	cuff Easy to use for self-administered infusions Removal requires pulling catheter from site (nonsurgical procedure)	Water sports may be restricted (risk of infection) Risk of infection still present Protrudes outside body; susceptible to damage from sharp instruments and may be pulled out; may affect body image More difficult to repair Patient or family must learn catheter care
Groshong Catheter		
Clear, flexible, silicone, radiopaque catheter with closed tip and two-way valve at proximal end Dacron cuff or VitaCuff on catheter enhances tissue ingrowth May have more than one lumen	Reduced time and cost for maintenance care; no heparin flushes needed Reduced catheter damage; no clamping needed because of two-way valve Increased patient safety because of minimal potential for blood backflow or air embolism Reduced risk of bacterial migration after tissue adheres to cuff Easily repaired Easy to use for self-administered IV infusions	Requires weekly irrigation with normal saline Must keep exit site dry Heavy activity restricted until tissue adheres to cuff Water sports may be restricted (risk of infection) Risk of infection still present Protrudes outside body; susceptible to damage from sharp instruments and may be pulled out; can affect body image Patient or family must learn catheter care
Implanted Ports (e.g., Port-A-Cath, Infus-A-Port, Mediport, Norport, Groshong Port)		
Totally implantable metal or plastic device that consists of self-sealing injection port with top or side access with pre-connected or attachable silicone catheter that is placed in large blood vessel	Reduced risk of infection Placed completely under the skin and therefore much less likely to be pulled out or damaged No maintenance care and reduced cost for family Heparinized monthly and after each infusion to maintain patency (only Groshong port requires saline) No limitations on regular physical	Must pierce skin for access; pain with insertion of needle; can use local anesthetic (EMLA, LMX) or intradermal buffered lidocaine before accessing port Special noncoring needle (Huber) with straight or angled design must be used to inject into port Skin preparation needed before injection Difficult to manipulate for self-administered infusions Catheter may dislodge from port, especially if child "plays" with port site (twiddler syndrome) Vigorous contact sports generally not allowed