

Advanced IV Class

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Advanced IV skills

- ▶ Types of IV access
- ▶ Central line Flush
- ▶ Central line dressing change/cap change
- ▶ Central Line Blood Draw
- ▶ Medication/hydration administration
- ▶ PICC removal
- ▶ Porta Cath access and deaccess
- ▶ Complications
- ▶ Documentation

Types of IV access

- ▶ Peripheral Catheters
 - ▶ Inserted into veins of upper extremities
 - ▶ for therapies less than 7 days
 - ▶ NO blood draws
- ▶ Extended Dwell Peripheral Catheters
 - ▶ Sterile, single use peripheral catheter
 - ▶ Short term use 3-29 days
 - ▶ Used for: venous access, arterial access, pressure injection
 - ▶ May be utilized for blood draws with MD order
 - ▶ 18-22 Gauge and 6-8 cm in length
 - ▶ Flushed with saline or saline/heparin
 - ▶ Same requirements for dressing/cap change as the PICC line
- ▶ Midline catheters
 - ▶ Considered a peripheral catheter
 - ▶ Inserted at bedside
 - ▶ 2-4 weeks
 - ▶ Same dressing changes/flushes as central lines
 - ▶ Single lumen
 - ▶ Flushed with saline or saline/heparin
 - ▶ NO blood draws

Types of IV access continued

▶ PICC lines

- ▶ Inserted at bedside or in IR
- ▶ Dwell time of 1-6 months
- ▶ Maybe removed in the home
- ▶ single/double/triple lumen
- ▶ may or may not be valved
- ▶ Flushed with saline or saline/heparin
- ▶ Dressing/cap/extension set changed weekly

▶ Non-Tunneled central catheters

- ▶ Inserted at bedside
- ▶ 7-30 days
- ▶ Maybe removed in the home
- ▶ Dwell time 7-30 days
- ▶ Flushed with saline/heparin
- ▶ Dressing and caps changed weekly

Types of IV access

▶ Tunneled central Catheters

- ▶ Surgically implanted
- ▶ Dwell time: 1+ years
- ▶ Surgical removal required
- ▶ May be valved
- ▶ Flushed with saline or saline/heparin
- ▶ Dressing/cap changed weekly

▶ Implanted Port

- ▶ Surgically implanted
- ▶ Requires non-coring needle for access
- ▶ Dwell time 2+ years or 2000 accesses
- ▶ Surgical removal required
- ▶ Single or double port
- ▶ Flushed with saline/heparin monthly
- ▶ Huber needle/cap/dressing changed weekly

Medication/Hydration Administration

- ▶ Gravity
- ▶ Dial-a-flow
- ▶ Pumps
- ▶ Push
- ▶ Elastomeric pumps

Central line Flush

- ▶ Never force a flush
- ▶ To prevent Blood Reflux:
 - ▶ Negative displacement- clamp BEFORE removing syringe
 - ▶ Neutral displacement- clamp BEFORE or AFTER syringe removal
 - ▶ Positive displacement- Clamp AFTER syringe is removed
- ▶ A single use syringe should never be used more than once
- ▶ 10mL syringes should not be used to flush multiple lumens
- ▶ Flush using a pulsative or “stop-start” technique
- ▶ Flush lines daily

Caps: Needleless Access Devices

- ▶ CDC recommends changing caps every 3-7 days
- ▶ Change more frequently with TPN d/t microbial growth
- ▶ Before accessing scrub the hub for 20 seconds
- ▶ During dressing change procedure following application of new dressing
 - ▶ Prime cap with saline
 - ▶ Remove old cap
 - ▶ Scrub line for 20 seconds
 - ▶ Replace with new primed cap
 - ▶ Flush line
 - ▶ Apply alcohol-impregnated cap to end of line

Central Line Blood Draw

- ▶ Before you start you must have:
 - ▶ MD order to perform line draw
 - ▶ Ability to perform line draw with strict aseptic technique and universal precautions
- ▶ Gather supplies
 - ▶ 10cc saline syringe(3)
 - ▶ Non-sterile gloves
 - ▶ Leur-lok vacutainer adapter
 - ▶ 10cc waste tube
 - ▶ Appropriate lab tubes
 - ▶ Alcohol prep pads
 - ▶ 5cc heparin flush(if required)
 - ▶ Sharps container

Central line Blood Draw Continued

▶ Procedure

- ▶ Explain procedure to patient
- ▶ Wash hands and don gloves
- ▶ Cleanse around hub of catheter and injection cap with alcohol for 20 seconds
- ▶ Unclamp catheter
- ▶ Flush with 5cc of normal saline and draw back until you obtain blood return in syringe. Remove syringe and clamp line
- ▶ Cleanse cap with alcohol for 20 seconds and attach vacutainer adapter to hub
- ▶ Unclamp line
- ▶ Push 10cc waste tube into vacutainer adapter, once filled remove tube and discard into sharps container
- ▶ Push appropriate lab tubes into vacutainer holder, remove once filled
- ▶ Clamp line
- ▶ Remove vacutainer holder
- ▶ Remove cap, cleanse hub for 20 seconds with alcohol and apply new cap
- ▶ Unclamp line
- ▶ Flush with (2) 10cc syringes of normal saline
- ▶ Flush with heparin as ordered
- ▶ Dispose of vacutainer in sharps container
- ▶ Remove gloves and wash hands
- ▶ Label tubes with: name/DOB/date/time/initials
- ▶ Document procedure and lab location to which blood will be sent

Catheter Dressings

▶ CDC Recommendations:

- ▶ Use a sterile transparent semi-permeable dressing
- ▶ Replace dressing if damp, loosened, or visibly soiled
- ▶ Do not use antibiotic ointments or creams

▶ Dressing changes

- ▶ 24 hours following insertion and then weekly
- ▶ When soiled, wet, loose, or non-occlusive
- ▶ >5% chlorhexidine to cleanse skin during dressing changed

▶ Dressing Removal

- ▶ Stabilize catheter and leurock hub to prevent dislodgement
- ▶ Separate dressing away from leurock hub and towards insertion site
- ▶ Chlorhexidine should be used to swab in back and forth motion for 30 seconds to ensure the skin is clean and disinfected
- ▶ Assess external catheter length to determine if migration has displaced catheter tip
- ▶ Sterile occlusive dressing should cover entire insertion site and securement device

Dressing Change Procedure

- ▶ Gather supplies
- ▶ Hand hygiene
- ▶ Don clean gloves and mask, place mask on patient
- ▶ Remove old dressing toward insertion site and discard
- ▶ Remove gloves, perform hand hygiene, and don sterile gloves
- ▶ Inspect catheter, site, surrounding skin, and pt.'s arm, chest, neck
- ▶ Cleanse site with chlorhexidine using back and forth motion
- ▶ Allow to air dry
- ▶ Secure catheter in place with securement device
- ▶ Apply bio patch to insertion site
- ▶ Apply sterile dressing to site
- ▶ Document date/time and initials on new dressing
- ▶ Document procedure, complications, external catheter length, and MAC

PICC/Midline/EDPC Removal

- ▶ Procedure:
 - ▶ Obtain MD order for removal
 - ▶ Gather supplies: gloves, dressing change kit, sterile occlusive dressing, compression wrap
 - ▶ Explain procedure to patient
 - ▶ Wash hands/don non-sterile gloves
 - ▶ Scrub hub for 20 seconds with alcohol wipe and flush with 10cc of normal saline
 - ▶ Remove old dressing and securement device
 - ▶ Remove non-sterile gloves, perform hand hygiene and don sterile gloves
 - ▶ Instruct patient to take a deep breath in and hold breath
 - ▶ Remove catheter and cover opening with sterile occlusive dressing
 - ▶ Instruct patient to stop holding breath
 - ▶ Wrap with compression dressing for 10 minutes, then remove leaving occlusive dressing in place for 48 hours
 - ▶ Instruct pt. that if bleeding occurs to lift arm above head and apply pressure
 - ▶ Document date/time/length of catheter following removal, patient's condition,

PORTACATH Access

- ▶ Equipment
 - ▶ PPE
 - ▶ Dressing Tray
 - ▶ Non-coring Huber needle with leur-lock extension tubing
 - ▶ Chlorhexidine or isopropyl alcohol swab sticks
 - ▶ 10mL syringe of normal saline
 - ▶ Transparent occlusive dressing
 - ▶ cap

PORTACATH Access

- ▶ Procedure
- ▶ Position patient in high fowlers position
- ▶ Expose IVAD site and palpate port
- ▶ Assemble equipment and create a sterile field
- ▶ Mask and apply non-sterile gloves
- ▶ Cleanse port site with disinfectant in a circular motion from center of port outwards to cover an area approximately 4 inch diameter. Repeat three times and allow to air dry for 1 minute
- ▶ Attach adaptor to extension tubing
- ▶ Attach saline filled syringe and prime tubing and needle. Leave syringe attached to set and close the clamp.
- ▶ Apply sterile gloves and palpate the port system with the non-dominant hand, stabilize port
- ▶ With the dominant hand, using firm, consistent pressure, insert the non-coring needle perpendicular at a 90 degree angle to the port septum until the back of the port chamber is located.
- ▶ Open the clamp on the extension tubing and verify patency by aspirating for blood return and instilling saline
- ▶ Slowly flush the system with 10mL of saline, disconnect syringe and close clamp
- ▶ Connect to primed IV line or heparin lock the system
- ▶ Secure the needle and tubing to the patient with and occlusive dressing

PORTACATH Deaccess

- ▶ Equipment
 - ▶ 10mL normal Saline Syringe
 - ▶ Heparin per order
 - ▶ 2x2 gauze
 - ▶ Tegaderm
- ▶ Procedure
 - ▶ If infusing stop IV
 - ▶ Apply gloves
 - ▶ Cleanse injection port with alcohol wipe for 20 seconds
 - ▶ Attach 10mL syringe of saline, aspirate for blood return and instill saline
 - ▶ Disconnect saline syringe
 - ▶ Attach syringe with 5mLs Heparin lock flush
 - ▶ Loosen dressing from needle site
 - ▶ Apply pressure to edges of port with 2-3 fingers while withdrawing the non-coring needle straight out with the other hand
 - ▶ Apply pressure to the port site with a 2X2 gauze and cover with an occlusive dressing for 24 hours

Complications

- ▶ Infiltration- occurs when an IV goes through or comes out of vein. IV fluid leaks into surrounding tissue, causes pain, swelling, skin that is cool to touch
- ▶ Phlebitis- inflammation of the vein due to blood clot or irritation from IV catheter or pathogenic organism. Causes pain, redness, swelling
- ▶ Occlusion- blockage in the line due to blood clot, chemical reactions, user error. Signs- inability to flush line, inability to obtain blood return. May order and instill cath flow
- ▶ Sepsis-severe bloodstream infection caused by bacteria/viruses that enter the body through the central line. Causes- redness at site or red streak around site, swelling/warmth at site, yellow/green drainage, pain or discomfort, fever
- ▶ Tip migration-change in position of the tip of the line. Generally migrates outward. Signs of tip migration- longer external length of catheter, this is why it is important to measure each visit and record these measurements

Assessment

- ▶ Examine site every visit for redness/swelling, drainage, tenderness, suture integrity, and catheter position
- ▶ Measure circumference of arm 2 inches above insertion site and record weekly
- ▶ Interview patient about any fever/chills, pain/discomfort
- ▶ Teach patient to observe site daily and when to contact HHA and MD
- ▶ Routinely assess dressings

Documentation

- ▶ The following should be documented in patient chart :

- ▶ At SOC

- ▶ Product name
- ▶ Date of insertion
- ▶ Anatomical location
- ▶ Catheter length internally and externally
- ▶ X-ray confirmation of catheter tip location
- ▶ Amount, type, frequency of flushes
- ▶ Mid arm circumference 2 inches above insertion site

- ▶ Weekly/PRN:

- ▶ Dressing change/cap change
- ▶ Mid-arm circumference 2 inches above insertion site
- ▶ External catheter length

- ▶ Every visit

- ▶ Temp, pain, condition of site, blood return
- ▶ complications