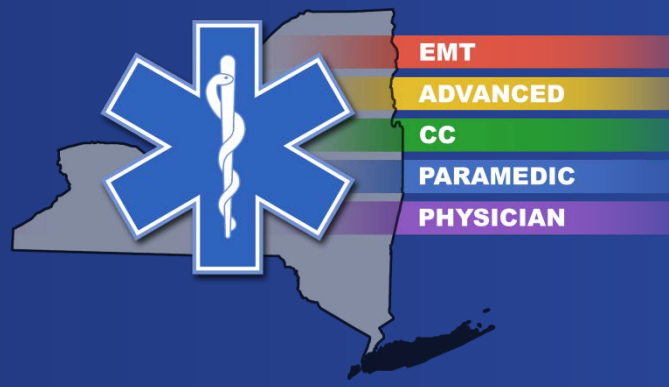

Vascular Devices – Pre-Existing

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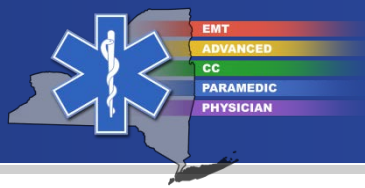
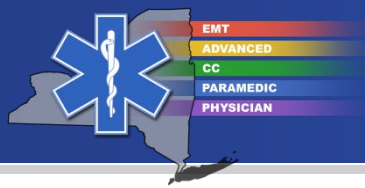
Christopher J. Fullagar, MD, EMT-P, FACEP
Stan Goettel, MS, EMT-P

Author credits / conflict declaration



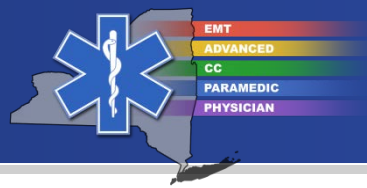
- No financial conflicts of interest

Content



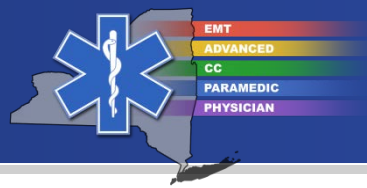
- Indications
- Device identification
- Procedure
- Awesome video (9 minutes and 54 seconds)

Indications



- Paramedics may access certain pre-existing vascular devices on standing order if the patient is in EXTREMIS and a lifesaving intervention will be performed
- Extremis includes, but is not limited to:
  - Cardiac arrest
  - Respiratory arrest
  - Status epilepticus
  - Decompenasated shock
  - Life threatening arrhythmias
- If the patient is not in extremis and access is needed, contact medical control for orders to access the device

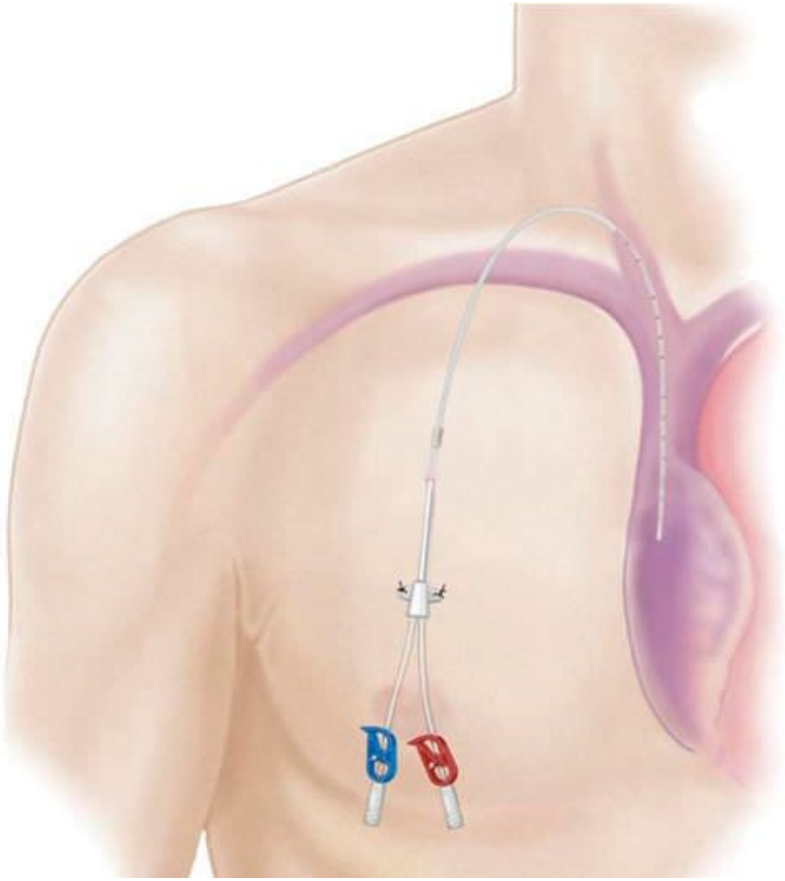
Device Identification – Overview



- Pre-existing devices include:
  - Renal dialysis lines (but NOT fistulas)
  - Central venous catheters (CVC)
  - Peripherally inserted central catheter (PICC)
- *Not* accessible by prehospital providers:
  - Implanted ports
  - Fistulas
- Percutaneous catheters below the nipple are *not* for vascular access and must not be used
  - The entirety of the upper extremities (arms/forearms) is considered anatomically above the nipple

Device Identification – Renal Dialysis Catheter

- Renal Dialysis Catheter (NOT a Fistula)



Device Identification – Renal Dialysis Catheter

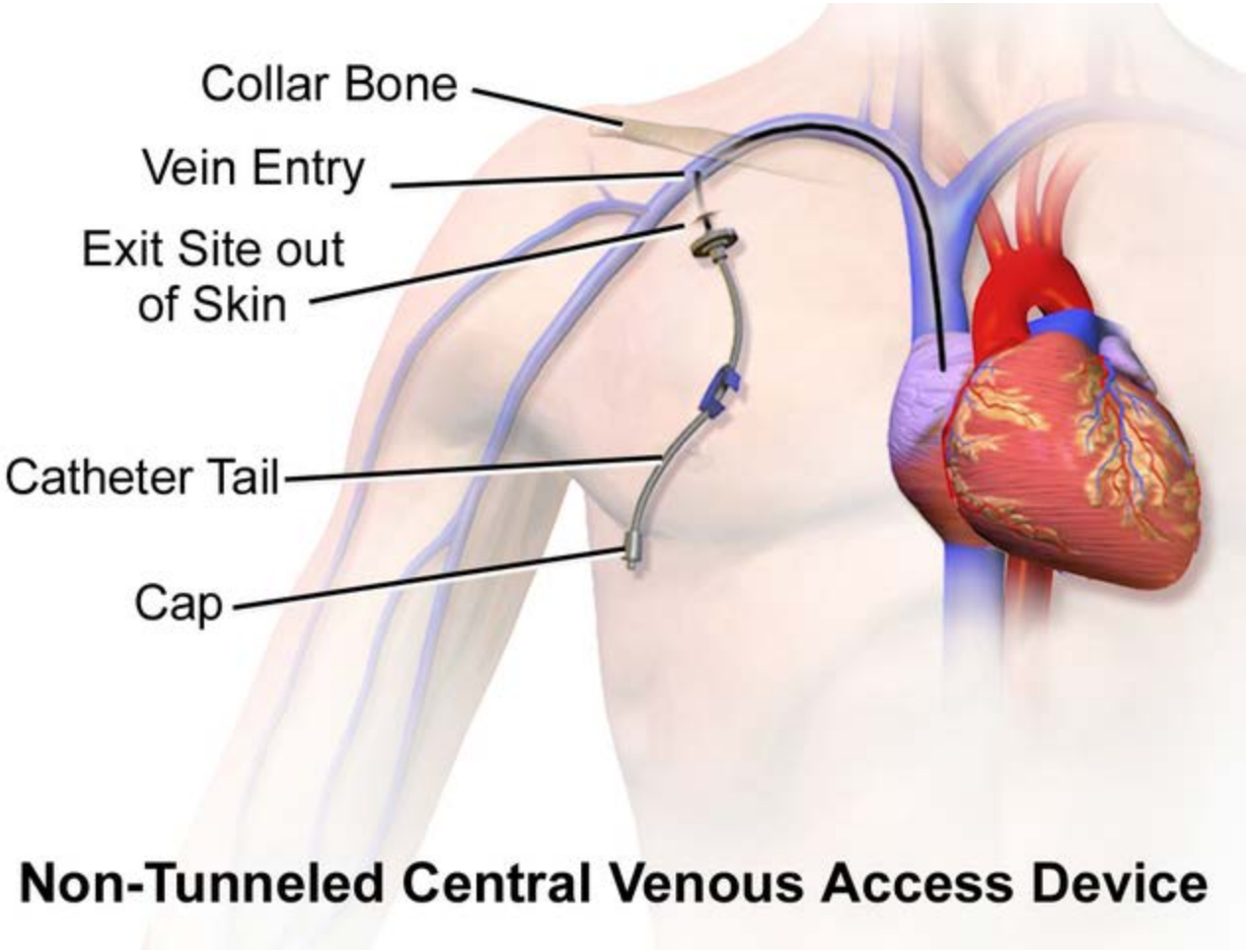
- Renal Dialysis Catheter (NOT a Fistula)

Device Identification – Renal Dialysis Catheter

- Renal Dialysis Catheters (NOT fistulas)
  - Generally have a red and blue port corresponding to "arterial" and "venous" dialysis flow respectively
  - Despite this terminology, *both* ports terminate in the vein (superior vena cava) and access the *venous* circulation
  - Patients can get hemodialysis through this line
  - *Both* ports can be accessed, flushed, and utilized in an emergency
  - If one port does not draw back or flush easily, do not use that port and try the other one
  - Although you only need one, it is recommended that you clean and prep both ports, if possible

Device Identification – CVC

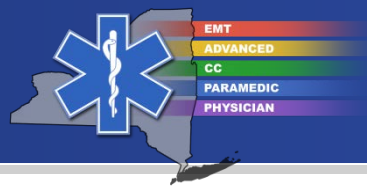
- Central Venous Catheters (CVC)



Device Identification – CVC

- Central Venous Catheters (CVC)

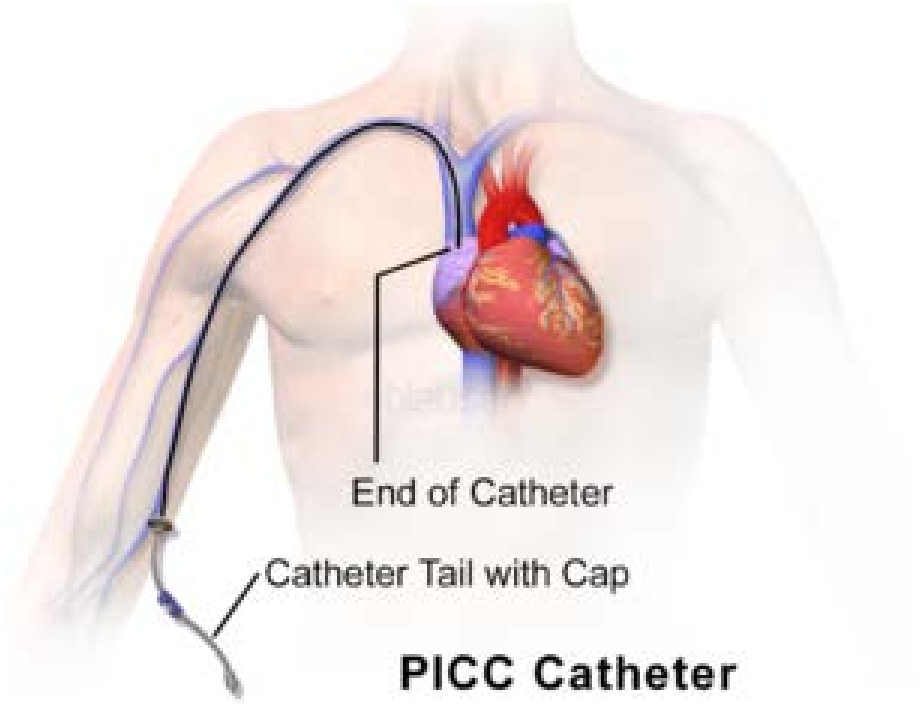
Device Identification – CVC



- CVC (Central Venous Catheters)
  - CVCs generally have two, three, or four ports
  - All ports access the venous circulation
  - If one port does not draw back or flush easily, do not use that port and try another one
  - Although you only need one, it is recommended that you clean and prep all ports, if possible

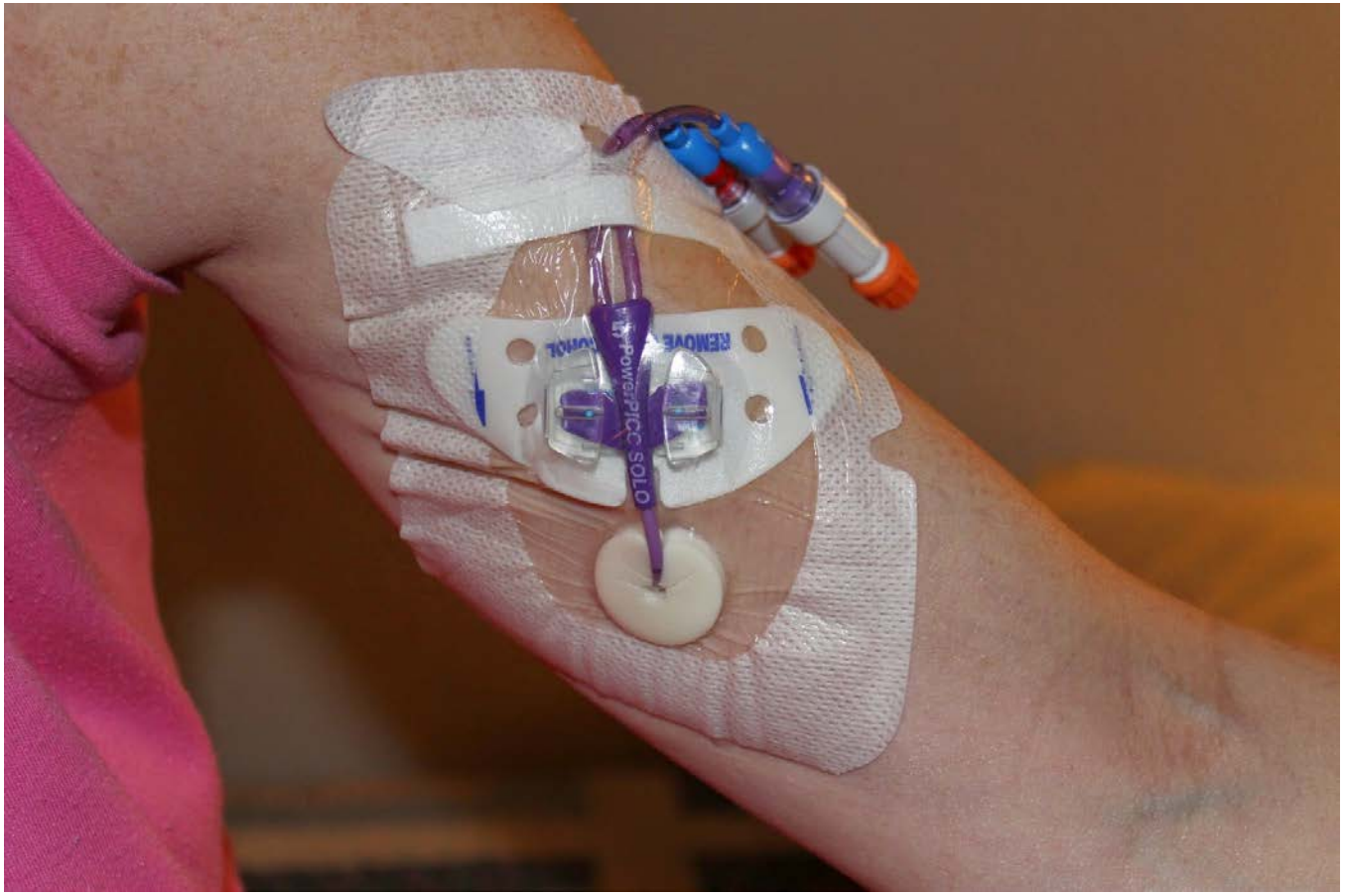
Device Identification – PICC

- Peripherally Inserted Central Catheter (PICC)



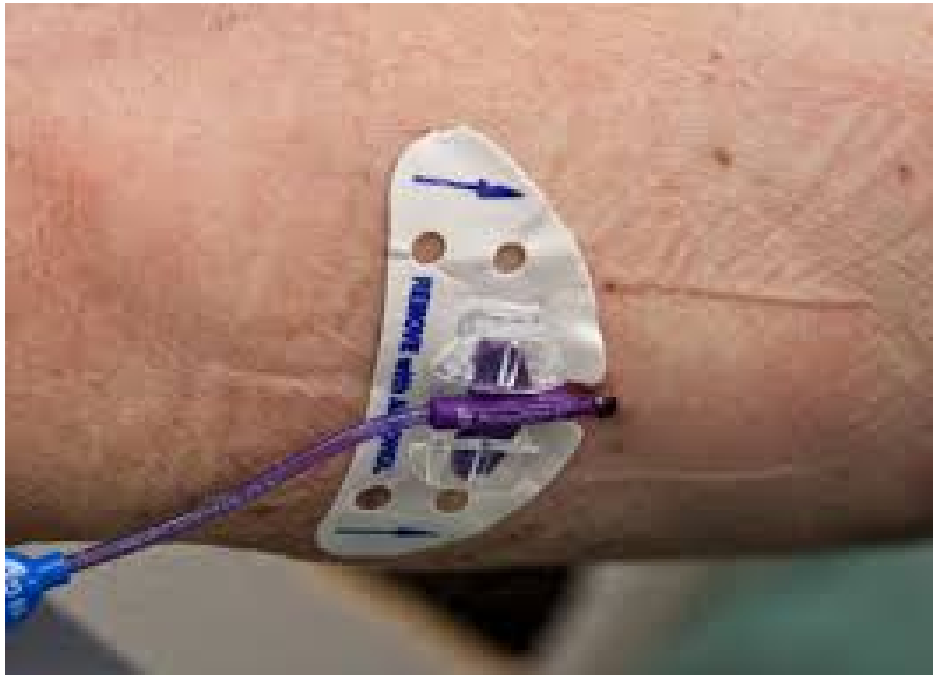
Device Identification - PICC

- Peripherally Inserted Central Catheter (PICC)

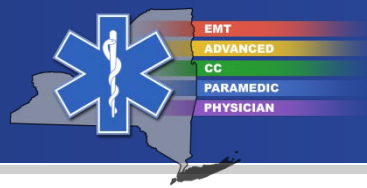


Device Identification – PICC

- Peripherally Inserted Central Catheter (PICC)



Device Identification – PICC



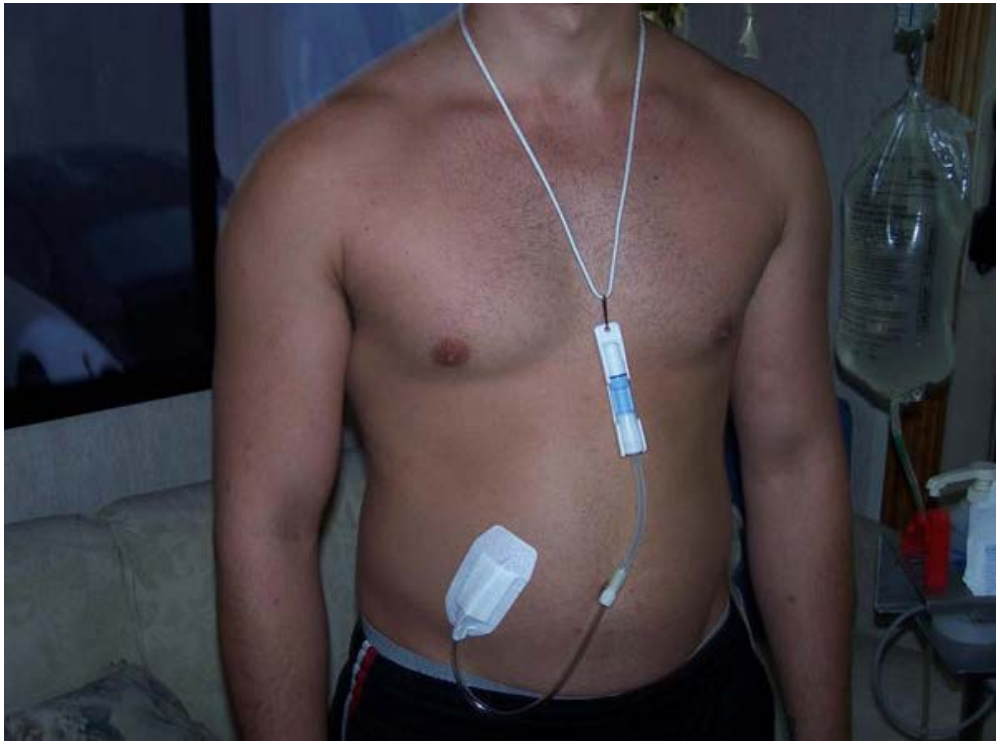
- PICC (Peripherally inserted central catheter)
  - Most likely encountered device in the prehospital environment
  - PICC lines generally have one or two ports
  - All ports access the venous circulation
  - If the line is a double lumen PICC and one port does not draw back or flush easily, do not use that port and try the other one
  - Although you only need one, it is recommended that you clean and prep both ports, if possible

Device Identification – Fistula

- This is a fistula
- Do *not* access a fistula
- Patients are not sent home with dialysis fistula lines accessed
- Working fistulas will typically have a palpable thrill

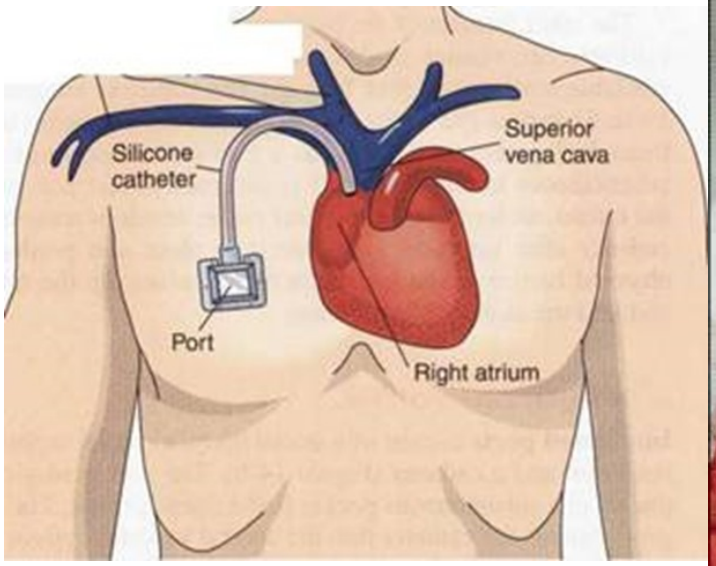
Device Identification – Non-Vascular

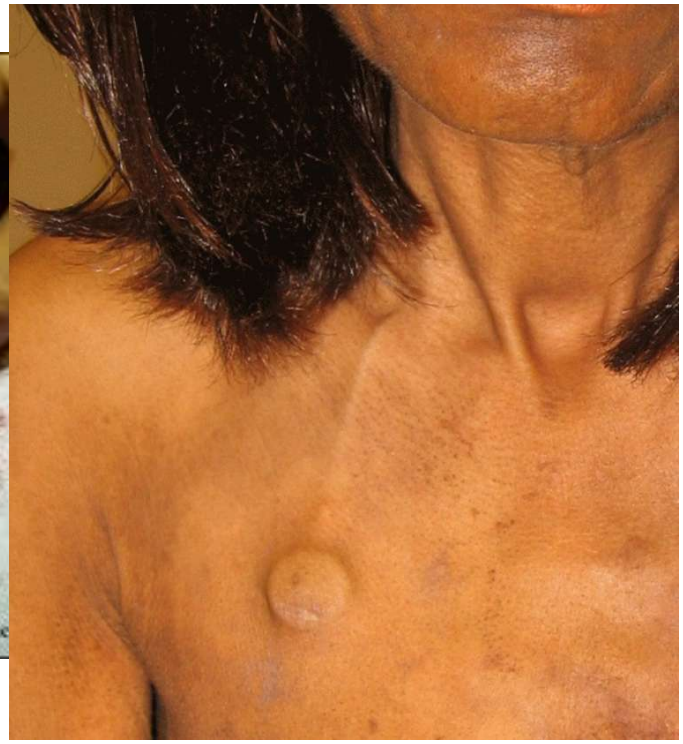
- Do *not* access lines below the nipple
- This is a peritoneal dialysis catheter and does *not* access the blood circulation



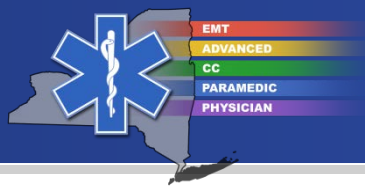
Device Identification – Port

- This is an implanted port
- Do *not* access implanted ports in the field
- If a port is already accessed, contact medical control if you feel that you need to use it





Procedure



- Discontinue any solution flowing into the line
  - Do not, however, discontinue a necessary continuous infusion such as epoprostenol (Flolan®/Veletri®) used to treat pulmonary hypertension
- Put on sterile gloves, if available
- Clean site with iodine or clorhexidine wipe
- Do not remove antireflux valve, if present
  - If no antireflux valve, clamp line, remove cap, and utilize antireflux valve from an extension set
- With clamp open, withdraw 10 mL of fluid and discard
- Flush with 5 mL of normal saline
- If flushes easily, instill the remaining 5 mL from the 10 mL flush

Procedure

- Secure the administration set to the access site
- Maintain normal saline KVO through the device
- If the access device is damaged and begins to leak, clamp it one inch from the skin entry site *ideally* with a padded, non-serrated hemostat, if available

Video

Please see Vascular Devices Video On Website