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Home Infusion Therapy (HIT) Basics

2023

Learning Goals

By the end of this module, nurse learners will be able to:

Apply knowledge of home infusion therapy to daily nursing practice.

- Define Home infusion Therapy (HIT).
- Identify appropriate NurseLink resources (nurse education, patient education, annual updates, infusion and enteral videos, infusion and enteral teaching guides, pump administration brochure, FAQs, administration of emergency medications video, policies and procedures),for home infusion patients to promote effective learning to safely administer home infusion therapy.
- Identify the modes of administration and vascular access devices.
- Become familiar with the various infusion pumps.
- Educate patients effectively.
- Apply best practice in all modes of administration when teaching and caring for home infusion patients.

Home Infusion Therapy (HIT) defined by CMS

Home infusion therapy involves the intravenous or subcutaneous administration of drugs or biologicals to an individual at home. The components needed to perform home infusion include the drug (i.e., antivirals, immune globulin), equipment (i.e., a pump), and supplies (i.e., tubing and catheters). Likewise, nursing services are necessary to train and educate the patient and caregivers on the safe administration of infusion drugs in the home. Nurses play a large role in home infusion. Nurses typically train the patient or caregiver to self-administer the drug, educate on side effects and goals of therapy, and visit periodically to assess the infusion site and provide dressing changes. The home infusion process typically requires coordination among multiple entities, including patients, physicians, hospital discharge planners, health plans, home infusion pharmacies, and, if applicable, home health agencies.

Access to Nurse Link

To login, follow the link below and click "*Login to Nurse Link*."

https://carepathrxllc.com/nurselink-welcome/

Password: email nursingsupport@homeinfusion.com

Be sure to bookmark this URL and save your password for future use.

NL Patient Site:
https://carepathrxllc.com/nurselink-patient/

Patient teaching Videos	Patient Written Instructions	Nursing P & P	Links to RN virtual training	Nurse Videos	Home Infusion Society links	CarepathRX in the News

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Nurse Link BY CAREPATHRX

As your partner in care, CarepathRx is committed to ensuring unmatched clinical expertise for home infusion and enteral nutrition care. NurseLink equips our home health nursing partners with the education, policies, and resources needed to provide expert patient care in the home setting. Once you become a CarepathRx partner, you will have access to dozens of home infusion policies and procedures by therapy type, continuing education and therapy-specific trainings, and more.

If you are a current partner, please log into NurseLink here with your password. If you would like more information on how CarepathRx is revolutionizing pharmacy care, please contact nursingsupport@homeinfusion.com.

LOGIN TO NURSELINK

Click to email Clinical Nursing Team

Click to access NurseLink Resources

Contact Us CONTACTUS@CAREPATHRXLLC.COM

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Online Resources

[Nurselink Welcome - CarepathRx (carepathrxllc.com)]

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Nurse Link
BY CAREPATHRX

NURSE EDUCATION

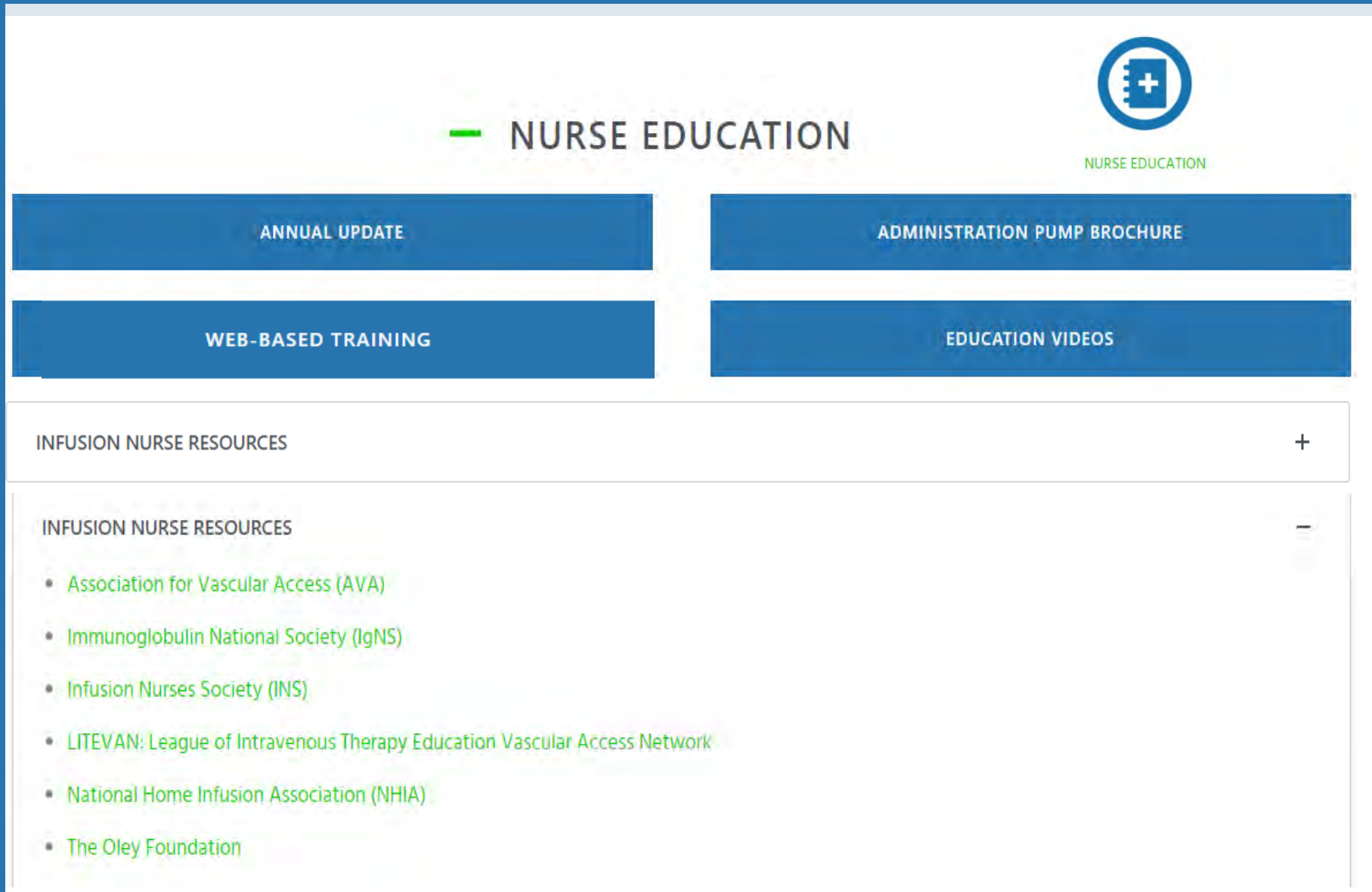
PATIENT EDUCATION

POLICIES & PROCEDURES

NEWS

NurseLink: Nurse Education

- Annual Update: Home Infusion Nursing Manual
- Pump Brochure: Image and explanation of all pumps
- Education Videos: Patient step-by-step videos and simple nurse instructional videos. Enteral, Infusion and Virtual Education Videos (Enteral Therapy, Specialty Biologics, HIT Basics and TPN)
- Web-Based Training: Virtual training sessions
- Infusion Nurse Resources: List of links to Home Infusion organizations



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Website Videos

Enteral Teaching Videos | Infusion Teaching Videos

Manufacture Videos:

- Kangaroo Joey Pump
- Infinity Pump
- EntraFlo Pump

Carepathrx Videos:

- Gravity Feed
- Bolus Feed
- Solis Pump
- Sapphire Pump
- Freedom 60 Pump
- Elastomeric
- IV Push
- Flushing Your IV Catheter
- TPN Administration
- Gravity Administration
- Mini-Bag Plus by gravity
- Vial Mate by gravity

Note: All patients should watch YouTube video: "Flushing your IV Catheter at Home"

Enteral Teaching Videos

Kangaroo™ Joey Pump Manufacturer Videos

Using the History feature of the Kangaroo™ Joey Enteral Feeding Pump

Re-priming the pump set for the Kangaroo™ Joey Enteral Feeding Pump

Using the Flush Now feature of the Kangaroo™ Joey Enteral Feeding Pump

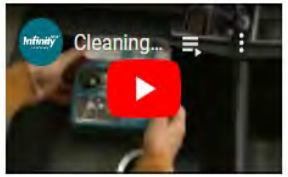
Using the Keep Tube Open (KTO) feature of the Kangaroo™ Joey Enteral Feeding Pump

Infinity® Pump Manufacturer Videos

Key Features of the Infinity Enteral Feeding Pump

Operating the Infinity Enteral Feeding Pump

Infinity Enteral Feeding Pump Administration Set



Cleaning and Maintaining the Infinity Enteral Feeding Pump

EntraFlo® Manufacturer Pump Videos

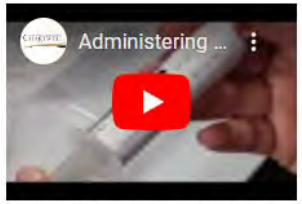
EntraFlo: Pump Operations

EntraFlo: Cleaning the Pump

EntraFlo: Pump Features

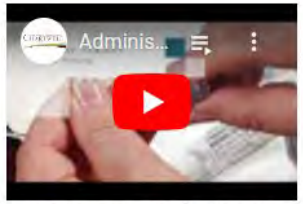
EntraFlo: Open System Feeding

Infusion Teaching Videos



Administering Your IV Push Medication via Prefilled Syringe at Home

Flushing Your IV Catheter at Home



Administering Medication via Gravity at Home

Administering Medication via Elastomeric Easy Pump

Click to share video or copy link

Specialty Biological Infusions (RNs) – 60 Mins

TPN in the Home (RNs) – 45 Mins

Immunoglobulin: IVIG/SCIG (RNs) – 60 Mins.

Enteral Therapy (RD, RNs, RPH, CSS & Support Staff) – 30 Mins.

IV Modes of Administration (RNs, RPH, and Support Staff) – 60 Mins.

Vascular Access Device Management – 60 Mins.

SOC Responsibilites, Pharmacy Orders & Resources (RNs) – 60 Mins.

Chemo Takedown – 60 Mins.

PCA – 45 Mins.

Elastomeric Device (Easy Pump)

- Non-electronic pump that allows patient to remain ambulatory during infusions.
- Rate of infusion is determined by the device selected.
  - Some restrictions due to volume and rate of infusion.
- Bulb of medication slowly deflates as it infuses the medication and is typically placed in a pouch, allowing the patient more mobility during infusions.
- Easier to use for patients with dexterity issues.
- Primarily used for antibiotics:
  - Cephalosporins
  - Cipro
  - Invanz
  - Meropenem
  - Mycamine
  - Oxacillin– continuous and scheduled
  - Zosyn – continuous and scheduled

Joey Enteral Pump

- Infuses tube feedings in "continuous", "intermittent", and "feed & flush" modes.
- Formula and pump are typically placed in a backpack or pouch, allowing the patient more mobility during infusions.
  - Pole mounted pump available as indicated.

Infinity Enteral Pump

- Infuses tube feedings in continuous and intermittent modes.
- Formula and pump are typically placed in a backpack or pouch, allowing the patient more mobility during infusions.
  - Pole mounted pump available as indicated.
- Lighter weight than the Joey Pump.

ADMINISTRATION PUMP BROCHURE

- Pump Brochure: Image and explanation of all pumps
- CarepathRx Administration Pumps Overview (flippingbook.com)

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Nurse Link BY CAREPATHRX

https://carepathrxllc.com/nurselink-patient/

PATIENT EDUCATION

PATIENT EDUCATION

NurseLink aims to not only provide agency education and training, but also to help further caregiver and patient education throughout their time on service with you. We know that the more comfortable your patients are with their therapy and administration, the better the therapy outcome.

INFUSION VIDEOS

INFUSION TEACHING GUIDES

ENTERAL VIDEOS

ENTERAL TEACHING GUIDES

PHARMACIST FAQs +

NURSE FAQs +

EMERGENCY MEDICATIONS +

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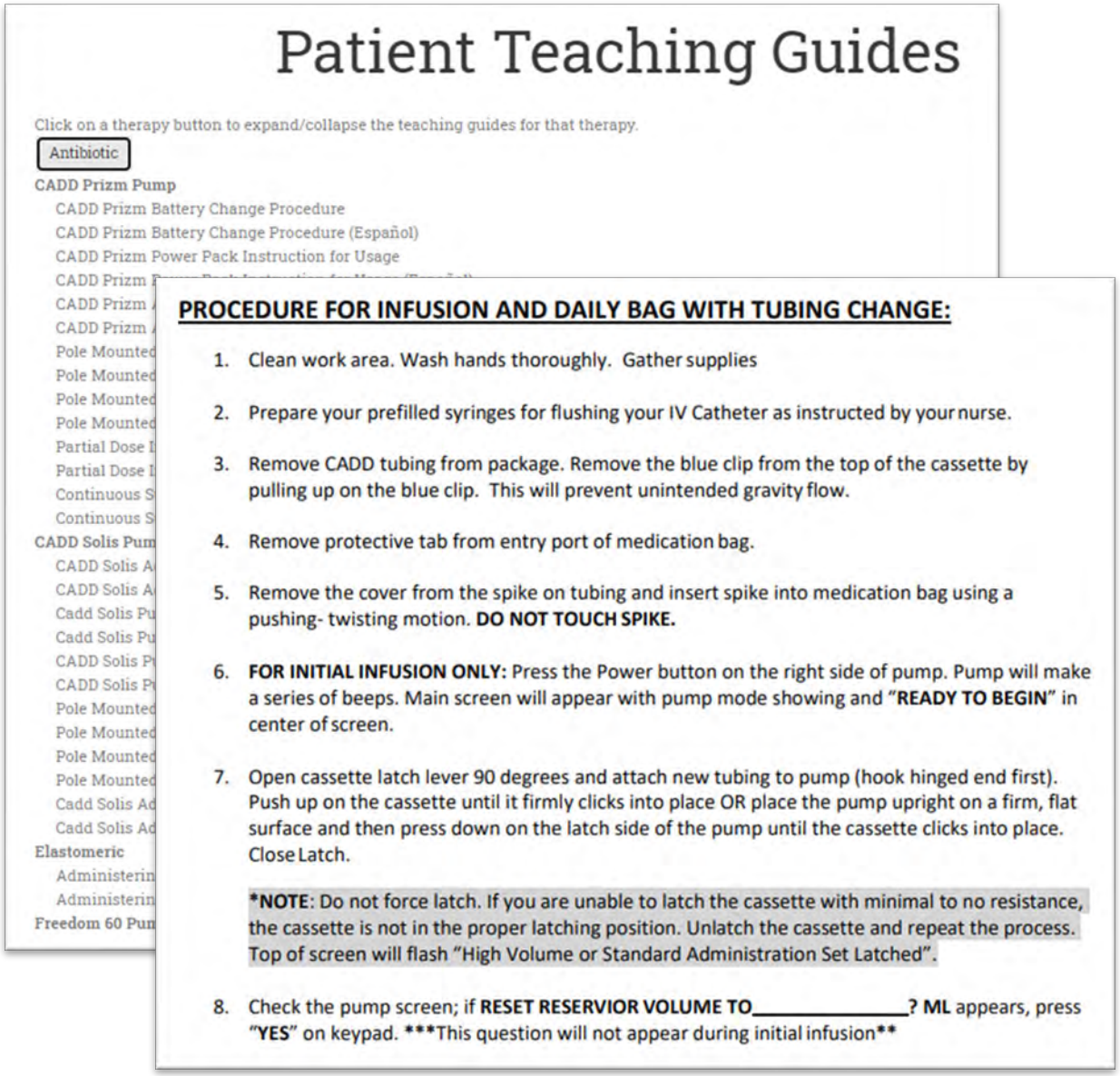

Patient Step-by-Step Teaching Guides

Nurselink Patient - CarepathRx (carepathrxllc.com)

- Delivered to patient with 1st delivery.
- Detailed instruction on how to administer home IV and enteral therapies.
- Infusion Teaching Guides Patient Infusion Guides - CarepathRx (carepathrxllc.com)
- Enteral Teaching Guides Patient Enteral Guides - CarepathRx (carepathrxllc.com)

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Nurse Link
BY CAREPATHRX

POLICIES & PROCEDURES

POLICIES AND PROCEDURES

CarepathRx policies and procedures provide our nursing partners with the strategy and guidelines needed to establish safe and effective infusion therapy in the home setting.

- A. GENERAL +
- B. CATHETERS +
- C. OTHER ADMINISTRATION ROUTES +
- D. THERAPIES +

Nurse Link
BY CAREPATHRX

POLICIES AND PROCEDURES

CarepathRx policies and procedures provide our nursing partners with the strategy and guidelines needed to establish safe and effective infusion therapy in the home setting.

A. GENERAL

- Flushing Catheters NUR-001
- Intravenous Therapy Principles NUR-002
- IV Lines and Care; Quick Reference NUR-003
- Blood Culture Collection NUR-004
- Drug Level Drawing Times NUR-005
- Lab Draw Protocol NUR-006
- Antimicrobial Lock Therapy Central Venous Access Device NUR-010
- Management of Allergic/Anaphylactic Reactions NUR-012
- IV Push Medication via Syringe NUR-013
- Withdrawing Medication from a Vial NUR-014
- Administration of Cathflo Activase in Adult Patient NUR-015
- Infiltration and Phlebitis NUR-121
- Vesicants, Chemotherapeutic Agency and Vascular Access Recommendations NUR-208

Click policy number to view

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NEWS

NEWS

CarepathRx Announces Home Infusion Partnership with Yale New Haven Health

October 12, 2022 News

CarepathRx to provide comprehensive home infusion services to the Yale New Haven Health System patient population across five hospitals...

Read More

CarepathRx and Orlando Health Announce Home Infusion Collaboration

September 12, 2022 News

CarepathRx and Orlando Health recently announced a multi-year home infusion management service agreement to benefit patients across the systems' ten hospitals...

Read More

CarepathRx Chief Human Resources Officer Leah Silver named 2022 Front of the Front Line Award Finalist

September 8, 2022 News

This prestigious honor from HRO Today recognizes excellence within healthcare HR leadership...

Read More

BioPlus Introduces the BioPlus V: Virtual Pharmacy Tool

August 22, 2022 News

BioPlus V is the only virtual pharmacy tool that provides comprehensive visibility for prescribers into every step of their patients' specialty medication journey...

Read More

CarepathRx and Antelope Valley Medical Center Announce Inclusive Home Infusion Partnership

August 16, 2022 News

Antelope Valley Medical Center is the only full-service, acute-care hospital serving northern Los Angeles County...

Read More

Delivering Fast and Easy Access to More Generic Oncology Medications

July 13, 2022 News

BioPlus Specialty Pharmacy today announced the expansion of its "Hope Delivered in 24 Hours" program for oncology meds...

Read More

CarepathRx On Call

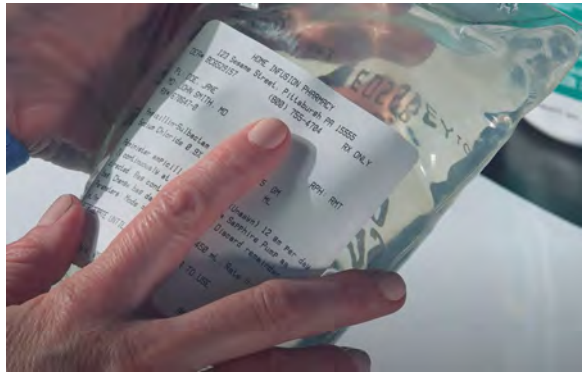
24 / 7 Access to the Clinical Pharmacy team

For after-hours, weekend and holiday support, troubleshooting, and delivery needs:

- CarepathRx Pharmacist
- Local pharmacy support varies by pharmacy.
- Dietitians

  1-877-ENTERAL
- Nurses
- Delivery

Contact the pharmacy by calling the phone number at the top of the medication label.



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Therapy Education

- Remind patients pumps must be returned to your pharmacy when therapy is completed.
  - Pumps are not disposable
- Supply reordering
  - The PPA will call IV patients if needed.
  - The patient must call the CSS to order supplies/formula.
- Will need for re-deliveries:
  - List of supplies, medications and formula needed.
  - Complete inventory of supplies, medications and formula in the home.
  - Patient's response to therapy.
  - Script for order changes & when next doctor appointment is.

Pharmacy Remote Patient Monitoring

Before each delivery the pharmacist, or pharmacy representative, will assess patient standard assessment questions:

1. Is the infusion being infused safely and with appropriate technique?
2. Is the patient experiencing side effects?
3. Is the patient experiencing wear-off effects(Wearing off is where the patient begins to feel that the improvement gained from a dose of medication gradually fades off and does not last until the time that the next dose is due)?
4. Obtain an accurate inventory of medication and supplies in the home (and what is needed).

The pharmacist may delivery multiple does in the same delivery, depending on dosing schedule.

Side effects and wear-off symptoms will be reported to the physician with order change suggestion.

These types of communication may in some cases delay your delivery.

Pump Returns

CarepathRX will contact the patient & arrange pump pick up by UPS.

- The pharmacy will print and deliver an UPS shipping label and padded shipping box to the patient for pump return.
- The patient does not need to be home for the UPS driver to pick up the boxed pump.
- There is no fee to the patient for this service.

Nurses are NOT to remove pumps from patients' homes.

(exceptions may apply)

Contact Carepathrx for equipment return.

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ACCESS DEVICES

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Access Devices

Subcutaneous Needles

Peripheral Catheter

Midline Catheter

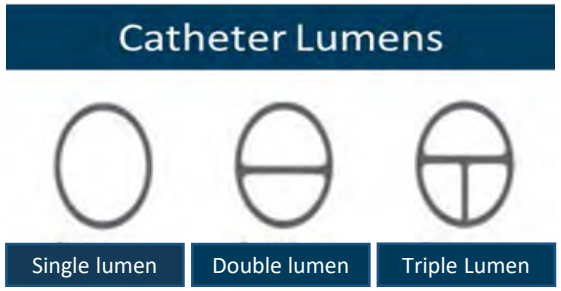
PICC (Peripherally Inserted Central Catheter)

Non-tunneled Central Venous Catheter

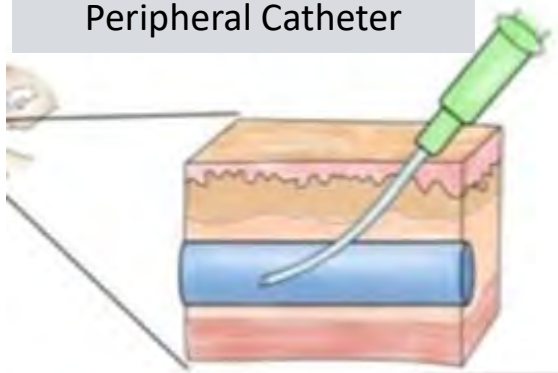
(CVC – Central Venous Catheter)

Tunneled Central Venous Catheter

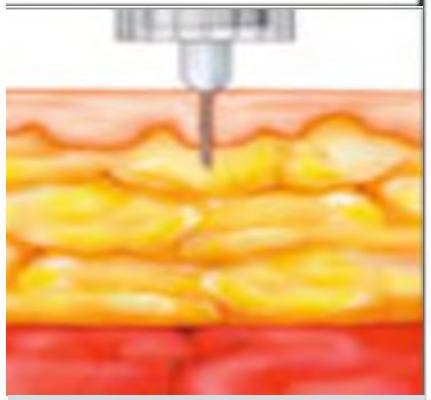
Implanted Port



Peripheral Catheter

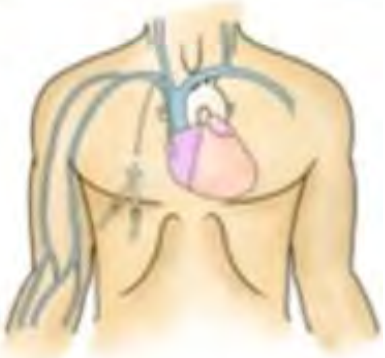


Non-tunneled Central Venous Catheter

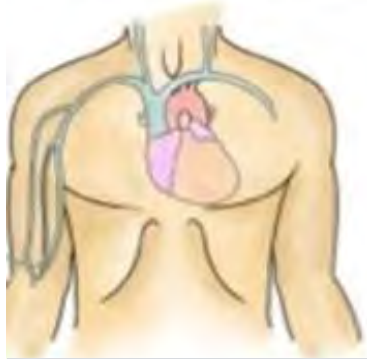


Subcutaneous Needles

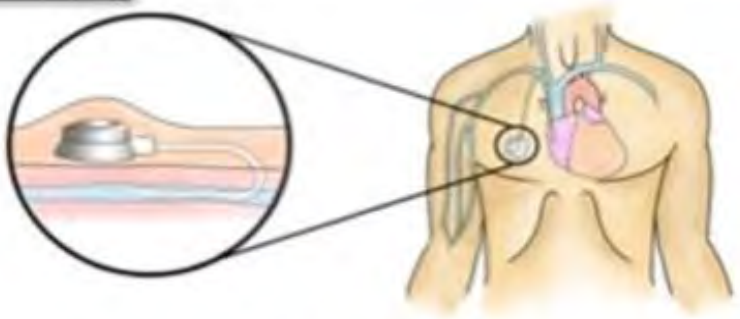
PICC (Peripherally Inserted Central Catheter)



Tunneled Central Venous Catheter



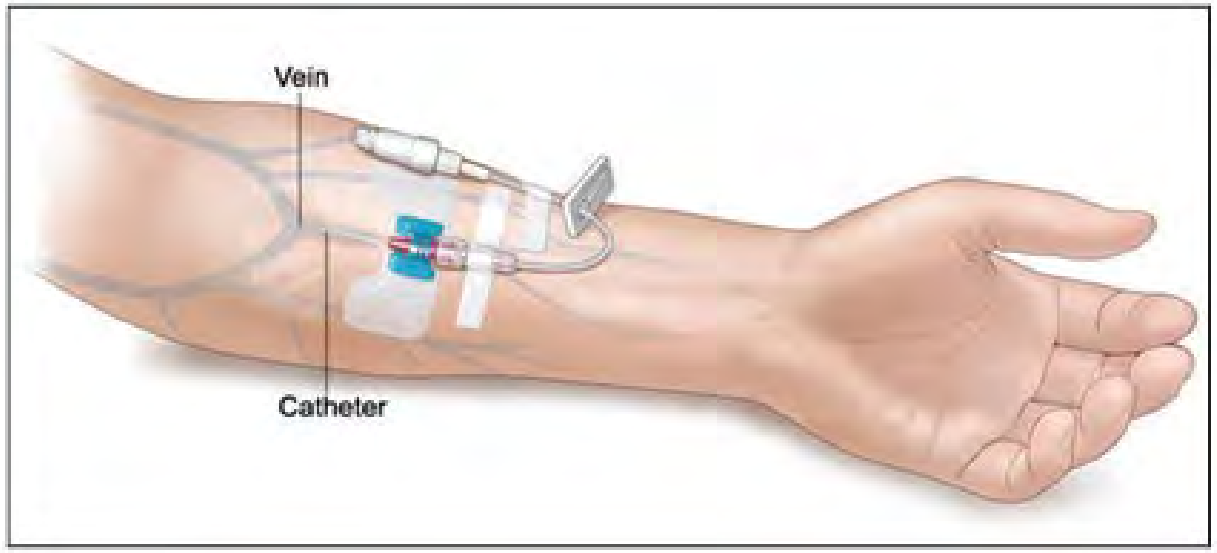
Midline Catheter



Implanted Port

Peripheral Catheters

- Easily inserted into veins of the forearm or hand.
- May be inserted by RN or LPN in the home.
- Used for short term therapy.
- Used to administer fluids, medications and blood products.
- DO NOT use peripheral IV catheters for continuous vesicant therapy or parenteral nutrition.
- Removed/changed when there are unresolved complications or no longer necessary for therapy.
- Safely removed in the home by an RN, LPN and, in some cases, by the patient or caregiver with a medical background who has completed IV training.
- With each visit, document site condition, dressing condition, patency of catheter and ongoing need.



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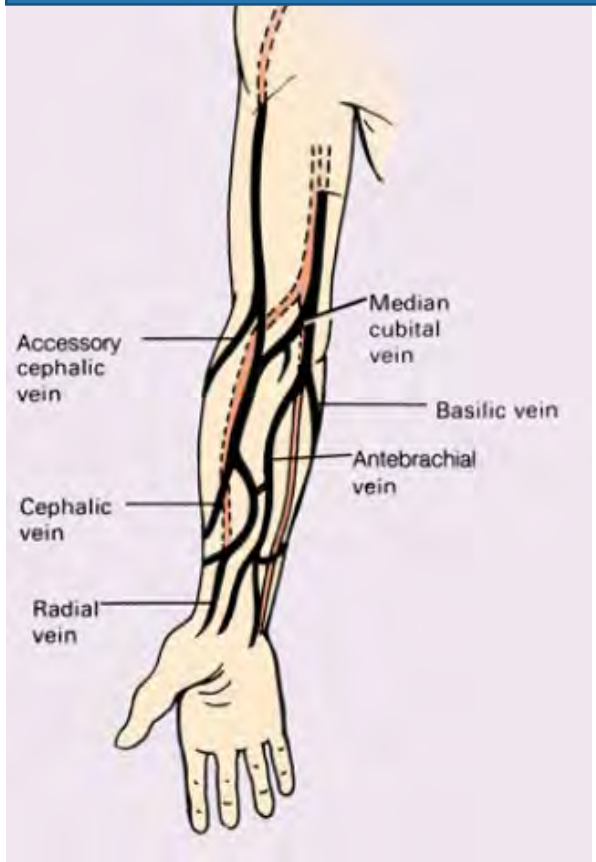
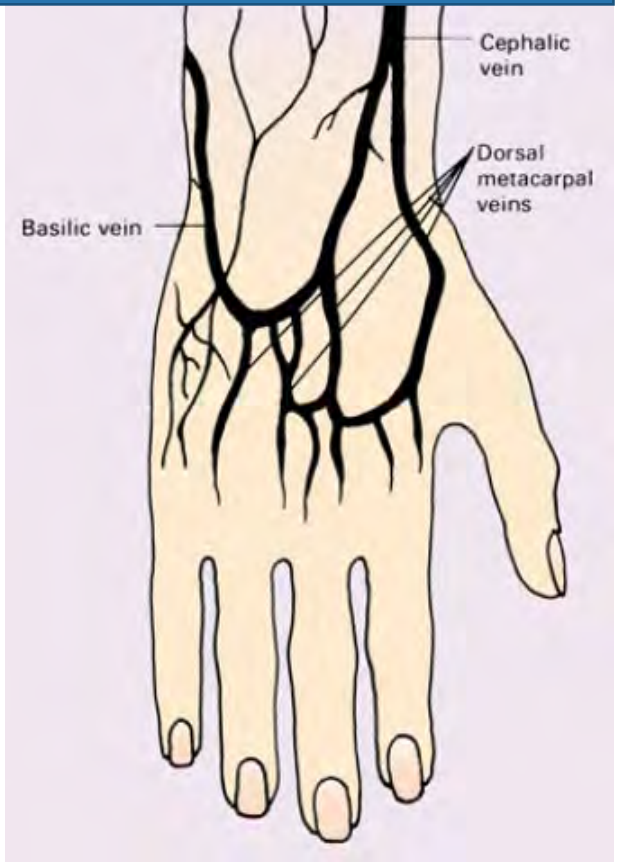
Catheter Selection

- Use the smallest gauge short peripheral catheter as possible because peripheral catheters larger than 20G are more likely to cause phlebitis.
  - The pharmacy will send 22G and 24G needles.
- Use the shortest catheter length that will fully canulate the vein.
  - The pharmacy will send ¾ inch catheters.

Select Insertion Site

Use veins on the dorsal and ventral surfaces of the upper extremities, including the metacarpal, cephalic, basilic, and median veins.





Preferred site selection:

- Use non-dominant arm/hand when possible.
- Each successive cannulation proximal to previous attempt.
- Choose site with more subcutaneous and skeletal support for better device stabilization.
- Allow patient input for site selection.
- Use non-affected extremity (i.e., no lymph node dissection, flacidity, edema or wound).
- Avoid ventral side of wrist (painful).

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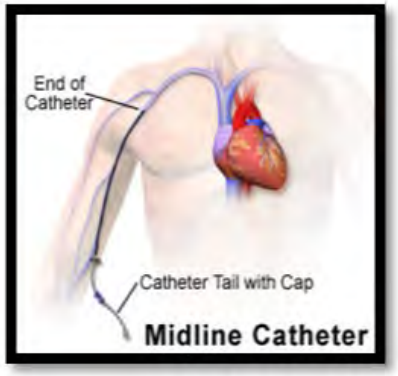
Documentation

Document in the EHR:

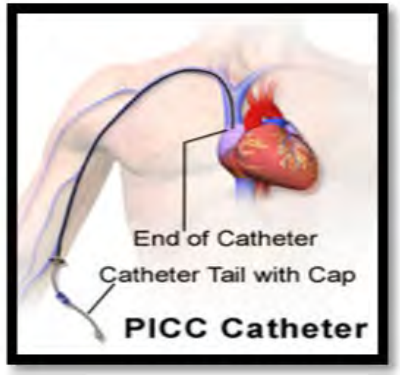
- Date & time
- Gauge and length on catheter
- Number of attempts
- Insertion site
- Preparation of skin and ANTT technique followed.
- Device functionality (patent)
- Patient's tolerance of procedure
- Teaching provided to patient and family and their understanding.
- Provider order and reason for PIV insertion (IV medication administration).

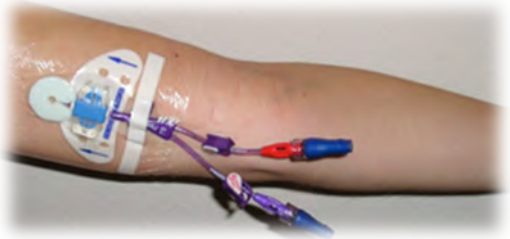
MIDLINE



- A long peripheral catheter (typically 3-11 inches in length) inserted via antecubital fossa into a peripheral vein in the upper arm; basilic, cephalic, or one of the two brachial veins, with the internal tip located level at or near the level of the axilla and distal to the shoulder.
- Typically used for infusion and short-term intravenous therapies.
- Used for medications and solutions such as antimicrobials, fluid replacement, and analgesics with characteristics that are well-tolerated by peripheral veins.
- Do not use midline catheters for continuous vesicant therapy or parenteral nutrition.

PICC LINE





- Inserted into basilic, cephalic, brachial veins and enters superior vena cava.
- Can stay in place for weeks or months.
- Can feature more than one lumen.
- Can be used to administer IV fluids or medications which may irritate peripheral veins (chemotherapy, TPN).

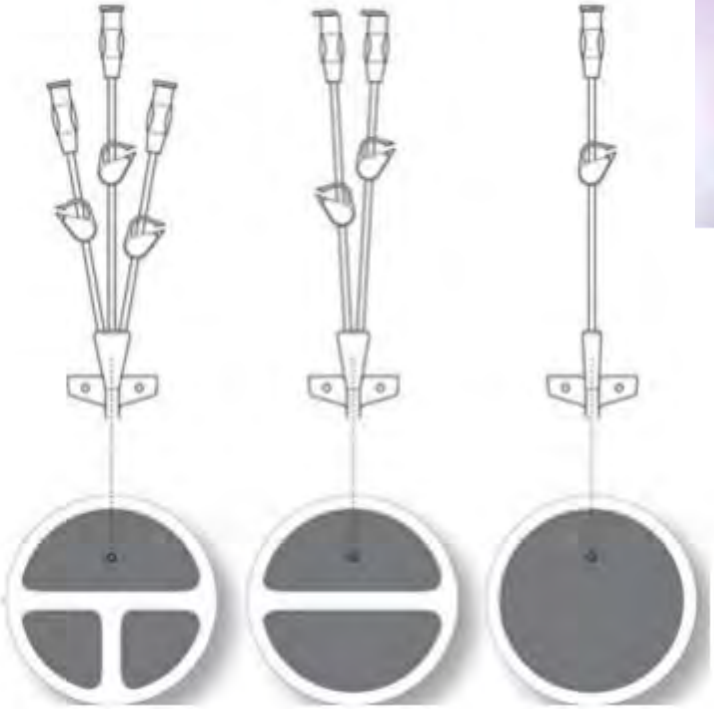
REMOVAL OF MIDLINE OR PICC LINE: CONSISTENT WITH ORGANIZATIONAL POLICY, TRAINING AND STATE BOARD OF NURSING SCOPE OF PRACTICE.

Catheter Lumens

Each lumen is separate from access point to the opening in the vein.

Catheter lumens are individual access points for IV administration in the same catheter.

- From access point to the tip of the catheter, each lumen is separate from the other lumen(s).
- Infused medication does not mix with medications infused in another lumen until it enters the blood stream.
- Medication compatibility for infusion is not required when infused in separate lumens.



VALVED CATHETERS

Negative pressure opens valve inward, permitting blood aspiration.

At neutral pressure, valve remains closed, reducing risk of air embolism, blood reflux and clotting.

Positive pressure opens the valve outward, permitting infusion.

Valved catheters (i.e., PICC, Groshong) do not require the use of Heparin to lock the catheter lumen(s).

DOES NOT HAVE CLAMPS

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PICC LINES

OPEN-ENDED:

Requires heparin flushes and should be clamped when not in use.

VALVED:

Catheter valves are meant to prevent back flow of blood into the catheter and do not require heparin.

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PICC Extension Sets

Extension sets must be placed on PICC lines

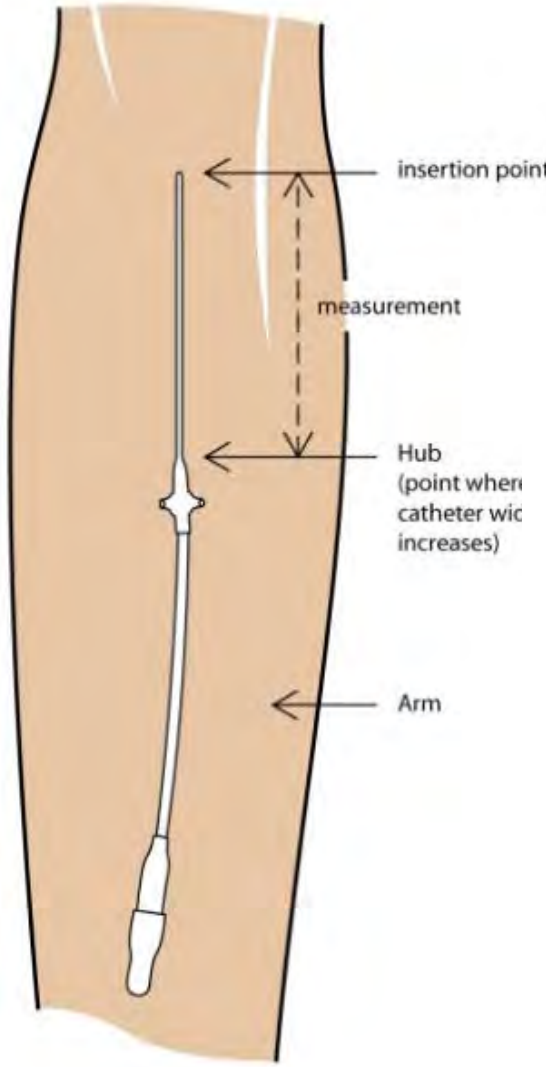
- Patients are not able to flush or administer medications if they are not able to reach their vascular access device with both hands

Instructions:

- Maintain sterile technique
- Prime extension set with clave cap
- Prior to removing clave cap from vascular access device cleanse connection with antiseptic wipe
- Attach extension set with clave cap
- Flush line

ASSESSMENT:

- **External length of the PICC/Midline must be measured and documented with each dressing change**
  - ✓ **If the external length of the catheter has increased by 2cm or more since start of care, the MD and the Infusion Pharmacist must be notified.**
  - ✓ **Compare to baseline measurement at insertion if available.**
- **Palpate the insertion site to assess for swelling and pain.**
- **Changes in color may include redness and/or blanching.**
- **Measure and document mid-upper-arm circumference. Location of measurement must be noted for comparison. MUAC is measured at the mid-point between the tips of the shoulder and elbow. To measure: find the midpoint between the elbow and the shoulder. Mark the mid-point between these two marks. With the arm hanging straight down, wrap a MUAC tape around the arm at the midpoint mark.**
  - ✓**Compare the circumference of both extremities, if unilateral edema is noted.**
  - ✓ **A 3cm increase in midarm circumference in adults is associated with CA-DVT.**



External Measurement

- Measure from insertion site of PICC to catheter hub
- Measure and record the exposed catheter length at each dressing change to ensure migration has not occurred

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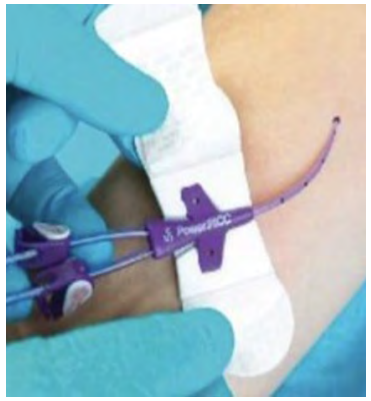
Securement Devices.

Stabilizes the catheter, eliminates the chance of any pull and increases dwell time.

3M PICC/CVC SECUREMENT

GRIPLOCK



UNIVERSAL SECUREMENT

STATLOCK

WINGUARD

SORBA VIEW SHIELD

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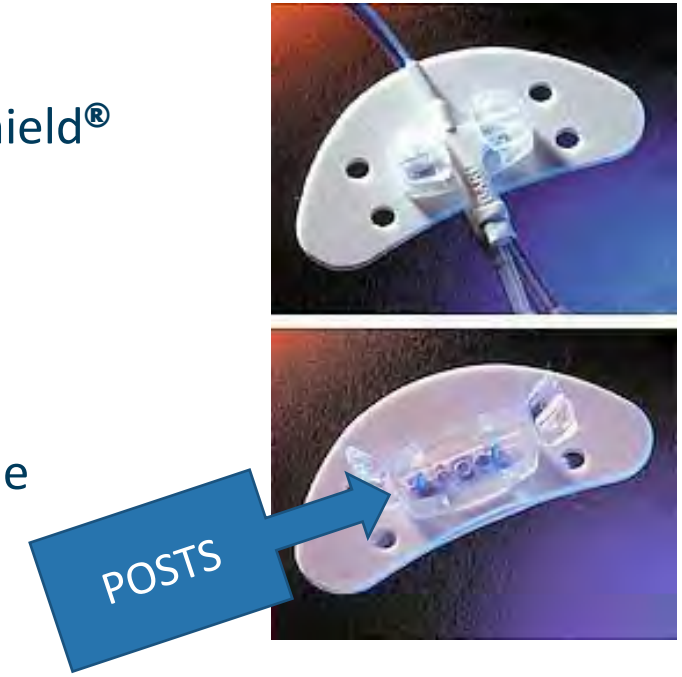
SECUREMENT DEVICES

- Securement device for PICC and Midline
  - Statlock has posts for common PICC lines
- Used as a double securement with Sorba View Shield® Securement dressing:
  - Pediatric patients
  - Patients at risk for line removal
  - As prescribed by physician
- Securement for patients that CANNOT tolerate the Sorba View Shield® Securement dressing
- Changed with each dressing change
  - Under the occlusive dressing



SorbaView Shield

SorbaView® SHIELD
APPLICATION
Prep dressing site according to facility protocol.
Remove larger liner without touching adhesive.
Center the insertion site in the large window.
Smooth down to adhere, then remove remaining liner.
Guide the tubing through the notch.
Overlap the edges to form a tight seal and smooth down to adhere.
Slip closure piece under tubing and over the edge of the dressing.
Remove the liner on one side and smooth down to adhere and remove the liner on remaining side and smooth down to adhere.
REMOVAL:
Locate the v-notch on the outer edge of the closure piece and pull apart to break center perforations.
Holding the catheter in place, peel back the closure piece and dressing together as one piece.
Peel back slowly, keeping dressing close to skin and following catheter toward insertion site.

SorbaView SHIELD for PICC Line Securement - YouTube

https://youtu.be/dURvIi9OwE0

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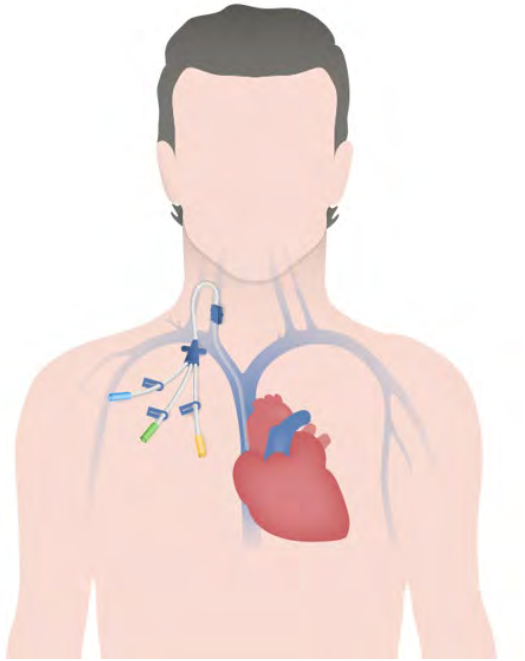
NON-TUNNELED



- **NO CUFF**
- Short term
- Typically used for day to - weeks for all types of IV therapy and blood draws
- Percutaneously inserted into central veins (subclavian, internal jugular (IJ), femoral)

- This type of catheter is inserted by direct stick into the subclavian vein and is then threaded into the SVC by a physician
- **SUTURED IN PLACE**
- **NO CUFF**
- The primary use of this type of catheter is in the acute care setting.
- **NOT RECOMMENDED FOR IN HOME USE**
- **HIGHEST INFECTION RATE OF ALL CENTRAL LINES**
- **NOT REMOVED IN THE HOME**

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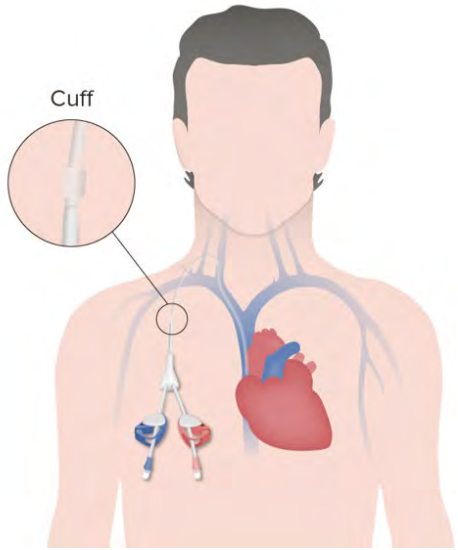
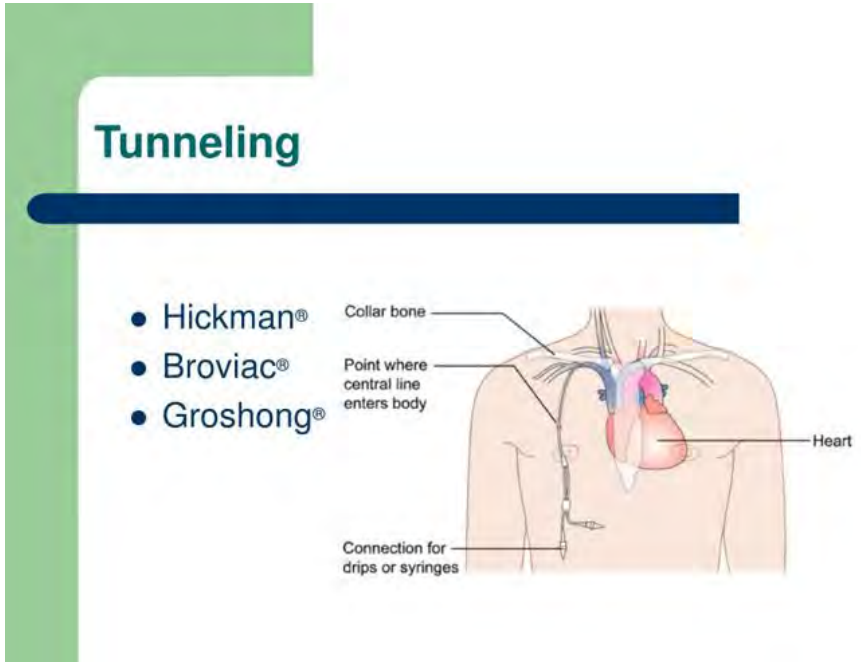
TUNNELED CATHETERS (CVC)





- Dacron cuff encourages tissue growth to provide catheter stability and serves as a barrier to prevent infection
- Long term therapies: TPN, chemo
- Examples: aPheresis catheter, Hickman, Broviac, Groshong
- Percutaneously inserted into central veins (subclavian, internal jugular (IJ), femoral)

Surgically inserted into the subclavian vein, then advanced to the SVC. The distal portion of the catheter is then threaded through a subcutaneous tunnel to an exit site.

MUST BE SURGICALLY REMOVED.

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Implanted Ports

Surgically implanted & removed

- Attached to a catheter that is threaded into the superior vena cava, subclavian or internal jugular vein

Removed surgically.

Long-term use

Usually placed in the chest

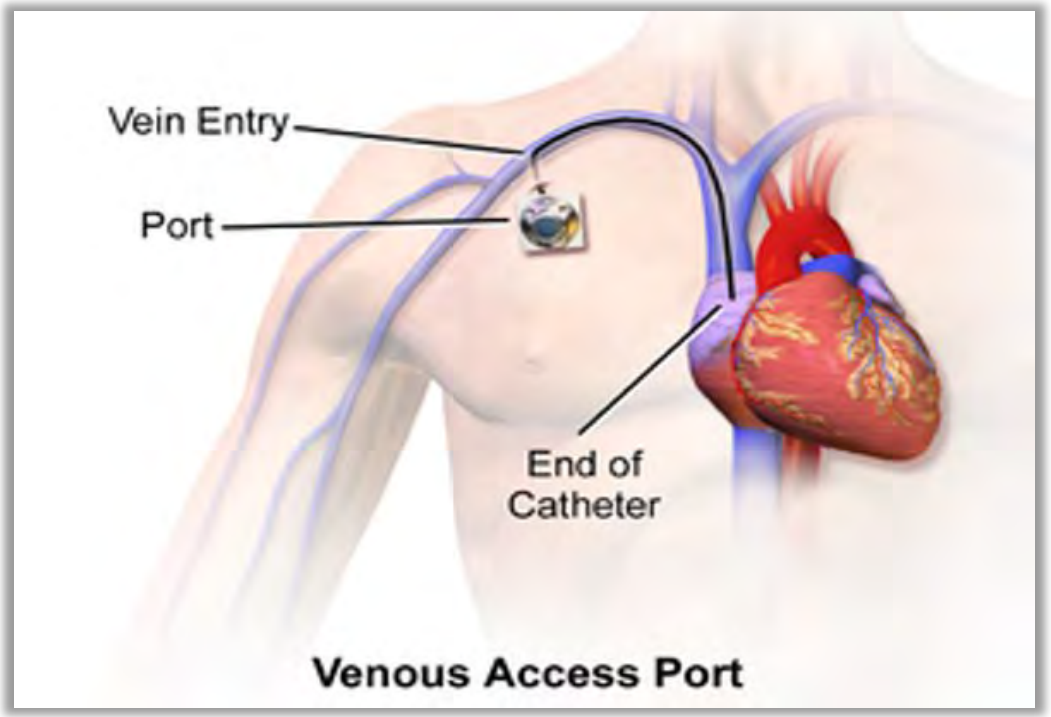
- Other locations: Arm, Thigh, Abdomen, ribs/side

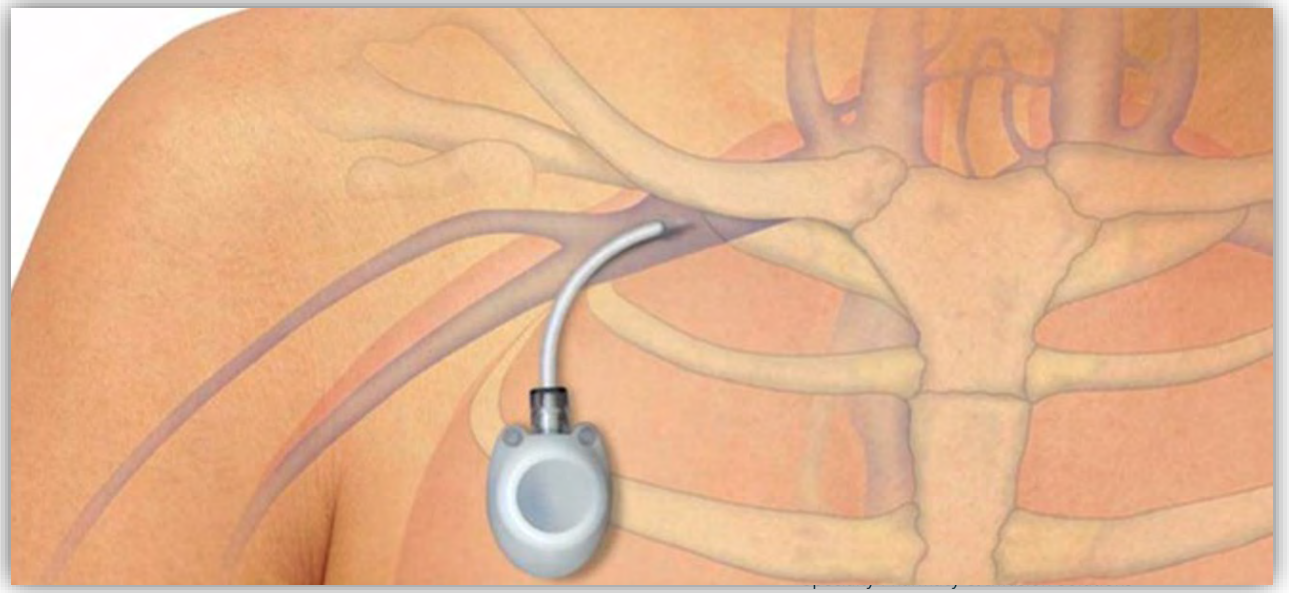
Usually, Single Injection Ports

- Double injection ports are available

Must use non-coring Huber Needle

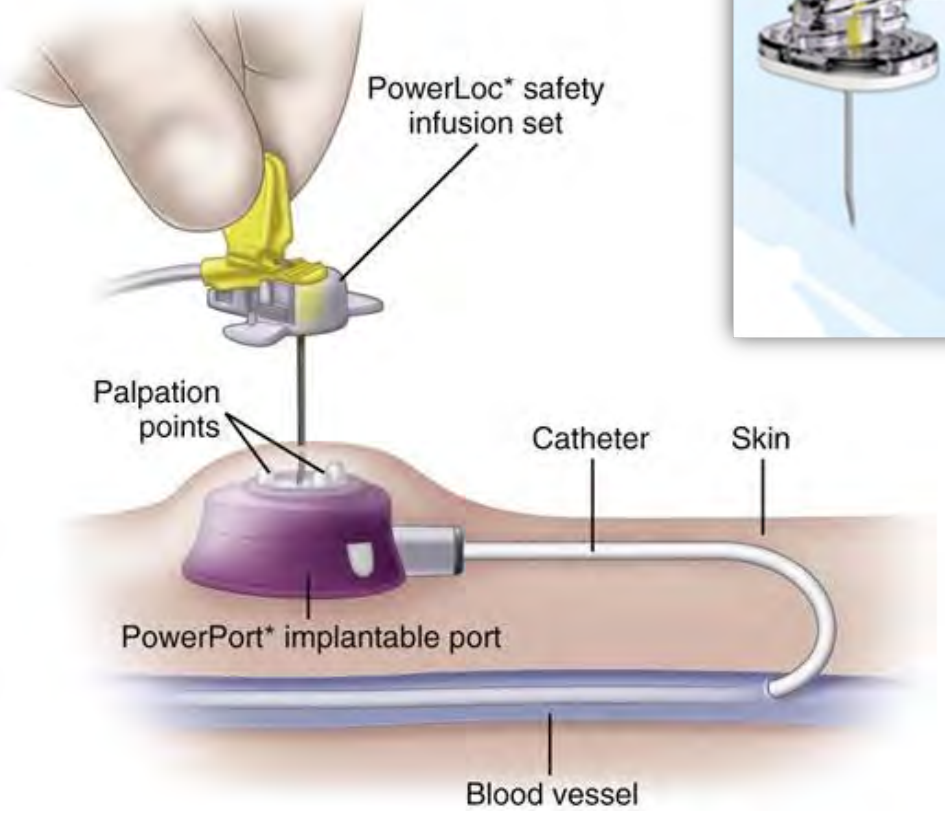
- To prevent coring (hole punching) port silicone
- Self-sealing





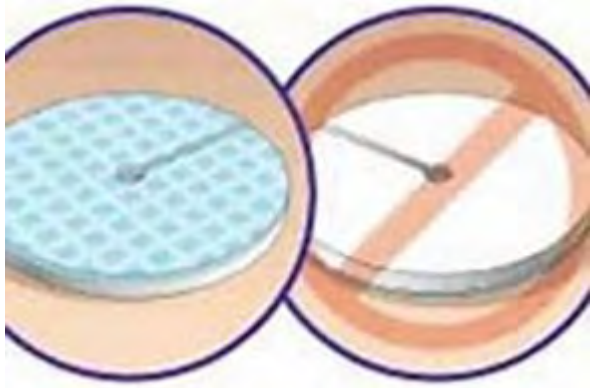
IMPLANTED PORTS

NON-CORING needles must be used to access the self-sealing implanted injection port.



Biopatch

- Chlorhexidine impregnated disc.
- Reduces site infections, CABSI, and skin colonization of microorganisms
- To be changed with each dressing change
- Place the BIOPATCH Dressing around the catheter, making sure the BLUE grid side is facing upward. The smooth WHITE foam side should be next to the patient's skin
- In order to ensure easy removal when used with a film dressing, place the BIOPATCH Dressing around the catheter/pin site in such a way that the catheter rests upon the slit portion of the BIOPATCH Dressing. The edges of the radial slit must approximate one another to assure efficacy.



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HaloGUARD™

HaloGUARD™ is a sterile, single-use disposable disc infused with the antimicrobial agent chlorhexidine gluconate (CHG) to reduce contamination of the dressing by inhibiting microbial growth and colonization of the dressing.

HaloGUARD™ is intended to cover and protect insertion sites on adult patients. Common applications include IV catheters, midlines, central venous lines, epidural catheters, PICCs, and other intravascular catheters.

Change with each dressing change

CAREPATHrx™
Specialty Pharmacy & Infusion Solutions

GuardIVa™ Dressing

GuardIVa™ is an **antimicrobial hemostatic** IV site dressing that combines the **antimicrobial** protection of chlorhexidine gluconate (CHG), a well-known antiseptic agent with broad spectrum **antimicrobial** and antifungal activity, with the proprietary hemostatic agent which controls surface bleeding from percutaneous catheters and vascular access sites.

Change with each dressing change

CAREPATHrx™
Specialty Pharmacy & Infusion Solutions

DRESSING AND VASCULAR ACCESS DEVICE SECUREMENT MANAGEMENT

- ❖ **Change transparent semipermeable membrane (TSM) dressings and securement device at least every 7 days or immediately if dressing integrity is disrupted (e.g., lifted/detached on any border edge or within transparent portion of dressing; visibly soiled; presence of moisture, drainage, or blood) or compromised skin integrity is present under the dressing.**

** **In neonatal patients, perform dressing change as needed per patient or clinical indications due to risk of catheter dislodgement, patient discomfort, or skin injury.**

- ❖ **Refer to manufacturers' directions for use**

- **All supplies must be changed with every dressing change**
  - ✓**Securement device**
  - ✓**Extension sets**
  - ✓**Injection caps**
  - ✓**Biopatch or other CHG disc**

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Injection caps need to be neutral pressure to prevent leaking at the connection.

NEEDLELESS CONNECTOR

Follow needleless connector product recommendations for clamping sequence in order to prevent blood reflux and reduce the risk of thrombotic occlusion or biofilm formation

MicroClave connector is a neutral displacement connector: no specific clamping sequence

Nexus TKO Anti-Reflux connector: no specific clamping sequence

In the absence of manufacturer's directions, consider the reflux volume for each type and use the following sequence:

i. Negative displacement–flush, clamp, disconnect
ii. Positive displacement–flush, disconnect, clamp
iii. Neutral and anti-reflux–flush, no specific sequence required

MICROCLAVE CONNECTOR

NEXUS TKO®

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NEEDLELESS CONNECTOR

- Change the needleless connector at least every 7 days or according to the manufacturers' directions for use.

- When used within a continuous infusion system, the needleless connector is changed when the primary administration set is changed.

- Additionally, the needleless connector should be changed in the following circumstances:

  - if the needleless connector is removed for any reason
  - if there is residual blood or debris within the needleless connector
  - prior to drawing a sample for blood culture from the VAD
  - upon contamination
  - per the manufacturers' directions for use

Alcohol Caps

Cap to cover the Microclave cap (hub/connector).

Cap with alcohol-soaked sponge to cleans hub.

Cap is left in place between IV-line access.

Reduces risk of CLABSI from hub contamination

- **Must continue to scrub the hub!**
- **Single use only.**

Must scrub the hub for 30 seconds before EVERY IV hub access

Failure to scrub the hub will result in increased infection risk!

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TUBING CHANGES

Intermittent Infusions – Every 24 hours

Continuous Infusions – Mondays, Wednesdays and Fridays

PCA – Weekly

Subcutaneous Administration Sets– With each new dose

TPN—Daily with each dose

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Y-sites

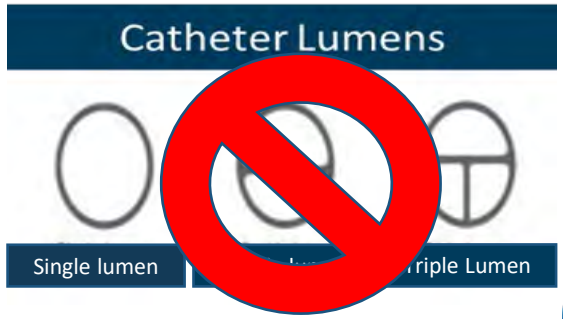
IV-line connector or extension to provide a second access point for IV tubing to connect to the IV catheter.

Medication is y-sited and infused into the same lumen.

Always confirm medication compatibility before use.

- Pharmacist will verbally or in writing communicate y-site compatible medications.
- Document pharmacist y-site recommendations with name of pharmacist.

DIFFERENT THAN CATHETER LUMENS



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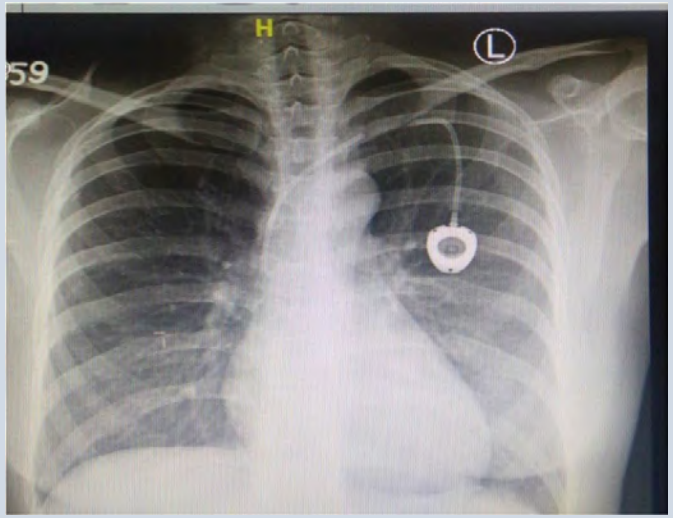
Vascular Access Line Related Complications

Catheter malposition / migration

- Intravascular malposition
- Extravascular malposition
  - Infiltration – medication goes into the surrounding tissue
  - Extravasation – infiltration of vesicants

Line related

- Catheter fracture/damage
- Catheter occlusion by clot, residue or kink



Vascular

- Thrombosis – blood clot in the vein
- Thrombophlebitis – inflammation and damage of the vessel
- Superior vena Cava syndrome occlusion of SVC (sx: edema, coughing up blood, CP)
- Air embolism

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Vascular Access Line Related Complications	Signs and Symptoms	Nursing Interventions
PHLEBITIS	Pain/tenderness, erythema, swelling, purulence, or palpable venous cord	Notify provider, remove PIVC, Midline or PICC line if clinically indicated, apply warm compress, elevate limb; if infectious phlebitis is suspected or purulence present, remove catheter, obtain order to culture the purulent exudate and catheter tip, and monitor for signs of systemic infection
NERVE INJURY	Paresthesia-type pain during peripheral venipuncture and during catheter dwell time, radiating electrical pain, tingling, burning, prickly feeling, or numbness	Immediately remove peripheral VAD for report of paresthesia-type pain during peripheral venipuncture or during catheter dwell time, notify provider
INFECTION	Erythema, edema, pain, tenderness or drainage, fluid in the subcutaneous pocket and/or tunnel of a totally implanted intravascular device or tunneled catheter, induration at the exit site or over the pocket, drainage, or skin breakdown at the VAD insertion site, and/or body temperature elevation	Notify provider, remove a PIVC, obtain order to collect and culture a specimen of purulent exudate from a peripheral or CVAD exit site, initiate antibiotic therapy if ordered by the provider
CATHETER-ASSOCIATED SKIN INJURY	Color (e.g., pink, red, purple, tan, white), skin stripping, skin tears, and tension blisters, weeping, oozing, drainage	Notify provider, employ strategies to promote skin regeneration and site protection, apply a hypoallergenic, sterile dressing to manage exudate, promote wound healing, and protect

Vascular Access Line Related Complications	Signs and Symptoms	Nursing Interventions
AIR EMBOLISM	Sudden onset of dyspnea, gasping, continued coughing, breathlessness, chest pain, hypotension, tachyarrhythmias, wheezing, tachypnea, altered mental status, altered speech, changes in facial appearance, numbness, or paralysis as clinical events from air emboli produce cardiopulmonary and neurological signs and symptoms	Take the necessary action to prevent more air from entering the bloodstream, immediately place the patient on the left side in the Trendelenburg position, initiate 911, notify provider
INFILTRATION AND EXTRAVASATION	Pain, swelling/edema under the skin near the peripheral VAD site, edema from a CVAD may appear as a raised area on the neck, chest, or groin, unilateral edema of extremity, fluid leakage from the puncture site, subcutaneous tunnel, or port pocket,	Immediately stop the infusion, appropriate intervention(s) are implemented immediately upon recognition of infiltration/extravasation as determined by the characteristics of the solution or medication escaping from the vein, remove the peripheral catheter or implanted vascular access port access needle, elevate the extremity, administer the appropriate antidote
CATHETER-ASSOCIATED DEEP VEIN THROMBOSIS	Pain/edema/erythema in the extremity, shoulder, neck, or chest and engorged peripheral veins of the extremity, a 3-cm increase in midarm circumference in adults with PICCs was associated with CA-DVT	Withhold infusion, notify provider

Vascular Access Line Related Complications	Signs and Symptoms	Nursing Interventions
CENTRAL VASCULAR ACCESS DEVICE OCCLUSION	Inability to withdraw blood or sluggish blood return, sluggish flow, resistance or inability to flush lumen, inability to infuse fluid, frequent occlusion alarms on electronic infusion pump, swelling/leaking at infusion site	Rule out/resolve external mechanical causes, assess for internal mechanical causes, notify provider and obtain order for Cathflo to treat all catheter lumens with partial, withdrawal, or complete occlusion
CATHETER DAMAGE	Visible catheter or fractured hub, leaking at the site, catheter dysfunction (e.g., inability to aspirate blood, frequent infusion pump alarms, resistance with flushing), localized pain and/or swelling along CVAD pathway during infusion, paresthesia in the arm, respiratory distress, or arrhythmias	Stop any infusions, clamp or seal a damaged catheter, notify provider
CENTRAL VASCULAR ACCESS DEVICE MALPOSITION	Absence of blood return from all catheter lumens, difficulty or inability to flush the CVAD, dysrhythmias, changes in blood pressure and/or heart rate, shoulder, chest, or back pain, edema in the neck or shoulder, changes in respiration, complaints of hearing gurgling or flow stream sounds on the ipsilateral side, paresthesia and neurological effects	Measure the external CVAD length and compare to the documented external length at insertion, never advance any external portion of the CVAD that has been in contact with skin into the insertion site, withhold infusion through a malpositioned catheter until proper tip position has been established, notify provider

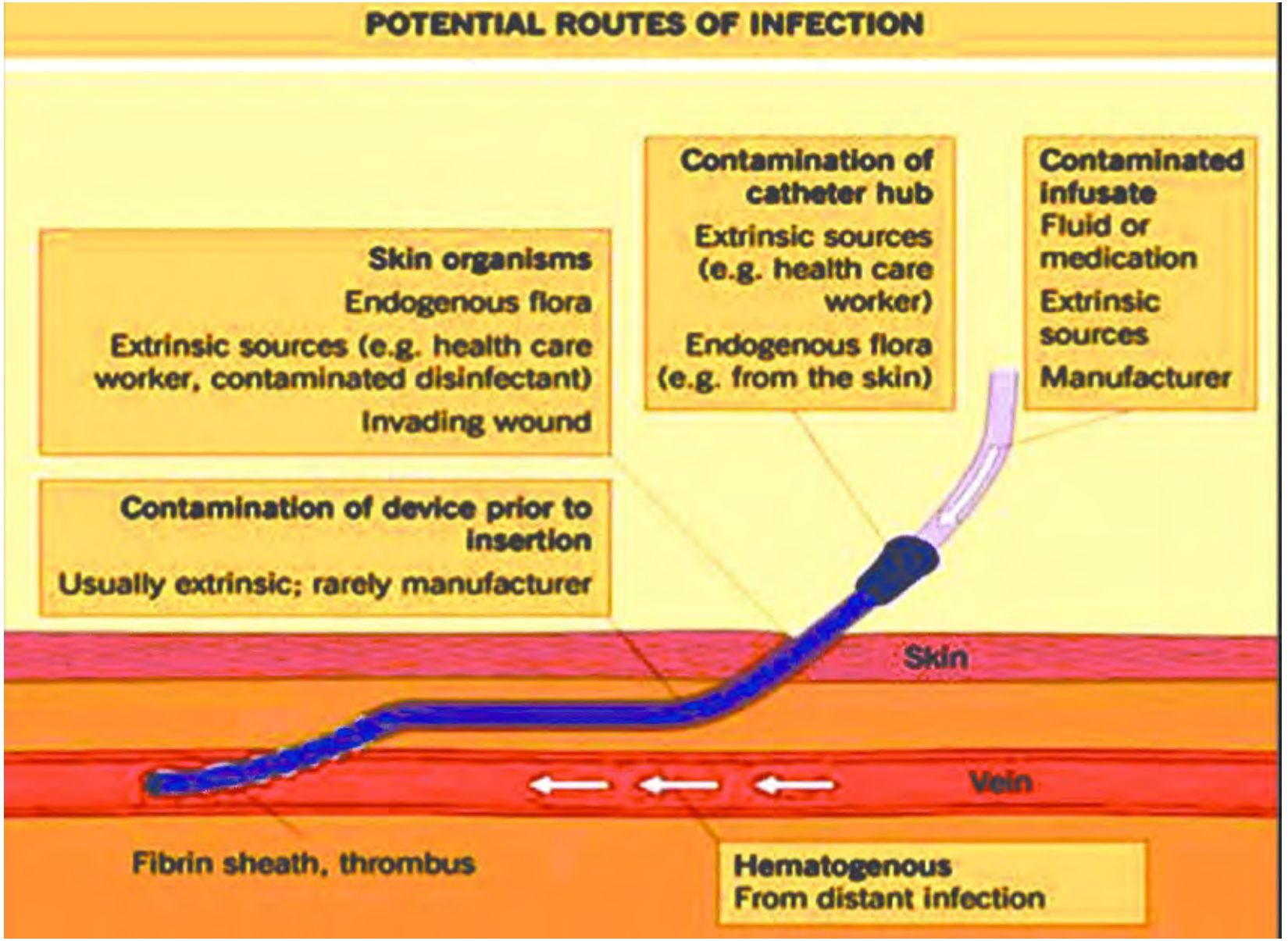
VASCULAR ACCESS DEVICE REMOVAL

- The clinical need for each VAD is assessed daily for acute inpatient settings and during regular assessment visits in other settings, such as the home, outpatient facility, or skilled nursing facility.
- VADs are removed when clinically indicated (e.g., unresolved complication, discontinuation of infusion therapy, or when no longer necessary for the plan of care)
- VADs are not removed based solely on length of dwell time, because there is no known optimal dwell time.
- Remove if no longer included in the plan of care or if not used for 24 hours or more.
- Remove PIVCs and midline catheters in pediatric and adult patients when clinically indicated, based on findings from site assessment and/or clinical signs and symptoms of systemic complications

- Implement precautions to prevent air embolism during removal of CVADs including, but not limited to:

  - Place the patient in a supine flat or Trendelenburg position
  - Instruct the patient to perform a Valsalva maneuver at the appropriate point during catheter withdrawal.
  - After removal, apply digital pressure with a sterile dry gauze pad at and just above the insertion site until hemostasis is achieved by using manual compression.
  - Apply an air-occlusive dressing to the access site for at least 24 hours for the purpose of occluding the skin-to-vein tract and decreasing the risk of retrograde air emboli.
  - Assess the removed catheter to ensure it is fully intact, after planned or inadvertent CVAD removal. If a retained fragment is suspected, notify the provider immediately.

Preventing CABSI



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Preventing CABSI
Scrub the Hub for 30 seconds!

“Hub scrub” for 30 seconds using alcohol and friction in a twisting motion.

Allow to dry for 60 seconds

Chartwell TPN patients:

60 second scrub

x2 prior to TPN procedure

with a 60 second air dry between scrubs

The Catheter Hub is a known source of Catheter Associated Blood Stream Infection (CABSI).

The CDC recommendations are to “SCRUB” rather than “WIPE” the hubs with alcohol or chlorhexidine before accessing.

SCRUB THE HUB before each use. S.A.S.H requires cleaning the HUB 4 times

Teach the patient scrupulous Hand Hygiene and maintaining aseptic technique.

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SAVE THAT LINE!

Scrupulous Hand Hygiene – before and after contact with vascular Access devices and prior to insertion

Aseptic Technique – during catheter insertion and care

Vigorous Friction to Hubs – vigorous friction with alcohol/antiseptic wipe for 30 seconds wherever you “make or break a connection” to give medications, flush, or change tubing and injection port or add on device

Ensure Patency – Flush all lumens with adequate amount of saline or heparinized saline to maintain patency.

Patients are **NOT** taught to check for a blood return

Teach flushing with the **Push Pause Method**

Flush all lumens with adequate amount of saline or heparinized saline to **ensure patency.**

SASH Method

1 . Follow physician orders on POT for flushing volumes.

2. Flush before AND after every dose of medication.

S – Flush the device with sterile Saline
A – Administer the medication / draw blood work
S – Flush the device with Sterile Saline
H – Flush the device with Heparin

3. Heparin only flush once daily, if no medication is ordered (no saline).
And to lumens not used for medication

WHEN IT IS TIME TO FLUSH YOUR LINE:

1. Clean work area and placemat with a disinfectant wipe.

2. Gather equipment on placemat.

3. Wash hands for 20 seconds with soap and water.

4. Prepare flushes, syringes, and have several alcohol wipes nearby per your teaching sheet.

5. Follow the patient teaching sheet and plan of treatment, located in your patient handbook, to flush your IV catheter.

S - SALINE

A - ADMINISTER MEDICATION

S - SALINE

H - HEPARIN

IMPORTANT

Not all patients will complete every step when flushing the catheter.
Your nurse will let you know which steps to complete based on your specific therapy orders.

NEVER TOUCH THE TIP OF ANY SYRINGE.
If touched, discard syringe.

S	A	S	H
SALINE	ADMINISTER MEDICATION	SALINE	HEPARIN
	Administer Medication (if prescribed)		

SUBCUTANEOUS INFUSION THERAPY

Subcutaneous infusion therapy is a technique whereby fluids or medications are infused into the subcutaneous tissue via small gauge needles inserted into the abdomen, arms, back or thighs.

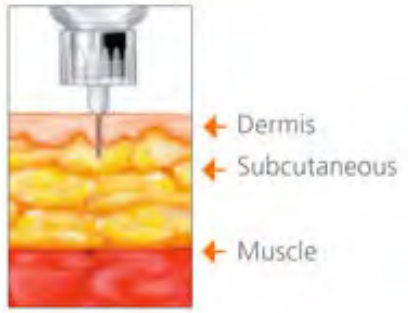
The subcutaneous route may be used to infuse isotonic solutions for treatment of dehydration, continuous opioid infusions for pain management, non-vesicant neoplastic agents, certain antibiotics, diuretics, antiemetics, immunoglobins, endocrine medications, gastrointestinal medications, monoclonal antibodies, and other therapies/medications as prescribed.

Subcutaneous infusion offers several advantages over intravenous infusion, including ease of administration, lower cost, and lack of potential serious complications.

Subcutaneous Needle Selection

Length

- 4mm
- 6mm
- 9mm
- 12mm
- 14mm



A longer needle may be needed if there is leakage at the puncture site.

Needle must be long enough to be seated in the subcutaneous tissue, but not long enough to reach the muscle.

Infusion into the muscle or skin tissue will cause pain and irritation.

Bifurcations

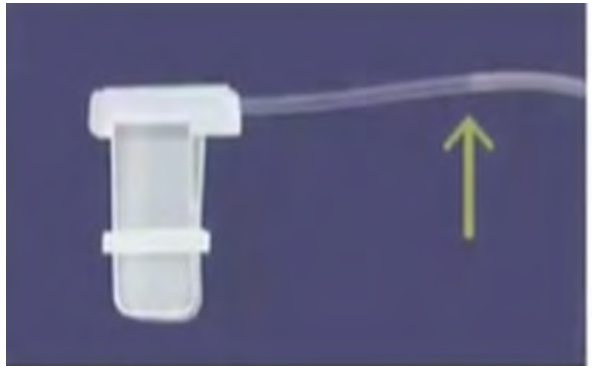
- 1 needle
- 2 needles
- 3 needles
- 4 needles
- 5 needles
- 6 needles
- 8 needles

The volume of medication/solution to be infused determines the number of infusion sites required.

Volume per site is based on patient weight and product. Pediatric and low BMI patients have lower volume limits.

SCIG Needle Placement & Site Selection

- 2-4 inches between sites (refer to package insert)
- 2 inches from umbilicus.
- Rotate sites with each infusion.
- Dry prime to prevent skin irritation and leakage (SCIG and IGHy only).
- Prime with medication or solution to be administered.
- For IGHy, sites are limited to the middle or upper abdomen and front of upper thighs.
- For IGHy, up to 2 sites.
- For SCIG, up to 8 sites (review individual product labeling) can be used simultaneously for SCIG infusions (2-4 inches apart).
- For SCIG, the 2016 INS Infusion Therapy Standards of Practice state: “Aspirate the SC infusion access device to confirm the absence of a blood return prior to medication and fluid administration.” Despite this standard, two SCIG manufacturers no longer requires aspiration for blood return in the product labeling (Cuvitru and Hizentra).
- Check needle placement **if indicated** on the package insert by gently pulling back on the plunger of the attached syringe and monitor for any blood return in the tubing.
- If blood is seen in the tubing, remove and discard the needle if using a single needle administration set. Repeat needle insertion. If using a multi-needle administration set and blood is noted in one or more of the bifurcated tubings, clamp the tubing(s) where the blood is noted and contact the pharmacy to see if it is safe to proceed with remaining sites due to a decrease in the number of infusion sites and increase in volume to be infused into those remaining sites.



MODES OF ADMINISTRATION

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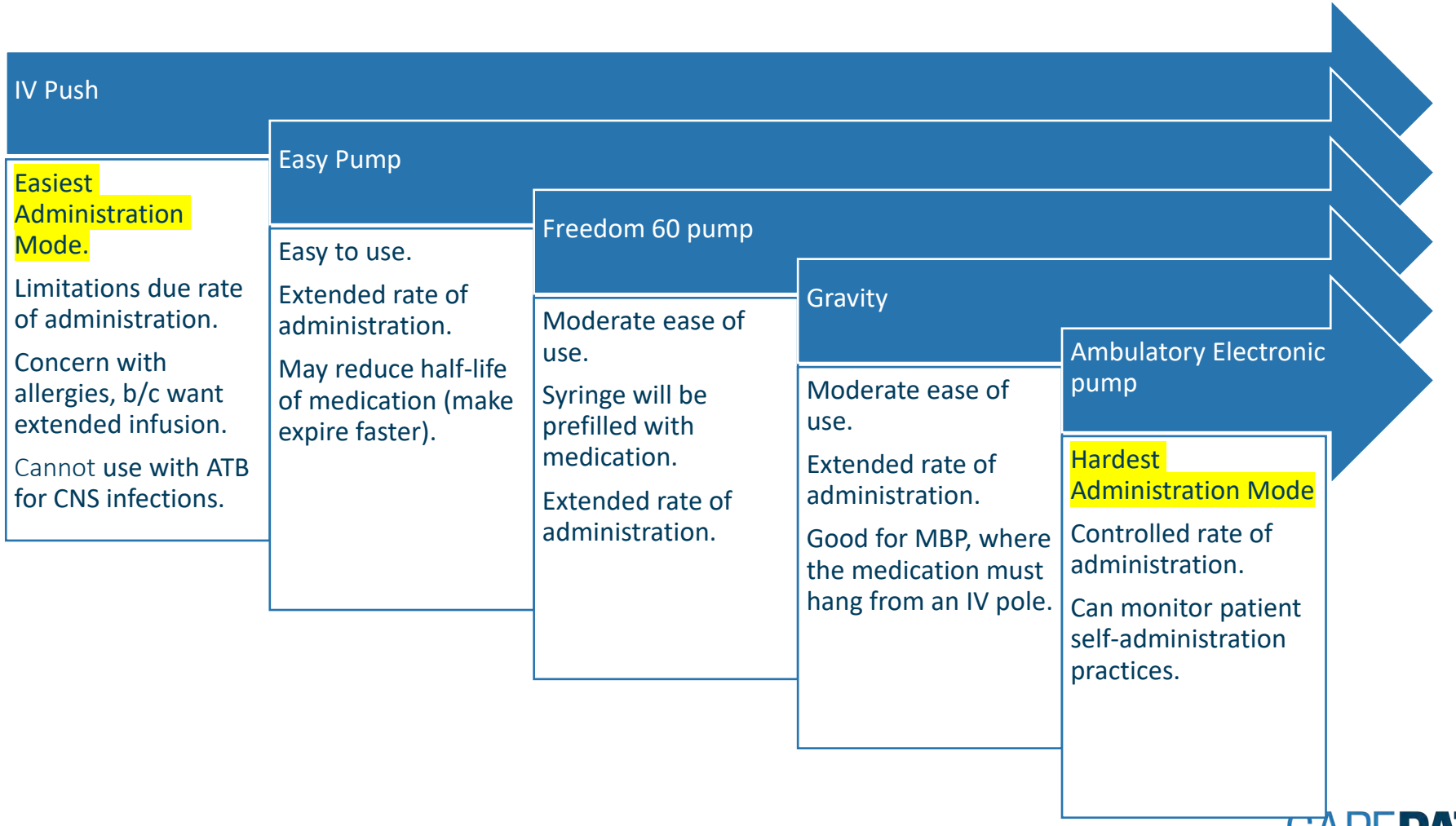
Mode of Administration



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IV Push

Easiest for the patient

Administer IV push medication at the rate specified in the prescribed order or as directed on the product label.

Follow with an appropriate volume of 0.9% sodium chloride flush at the same injection rate to ensure entire dose reaches the bloodstream and to prevent a bolus of medication.

Administer IV push medications through the injection port closest to the patient in an existing IV infusion to allow medication to reach the circulatory system as soon as possible.

Check compatibility of IVP medication with solutions or medications in primary continuous infusion, if present.

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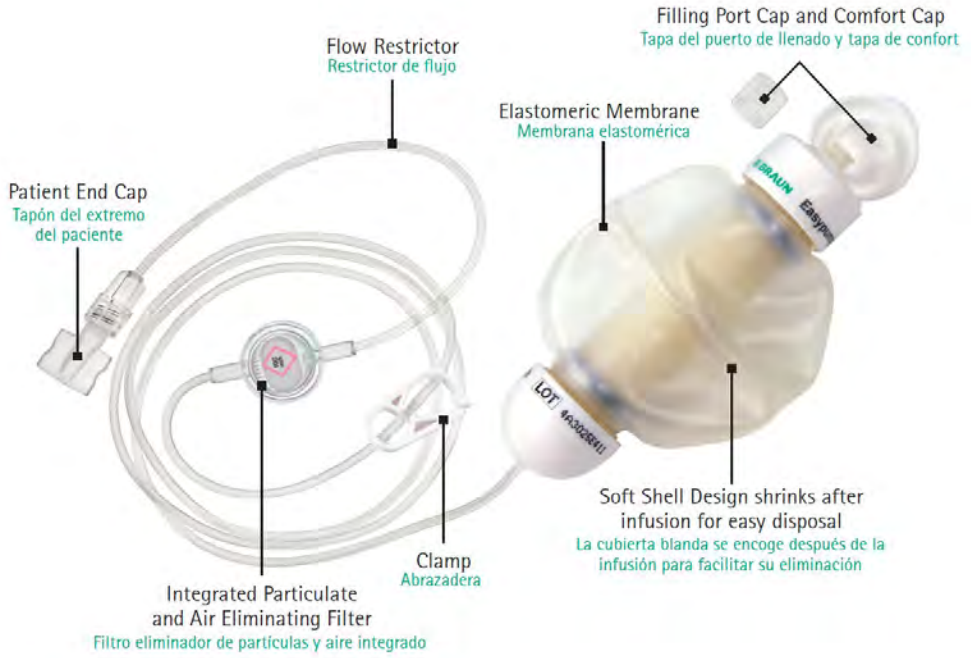
ELASTOMERIC DEVICE

- Non-electronic pump that allows patients to remain ambulatory during infusions. Use pressure to infuse medication. The pressure is created by an elastomeric layer which is molded into the inside of the pump. When the device gets filled, the elastomeric layer becomes stretched. The elastic constriction then drives the liquid through the tubing.
- Rate of infusion is determined by the device selected.
- Primarily used for antibiotic administration.
- Easier to use for patients with dexterity issues.
- Allow medication to warm to room temperature for 6-12 hours, as noted on the Plan of Treatment.
- Calibrated to work at room temperature (69.4 – 76.6 degrees F).
  - May infuse too slow if cooler than 69.4F
  - May infuse too fast if warmer than 76.6 F
- Flow Restrictor is calibrated to work at 88F
  - Should have close contact with the patient's skin during infusion.
  - Calibrated to work at the level of the IV catheter
  - Do not hang or set on floor



Freedom60 Pump

- Syringe pump provides medication over a controlled rate
- Most commonly used for antibiotics and SCIg.
- Rate is controlled by Tubing – identified on both packaging and tubing clamp
  - F30 = 30ml/hr
  - F60 = 60ml/hr
  - F900=900ml/hr
- **Disc on tubing secures the syringe into the pump**
  - Do not confuse with IV extension tubing
- Change tubing every 24 hours
- Turn wheel until you hear tab “click” and then spin without moving tab, before turning the pump on

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Freedom 60

Syringe pump

Change tubing every 24 hours

- Intermittent – every 24 hours

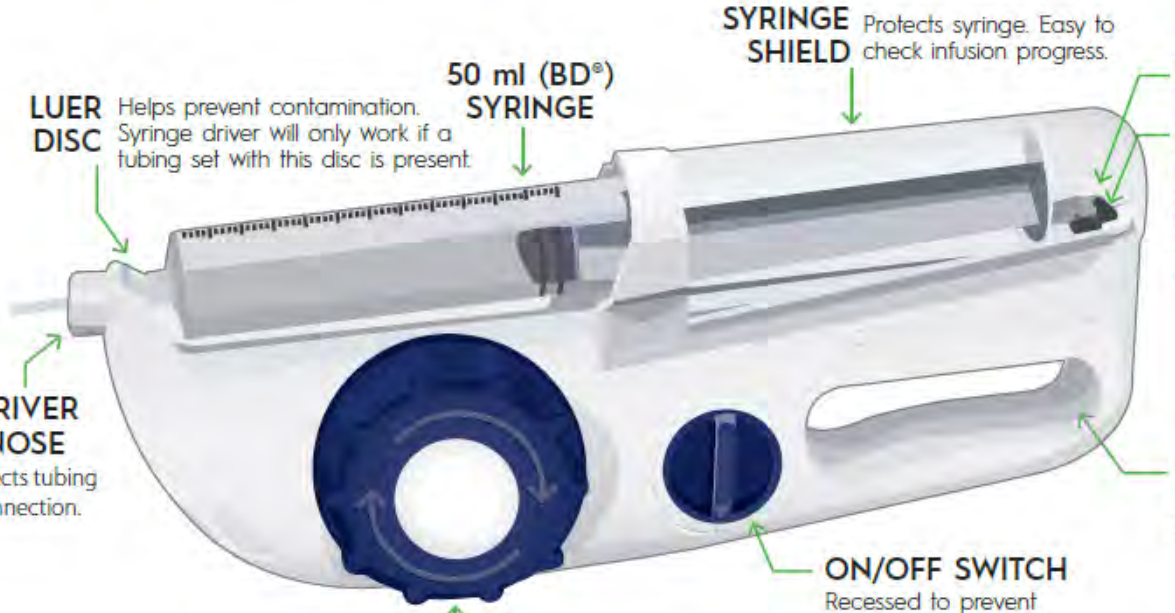
Allow medication to warm to room temperature for 2-4 hours, as noted on the Plan of Treatment.

Rate is controlled by Tubing – identified on both packaging and tubing clamp

- F30 = 30ml/hr
- F45 = 45ml/hr
- F60 = 60ml/hr
- **Disc on tubing secures the syringe into the pump**
  - Do not confuse with IV extension tubing

FREEDOM60®

Syringe Infusion System



1 Wind

Wind knob until black tab is at end of its track.

2 Load

Load prepared syringe.

3 Go

Switch ON and go!

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Minibag Plus, Vialmate & ADD EASE

Always use with filtered tubing.

If on a pump will need to be pole mounted

- Partial dose given on a pump

Usually given via gravity method

Tubing change every 24 hours

Used for therapies with short stability after compounding

IV Line Filters

An IV-line filter is a membrane in the tubing set designed to prevent particulates and air bubbles from being administered

Filters Components:

- Inlet allows fluid to enter the filter compartment
- Fluid then fills the vented side, allowing air to be removed
- Filter membrane becomes wet and prevents air and particulates to flow through the tubing. Works like a strainer
- Fluid flow to patient side for administration

Proper priming techniques allow the fluid to fill the air-vent side first, then saturating the membrane and before filling the patient side.

- Follow manufacturer's instructions for priming technique

Invert filter for priming. Arrow to point up during priming.

Common filter membrane sizes:

0.2 micron
- For medications compounded in the home.
- Most frequently used to filter particulates.

1.2 micron
- Usually for TPN lipids.
- Allows larger molecules to pass to the patient.

Do not invert filter for priming. Arrow to point up during priming.

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Gravity Infusion

Straight tubing set with IV bag hung from an IV pole.

Drip rate conversion tables on teaching guides.

Regular straight tubing set

Filtered straight tubing set

Drip rates can be found on patient teaching guides.

$$\text{IV Drip Rate} = (\text{Volume}/\text{Time}) \times \text{Drop Factor}$$

(gtt/min) (mL) (minutes) (gtt/mL)

CONVERSION TABLE FOR 20 DROP PER ML TUBING
ML/HR → DROPS/MINUTE

ML/HOUR	DROPS/ MINUTE
30	10
45	15
60	20
75	25
90	30
99	33
105	35
114	38
120	40
126	42
135	45
144	48
150	50
165	55
180	60
195	65
210	70
225	75
240	80
250	83
255	85

CONVERSION TABLE FOR 10 DROP PER ML TUBING
ML/HR → DROPS/MINUTE

ML/HOUR	DROPS/ MINUTE
6	1
12	2
18	3
24	4
30	5
36	6
42	7
48	8
54	9
60	10
66	11
72	12
78	13
85	14
90	15
96	16
102	17
108	18
114	19
120	20
126	21
132	22
144	24
150	25
180	30
198	33
204	34
210	35
240	40
252	42

Reference Chart of Drops per Minute

For use with Flow Regulator or Gravity Infusion.

IV Tubing Drop Factor	Desired Hourly Rate: ML / HR																IV Tubing Drop Factor
	20	25	30	50	60	70	75	80	100	110	120	125	130	150	175	200	
10 DROP/ML	3	4	5	8	10	11	12	13	16	18	20	21	22	25	30	34	10 DROP/ML
15 DROP/ML	5	6	7	12	15	17	18	20	25	27	30	31	32	38	44	50	15 DROP/ML
20 DROP/ML	6	8	10	16	20	22	24	26	32	36	40	42	44	50	60	68	20 DROP/ML
60 DROP/ML	20	25	30	50	60	70	75	80	100	110	120	125	130	150	175	200	60 DROP/ML
IV Tubing Drop Factor	Drops Per Minute																IV Tubing Drop Factor

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AMBULATORY ELECTRONIC PUMPS

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Pump settings and Parameter change label

Pump will arrive pre-programmed according to physician's orders and safe infusion practices.

Settings need to be checked against Plan of Treatment and Product label BEFORE starting infusion

PARAMETER CHANGE LABEL:

To alert the patient that the pump parameters need to be changed before newly delivered medication can be given on the pump in the home.

Will be on a new Plan of Treatment and medication label sent to the patient.

Either a new pump will be delivered with the updated settings, or the pump in the home will need re-programmed.

Always confirm pump settings against orders prior to starting the pump

Tour of the pump

CADD Solis Features

CADD®-Solis VIP Ambulatory Infusion System with Safety Software

DELIVERY MODES

- PCA Delivery Mode
- Continuous Delivery Mode
- Intermittent Delivery Mode
- Step Delivery Mode
- Taper Delivery Mode

CADD SOLIS PRIMING

Always prime on its side, with the lever side down to prevent “Air In Line” alarms

Sapphire Pump Overview

Speaker

Color Touch Screen

Indication LEDs

Door

Alarm

Active red when an alarm occurs

Charge

Blinks when charging, constant when fully charged

Run

Blinks when pump is running

Power / Bolus Socket

On / Off hard key

STOP hard key
Stops the pump (when running)

Sapphire Pump

Powered Internal Rechargeable Battery

- Plug in pump for 6 hours each day to fully charge rechargeable battery
- External Battery Pack with 6 – AA batteries for emergency use.

Commonly used for antibiotics, chemo, hydration, IVIG, narcotics, specialty infusions

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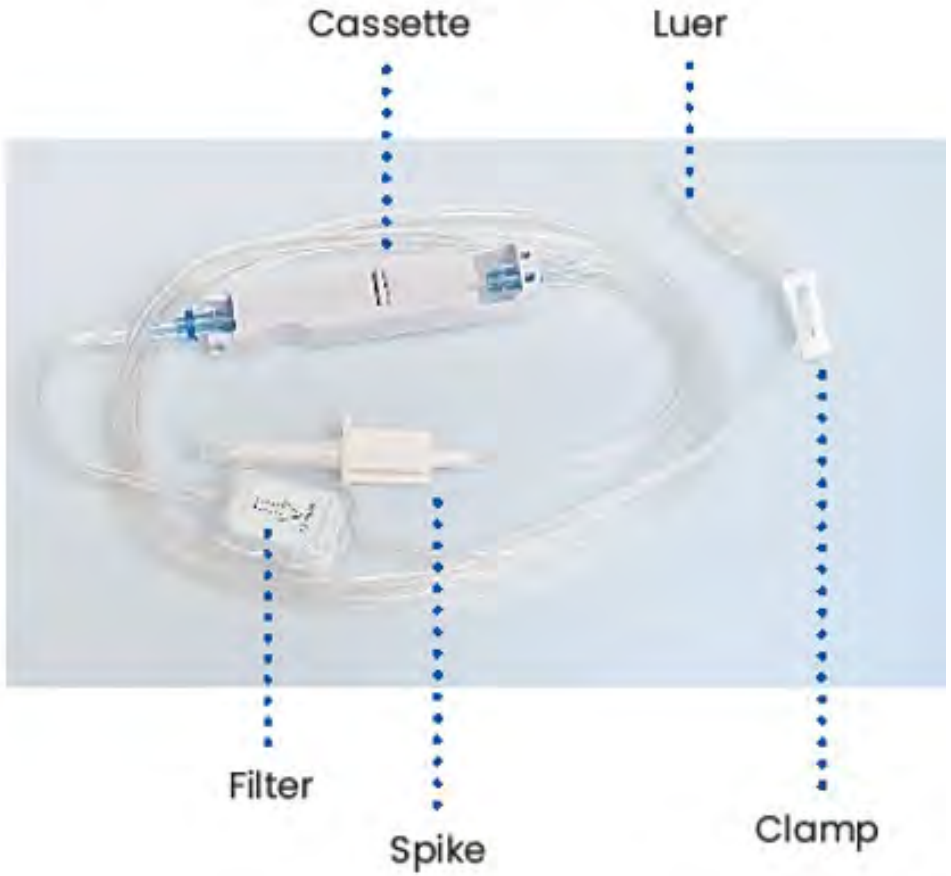
Sapphire Pump Tubing Set

There are different types of tubing sets. The tubing set you are using may have some or all of these parts.



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DELIVERY MODES

- PCA Delivery Mode
- Continuous Delivery Mode
- Intermittent Delivery Mode
- Multistep Delivery Mode
- TPN Delivery Mode
- Epidural Delivery Mode

CADD Prizm Pump

- Powered by 1 9-volt battery
  - External power pack is used with the 9-volt battery in the pump
  - Power pack should be charged 7 hours each day
  - Power pack requires monthly refresh cycle by the patient
- Always power up before attaching tubing cassette
  - Listen for series of beeps and self-check before attaching the tubing cassette
  - This will prompt “Reset RES VOL?”

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DELIVERY MODES

- PCA Delivery Mode
- Continuous Delivery Mode
- Intermittent Delivery Mode
- TPN Delivery Mode

Curlin Pump

- Screen does not lock
- Can be programed with variable rates
- Nicknamed the “Yes Pump”

➢ **YES/ENTER**: Used to respond “YES” to data or questions presented or to accept highlighted data when prompted to press ENTER key.

- Powered by 2 C batteries

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EnteraLite Infinity Pump

Change feeding bag every 24 hours.

Formula hang time

- 8 hours for adults
- 4 hours for pediatric and neutropenic patients

Open formula can be stored in the refrigerator for up to 24 hours.

Rate/Dose button to set pump

- Rate – the rate the formula infuses
- Dose – the amount of formula to infuse
    - INF Mode – push the + button until INF appears for infinity feeding.

Clean under door with damp cloth or run under water, with pump turned off and unplugged.

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Specialty Pharmacy & Infusion Solutions

Kangaroo Joey Pump

Change feeding bag every 24 hours.

Formula hang time

- 8 hours for adults
- 4 hours for pediatric and neutropenic patients

Open formula can be stored in the refrigerator for up to 24 hours.

EZMode (continuous – EZ by battery image)

- Only adjust rate

Continuous/Intermittent

- Feed, Volume & Intervals as ordered

Feed and Flush Mode

•Adjusted Feed Settings

- To run continuously - Volume to infuse (VTBD) = 0ml
- Adjust Flush Settings

Clean under door with damp cloth, when pump is turned off and unplugged.

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Specialty Pharmacy & Infusion Solutions

KANGROO JOEY

3 DIFFERENT MODES

(1) CONTINUOUS MODE

The Continuous feeding mode will deliver the enteral nutrition at a steady rate, either until the programmed volume has been delivered or until the supply has been exhausted. A feed and flush set can also be used in this mode, enabling the pump to be programmed to automatically flush the feed line and to deliver the optimal amount of nutrition and pre-programmed hydration, helping to ensure patients stay well-nourished and perfectly hydrated.

(2) INTERMITTENT MODE

The Intermittent feeding mode delivers boluses of enteral nutrition at programmed time intervals. The bolus volume and feed rate are also programmed. A feed and flush set can also be used in this mode, enabling the pump to be programmed to automatically flush the feed line and to deliver the optimal amount of nutrition and pre-programmed hydration, helping to ensure patients stay well-nourished and perfectly hydrated.

(3) THE EZ MODE

The EZ Mode option is a limited, continuous mode only setting. It feeds non-stop (no Volume To Be Delivered (VTBD) option) at a rate 0-400mL/hr as defined by the user until manually stopped. (It has no bolus, flushing, run mode screen lock or autoresume capability and displays no history information.) A Feed and Flush Set can't be used in this mode.

CarepathRx Contacts:

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Cell: 412-295-7849
or
Debbie Sedlacko, RN, BSN
Infusion Nurse Specialist
Cell: 412-639-3280

Thank you for participating!

Please reach out with questions or for information on additional training opportunities.

SLIDES THAT HAVE BEEN REPLACED

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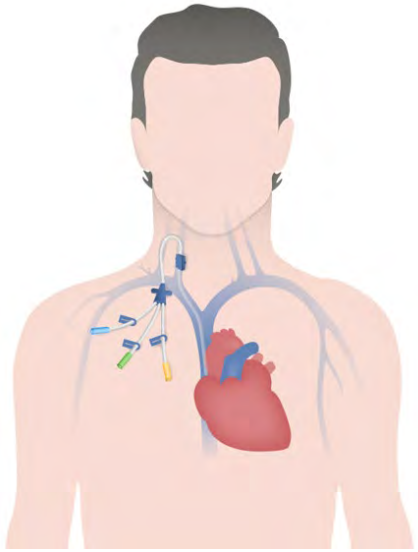
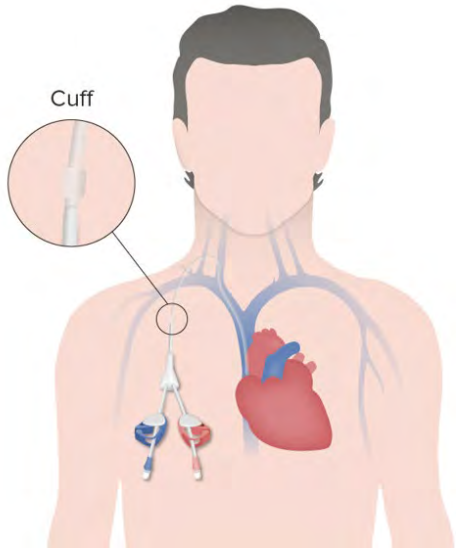
NON-TUNNELED

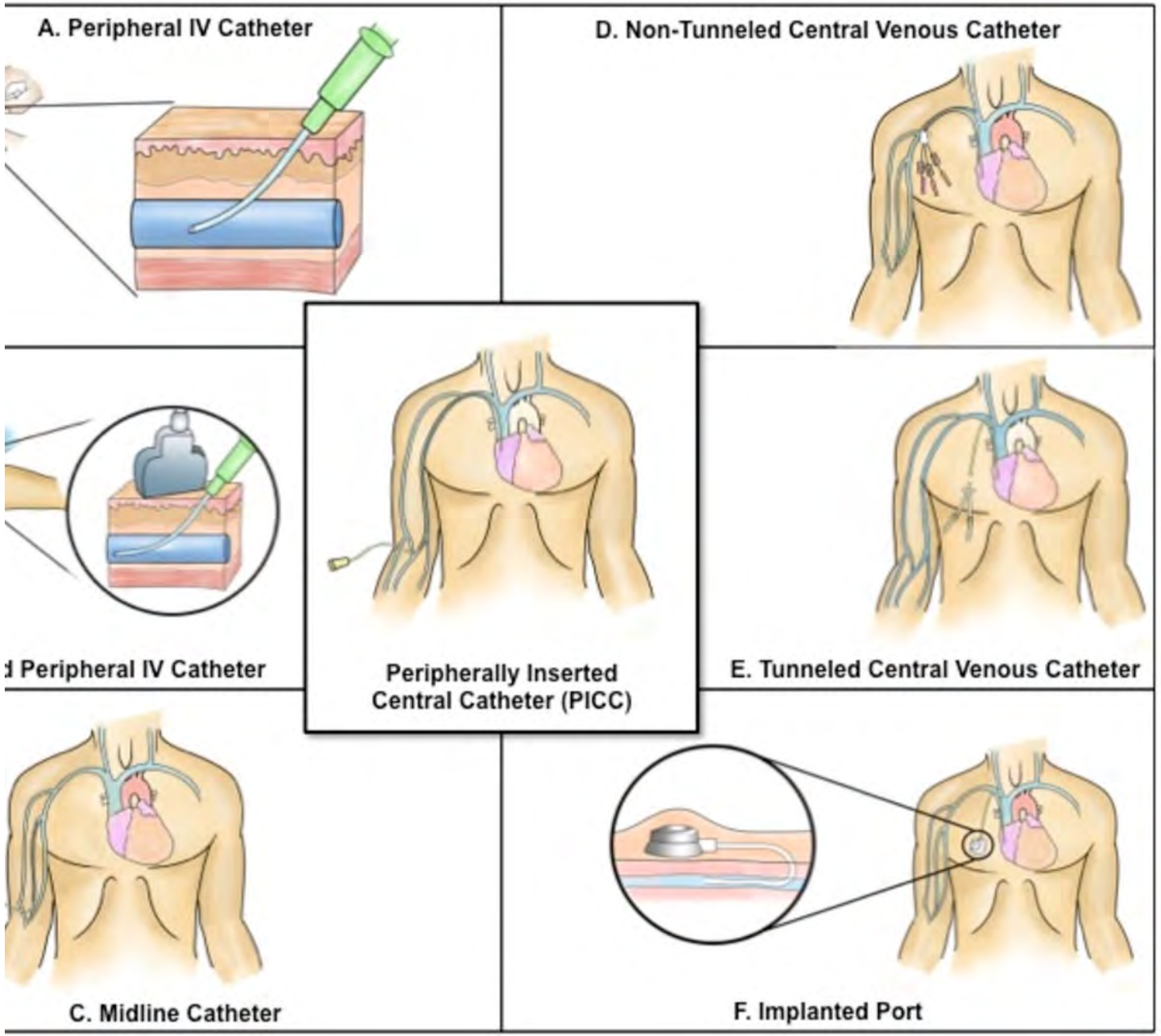


- NO CUFF
- Short term
- Typically used for days-weeks for all types of IV therapy and blood draws
- Percutaneously inserted into central veins (subclavian, internal jugular (IJ), femoral)

TUNNELED

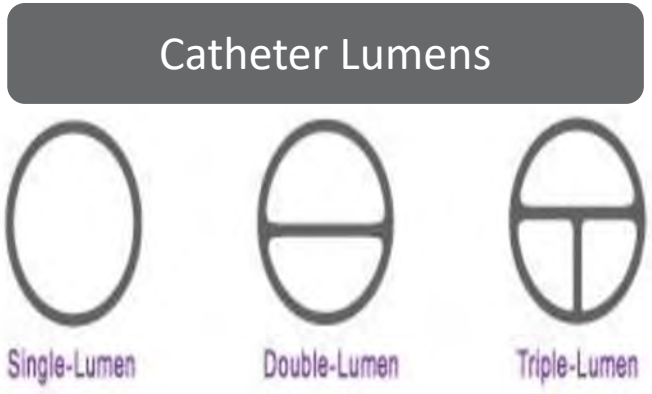


- Dacron cuff provides catheter stability and serves as a barrier to prevent infection
- Long term therapies: TPN, chemo
- Examples: aPheresis catheter, Hickman, Groshong, Broviac
- Percutaneously inserted into central veins (subclavian, internal jugular (IJ), femoral)



six categories of IV catheters:

- Peripheral
- Midline
- PICC
- Non-tunneled central
- Tunneled central
- Implanted Ports



Peripheral Catheters

- Easily inserted into veins of the forearm or hand.
- May be inserted by RN or LPN in the home.
- Used for short term therapy.
- Used to administer fluids, medications and blood products.
- DO NOT use peripheral IV catheters for continuous vesicant therapy or parenteral nutrition.
- Removed/changed when there are unresolved complications or no longer necessary for therapy.
- Safely removed in the home by an RN, LPN and, in some cases, by the patient or caregiver.
- With each visit, document site condition, dressing condition, patency of catheter and ongoing need.

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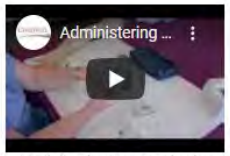
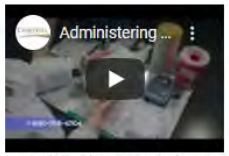
Patient Step-by-Step Videos

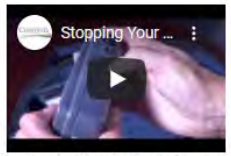
Infusion Teaching Videos



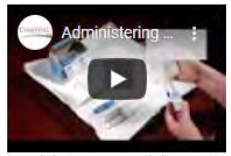
Administering Your Medication via CADD Solis Pump at Home



Administering TPN Infusion at Home

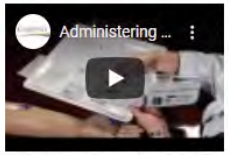


Stopping Your TPN Infusion at Home

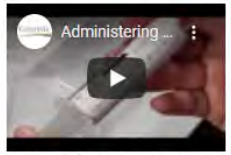


Administering Your Mini-Bag Plus Medication via Gravity at Home

Administering Your Vial Mate Medication via Gravity at Home

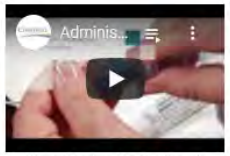


Administering Medications via Your Freedom 60 Pump



Administering Your IV Push Medication via Prefilled Syringe at Home

Flushing Your IV Catheter at Home



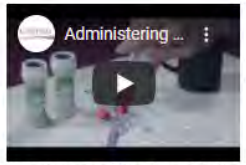
Administering Medication via Gravity at Home

Administering Medication via Elastomeric Easy Pump

How to Power Your CADD Prizm Pump with Battery & Power Pack

Enteral Teaching Videos

Chartwell/CarepathRx Videos



Administering Your Enteral Bolus Feed at Home

Administering Your Enteral Feed via Gravity at Home

Kangaroo™ Joey Pump Manufacturer Videos

Infinity® Pump Manufacturer Videos

- Step-by-Step administration instructions for patient/caregiver administration of home therapies.
- Videos located on the NurseLink by CarepathRx website
- Easy to share link with patient.

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Vascular Access Device (VAD) Care

Dressing changes are weekly and as needed

- All supplies must be changed with every dressing change
  - Statlock, or another securement device
  - Extension sets
  - Injection caps
  - Biopatch or other CHG disc
- INS guidelines recommends use of a securement device or securement dressing.

Dressing change kits often include a Tegaderm (breathable) dressing.

External length of the PICC/Midline to be measured and documented with each dressing change

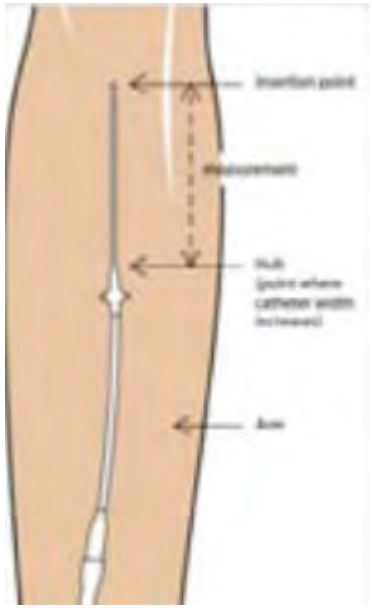
- If the external length of the catheter has increased by 2cm or more since SOC the MD and the Infusion Pharmacist must be notified.

Palpate the insertion site to assess for swelling and pain.

Compare the circumference of both extremities, if unilateral edema is noted. Compare to baseline measurement at insertion if available.

- Location of measurement must be notes for comparison, and a 3 cm increase in midarm circumference in adults is associate with CA-DVT.

Changes in color may include redness and/or blanching.



Sorbaview Securement Dressing: https://youtu.be/jM73tL7C48w

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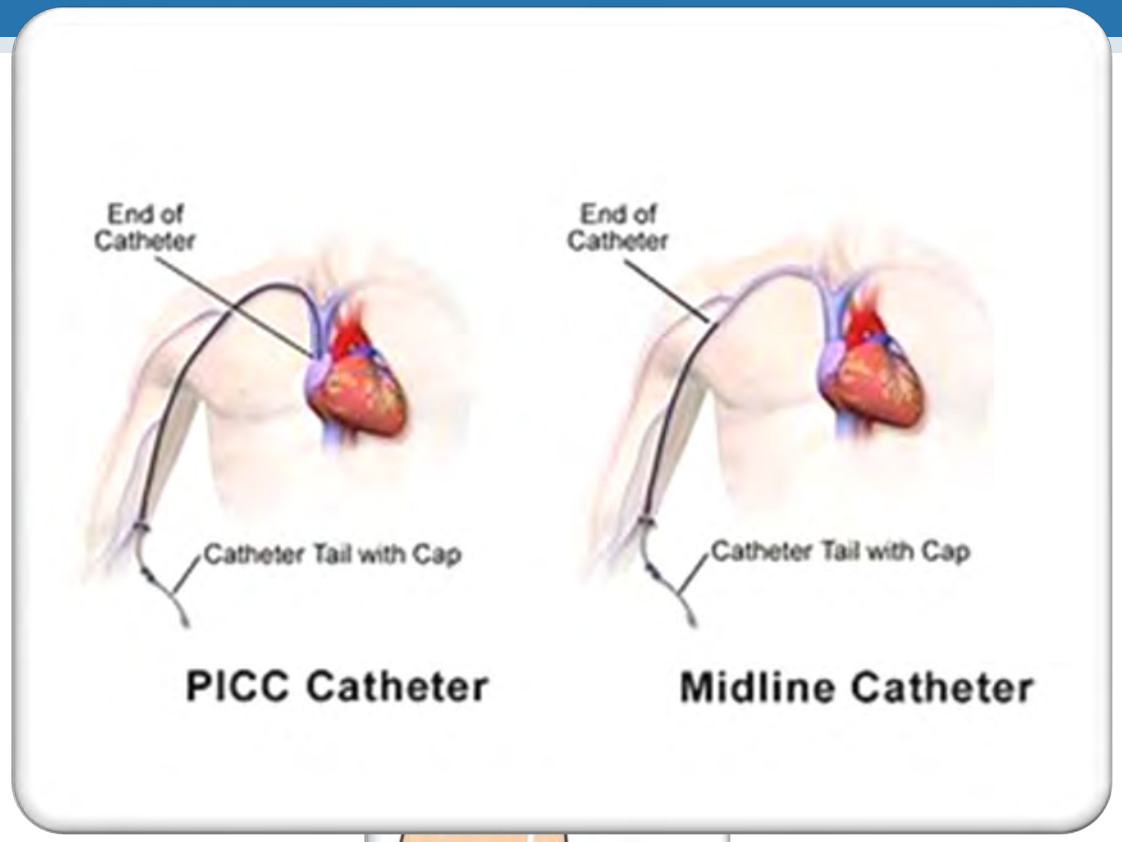

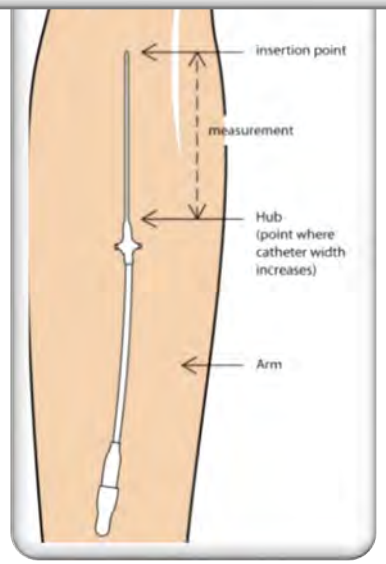

PICC AND MIDLINE

- INS STANDARDS RECOMMEND USE OF A MANUFACTURED SECUREMENT DEVICE
    - SORBA VIEW DRESSING
    - STATLOCK
    - OTHER SECUREMENT DEVICE.
- WEEKLY DRESSING CHANGES
    - THE EXTERNAL LENGTH OF THE PICC/MIDLINE MUST BE MEASURED AND DOCUMENTED WITH EACH DRESSING CHANGE.
        - IF THE EXTERNAL LENGTH OF THE PICC CATHETER HAS INCREASED BY 2CM OR GREATER, THE **MD SHOULD BE NOTIFIED**.
    - ASSESS EXTREMITY FOR SIGNS/SYMPTOMS OF CATHETER ASSOCIATED DVT (CA-DVT).
        - A 3 CM INCREASE IN MIDARM CIRCUMFERENCE IS ASSOCIATED WITH A CA-DVT IN ADULTS, THE **MD SHOULD BE NOTIFIED**.

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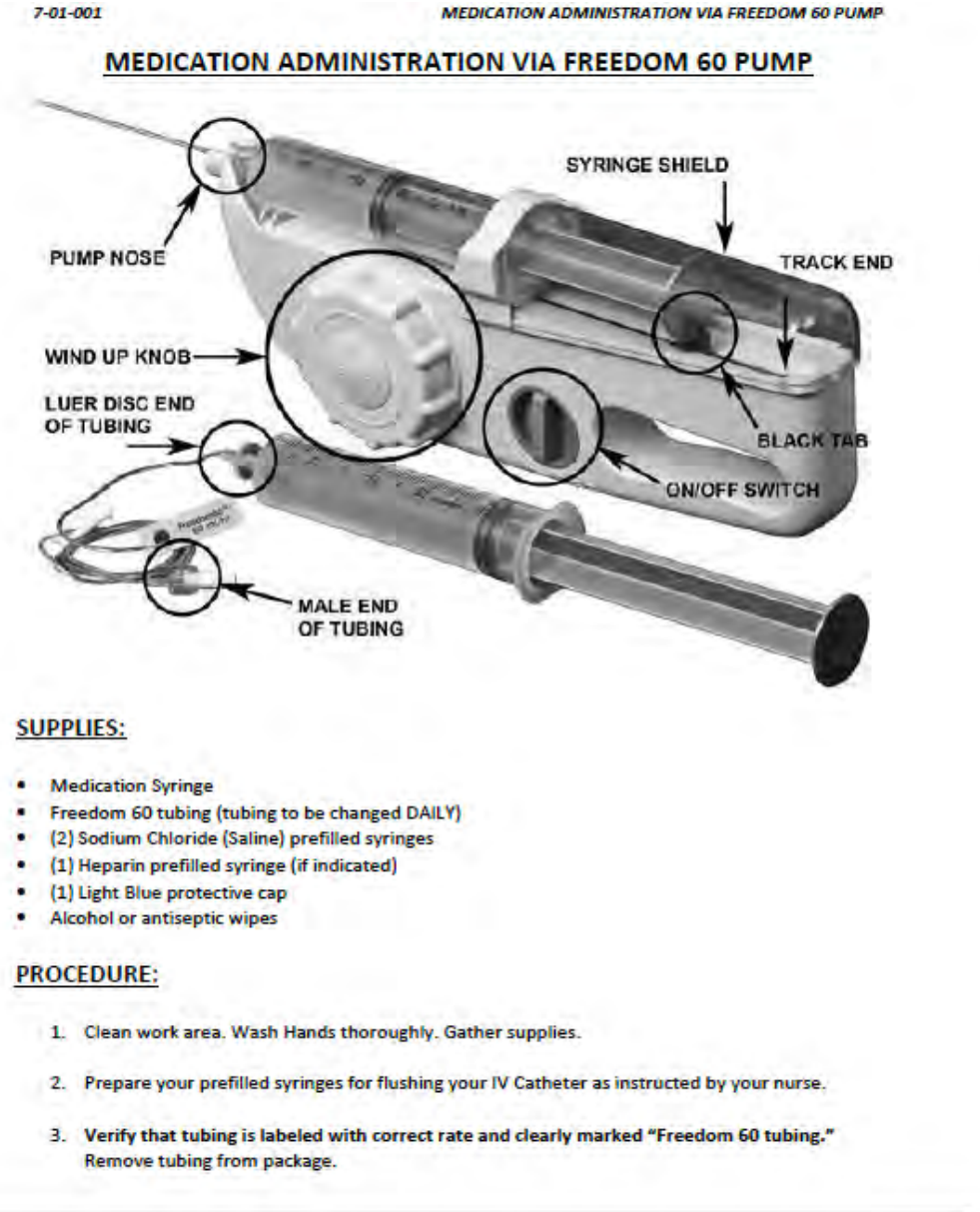
Patient Education Resources

Website resources:

- IV Teaching Guides
- Enteral Teaching Guides
- IV Videos
- Enteral Videos

Infusion Videos:

TPN Administration
Gravity Administration
Mini- Bag Plus by Gravity
Vial Mate by Gravity
Freedom 60 pump Administration
Elastomeric Administration
IV Push Administration
Flushing your IV Catheter
Enteral Bolus Feed
Enteral Gravity feed
18 Joey Kangaroo Manufacture Videos
5 EnteraLIte Infinity Manufacture Videos.



7-01-001 MEDICATION ADMINISTRATION VIA FREEDOM 60 PUMP

MEDICATION ADMINISTRATION VIA FREEDOM 60 PUMP

SUPPLIES:

- Medication Syringe
- Freedom 60 tubing (tubing to be changed DAILY)
- (2) Sodium Chloride (Saline) prefilled syringes
- (1) Heparin prefilled syringe (if indicated)
- (1) Light Blue protective cap
- Alcohol or antiseptic wipes

PROCEDURE:

1. Clean work area. Wash Hands thoroughly. Gather supplies.
2. Prepare your prefilled syringes for flushing your IV Catheter as instructed by your nurse.
3. **Verify that tubing is labeled with correct rate and clearly marked "Freedom 60 tubing."** Remove tubing from package.

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Peripheral CATHETERS

Easily inserted.

Changed only when clinically indicated based on clinical signs and symptoms of complications.

- Based on nurse's assessment of the patient's condition, access site, skin and vein integrity, length and type of prescribed therapy, venue of care, integrity and patency of the catheter.

There must be documentation of close monitoring of site.

TUNNELED CATHETERS (CVC)

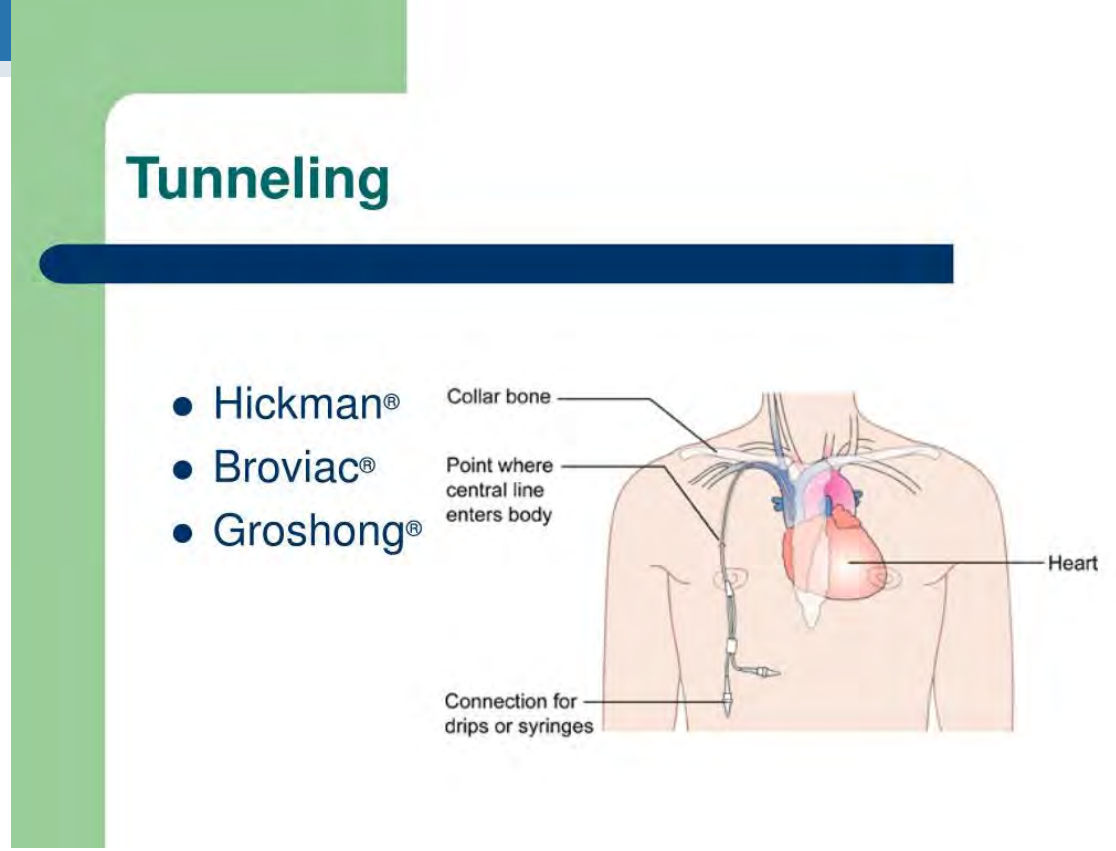
Long term use

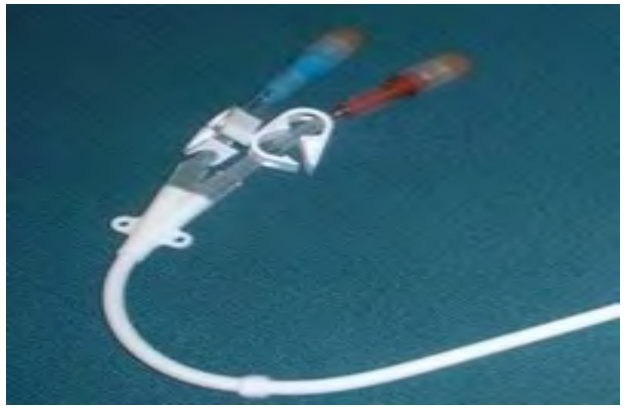
Surgically inserted into the subclavian vein, then advanced to the SVC. The distal portion of the catheter is then threaded through a subcutaneous tunnel to an exit site.

Dacron Cuff

- encourages tissue growth around the catheter which secures it in place and serves as a barrier to prevent infection.

Must be surgically removed.

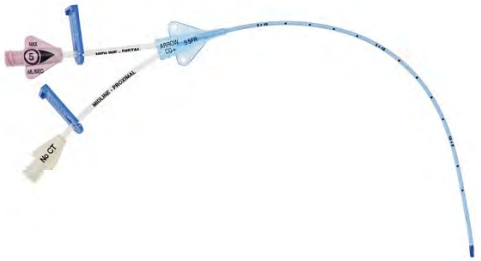


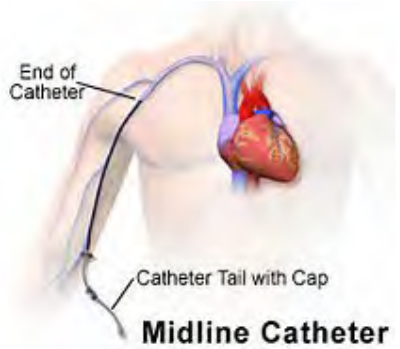


Midline Catheters

- THIS IS A LONG PERIPHERAL CATHETER
  - TIP OF CATHETER ENDS AT THE AXILLA
  - **MEDICATION MUST BE APPROPRIATE FOR PERIPHERAL INFUSION.**

    ANTIBIOTICS, FLUID REPLACEMENT, ANALGESICS
  - USED FOR SHORT TERM THERAPIES.
  - DWELL TIME PER MANUFACTURER RECOMMENDATION.
    - TYPICALLY 2-4 WEEKS
  - REMOVE WHEN CLINICALLY INDICATED OR WHEN THERAPY IS COMPLETE.
  - **DO NOT USE FOR CONTINUOUS VESICANT THERAPY OR PARENTERAL NUTRITION**
- CATHFLO ALTEPLASE IS NOT APPROPRIATE.
  - RESEARCH TO INVESTIGATE
- MAY SAFELY BE REMOVED IN THE HOME BY AN RN OR LPN TRAINED IN REMOVAL
- WEEKLY LINE CARE AND PRN
  - DRESSING CHANGE WITH SECUREMENT DEVICE.
  - CAP AND EXTENSION CHANGES.





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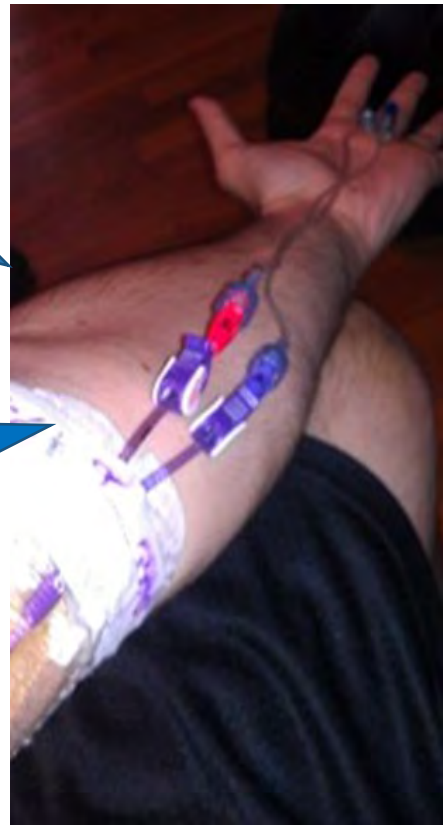
CATHETER INJECTION CAPS

USP 800
Requires hazardous medications to be compounded into needless and closed systems.

Injection caps may need to be neutral pressure to prevent leaking at the connection.



Injection caps may be:
Positive pressure
Neutral pressure
Negative pressure

Extension tubing allows for the patient to self-administer medications with 2 hands.

Injection caps must be changed every seven (7) days and with each blood draw

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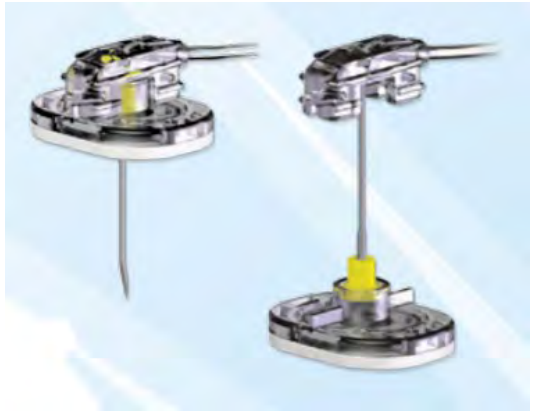
NON-CORING NEEDLES



- Used to access ports, to prevent damage to ports.
- Chartwell sends Safe Step Huber Needles that are not Power Injectable.
  - Power Port Needles are available upon request.
  - Power ports can be injected with the radiology automated injector for diagnostic testing.

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Questions?

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Pump Returns

PUMPS ARE DELIVERED IN A MAIL-BACK RETURN BOX

- Instruct the patient to save the box, the return box will be plain and labeled “UPS PICK UP."
- If the patient discards the return box, they can package the pump in any box with appropriate padding and tape it shut.

CAREPATHRX WILL CONTACT THE PATIENT & ARRANGE PUMP PICK UP BY UPS.

- The pharmacy will print an UPS shipping label when pick up is arranged.
- The patient does not need to be home for the UPS driver to pick up the box.
- There is no fee to the patient for this service.

Nurses are NOT to remove pumps from patients’ homes.

(exceptions may apply)

Contact Carepathrx for equipment return.

PICC LINES (CVC)

PERIPHERALLY INSERTED CENTRAL CATHETERS

Dwell time weeks to several months.

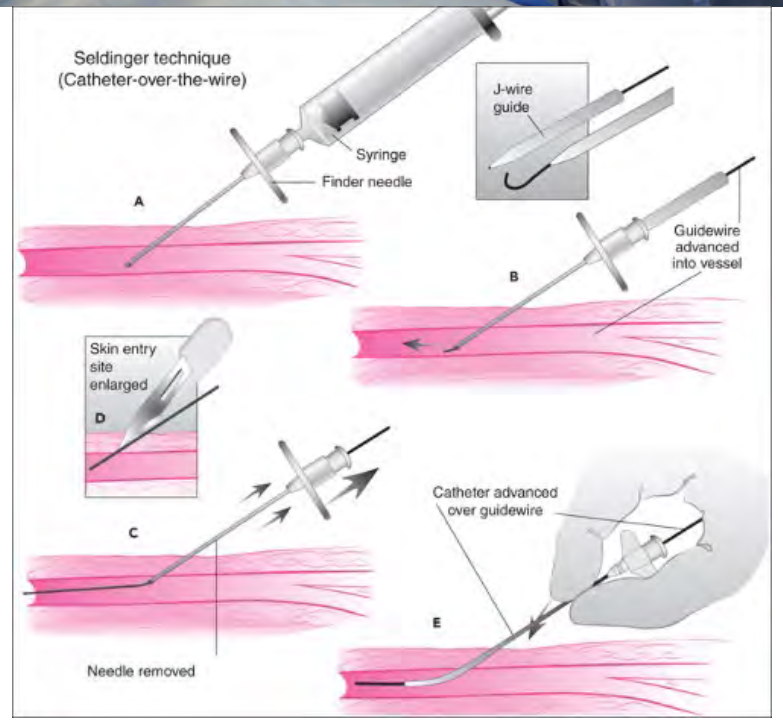
Inserted in radiology or at the bedside.

- Correct catheter placement can be confirmed by using EKG technology or x-ray to confirm placement of the tip in the SVC (Superior Vena Cava).

Can feature more than 1 lumen.

Can be used to administer IV fluids or medications which may irritate peripheral veins (chemotherapy or TPN).

These catheters can safely be removed in the home by a RN trained in removal.



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