and/or heparin twice/day and sterile dressing changes weekly at minimum. More frequently as needed
Risks	Same as peripheral and IVAD More prone to infection at insertion site than IVAD	Same as peripheral Catheter fracture and rupture, catheter dislodgement, catheter occlusion, systemic infection, air embolism
Benefits	Makes IV access readily available Does not require a needle stick to access (after initial placement)	Makes IV access readily available Does not require a needle stick to access (after initial placement)
Considerations	Tubing and dressing are visible on chest wall Special care needs to be taken for bathing	Tubing and dressing are visible at the insertion site Special care needs to be taken for bathing