

# Implanted Central Venous Access Ports (IVAP)

Mimi Bartholomay, RN, MSN, AOCN

Denise Dreher, RN, CRNI, VA-BC

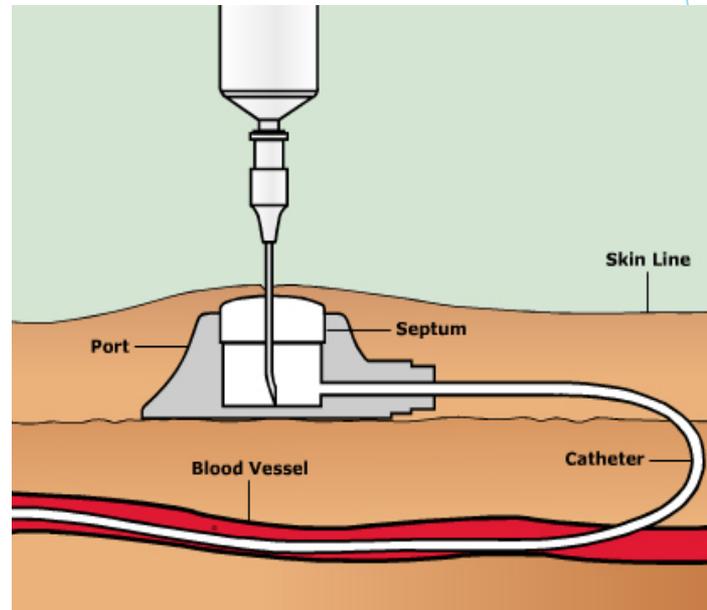
Sally Alexander, RN, MS, CCNS

# Objectives

- ▶ Overview of identification, use, access, care, and maintenance of IVAPs.
- ▶ Review of current practice guidelines at MGH regarding IVAPs.
- ▶ Hands-on education with access/de-access.

# Overview

- ▶ IVAPs are types of central venous catheters that are surgically implanted plastic or metal subcutaneous devices that permit long-term access to vascular system.
  - ▶ The catheter attached to the chamber terminates in central vasculature (lower third of the SVC, RA, or cavo-atrial junction).
- ▶ Uses
  - ▶ Blood sampling
  - ▶ Administration of blood products
  - ▶ Chemotherapy
  - ▶ TPN
  - ▶ Antibiotics
  - ▶ IV fluids
- ▶ Risks/Complications
  - ▶ Infiltration due to improper insertion of needle
  - ▶ Occlusion issues if not accessed/flushed properly
  - ▶ Infection
  - ▶ Skin breakdown
  - ▶ Catheter fracture/migration
  - ▶ Thrombus

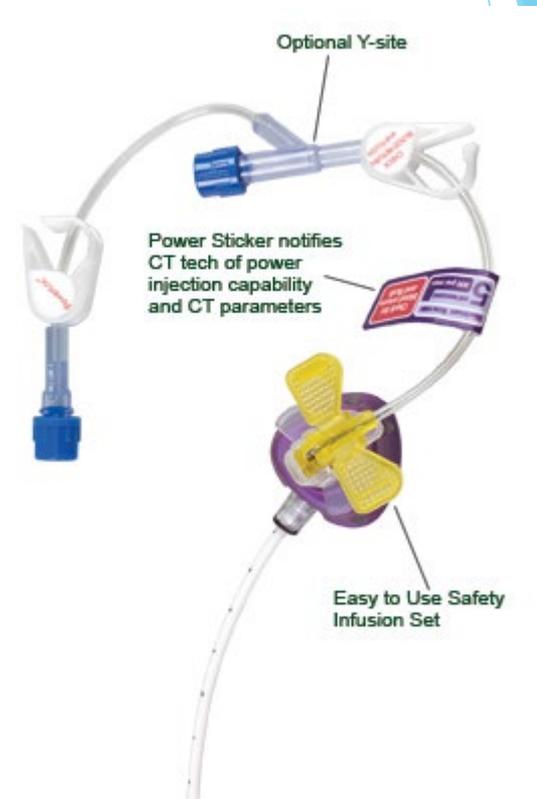


# Types of Ports

- ▶ Power-injectable or non power-injectable
- ▶ Single or double lumen
- ▶ Chest, arm, translumbar, or transhepatic
- ▶ In most patients, the port reservoir is in the chest or upper extremity. In some patients, use of a translumbar or transhepatic port may be required. Always verify proper tip placement with radiology prior to use. If there is any question about type of port, call IR for clarification.
- ▶ Some patients have ports in the abdomen for intra-peritoneal infusions. Always clarify before use.

# What is a Power Port?

- ▶ Power ports and power needles make it possible for the port to be used for power injections for radiologic studies, such as CT scans.
  - ▶ Can withstand 5ml/sec or 300psi
- ▶ Most ports placed at MGH are power-injectable ports.
  - ▶ Some ports are for specific procedures (e.g. AngioDynamics Vortex port for pheresis)– must also be identified as they have specific instructions for use. Call IR with any questions.

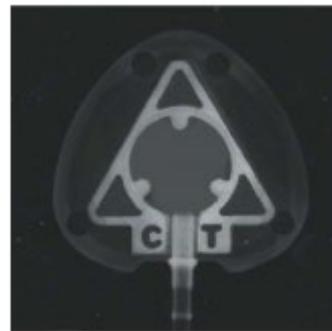


# Identification of Type of Port

- ▶ All ports require verification of type of device and tip placement prior to first use
- ▶ Power ports require 2 methods of identification prior to use
- ▶ Methods of identification
  - ▶ IR or surgical report/note
  - ▶ Communication with IR (ext. 6-8314) to confirm type of device placed
  - ▶ Patient port ID card or ID bracelet (supplied by VAD company)
  - ▶ Letter “CT” visible on power port seen on CXR
  - ▶ Port placement records from facility that device was placed at

# Bard PowerPort

- ▶ Available in SL and DL
- ▶ Newer Bard ports have less prominent 'nubs', as they can cause skin erosion. Some have none at all.
- ▶ SL is triangular in shape
- ▶ Imaging of port can detect flipped port; should see "CT"



( X-ray - top view )



# Xcela Power Injectable Port

- ▶ CT lettering confirms port is power/Not flipped
- ▶ Power injectable
- ▶ Available in SL and DL
- ▶ Does not have palpable 'nubs'



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## Medcomp Power Ports

- ▶ Dignity 6F mid size power port



- ▶ Profuse 8F large power port



# Access

- ▶ Prior to initial use, confirm tip placement (IR note, CXR) and document on flowsheet in LDA
- ▶ Confirm power vs. non-power
- ▶ Verify provider order for access and flush
- ▶ A power port can be accessed with a non-power needle. If you anticipate pt will need scan, confirm and access with power needle to avoid multiple sticks.
- ▶ Do not access port and contact provider if erythema, edema, pain, hematoma noted over site
- ▶ Needle change q 7 days
- ▶ Access and flush every 1-2 months if not in use



# What needle do I use?

- ▶ Depending on the type of port-a Gripper Plus non-coring needle for adults (for non-power) or PowerLoc (for power) is used.
- ▶ A 22G or 20G  $\frac{3}{4}$  length needle is sufficient for most ports that can be palpated at the skin's surface.
- ▶ Essential to choose right needle size- too long and needle can fracture on back of port; too short and solution can infiltrate into tissue.
- ▶ All needles available from materials management (see Ellucid policy)

# Access

- ▶ Gripper Plus or PowerLoc needle
- ▶ Needleless connector
- ▶ Sterile saline syringes
- ▶ Central line dressing kit
- ▶ Biopatch-3/4 inch (smallest)- need Biopatch for any port accessed >24 hours
- ▶ Sterile field
- ▶ Extra mask for patient



# Troubleshooting\*

- ▶ No blood return
  - ▶ 1<sup>st</sup>- change needle; may not be right size
  - ▶ Confirm tip placement with CXR
  - ▶ TPA
- ▶ Positioning- supine or Trendelenburg best
- ▶ Consult IR if port continues to not have blood return
- ▶ Concern for infection
  - ▶ Erythema/edema/pain
  - ▶ Consult IR/ID for recommendations
  - ▶ Ethanol locks to ports require approval from IR re: ethanol can compromise integrity of the port

\*Refer to “Guidelines for Troubleshooting Central Venous Lines” in Ellucid

<https://hospitalpolicies.ellucid.com/documents/view/1100/23263/>

# Care and Maintenance

## ▶ Dressing

- ▶ Established deaccessed port does not need to be dressed
- ▶ Accessed ports
  - ▶ Dressing where site can be visualized-q 7 days or when soiled/non-occlusive per central line policy
  - ▶ Occlusive dressing where site cannot be visualized-q 48 hours or when soiled
- ▶ Advanced Tegaderm (in central line dressing kit)
- ▶ Secure Needle
- ▶ Allow for visualization of port site
- ▶  $\frac{3}{4}$  inch biopatch for port that will remain accessed >24 hrs

## ▶ Flushes

- ▶ When the port is in use- flush with 10-20ml NS following infusion/blood sampling
- ▶ When the port is not in use (i.e. after de-accessing or q 4-8 week maintenance flush)-flush with 10ml saline followed by 100units/mL heparin 5ml/lumen using push/pause technique (see Ellucid for pediatric volumes)
  - ▶ Provider order and document on MAR in Epic

# Documentation

Vital Signs	Intake/Output	IV/ Line Assessment	Assessment	Daily Cares/Safety	Screenings	Hypersensitivity/Extr...	Cytarabine Cerebellar...
Specimen Collection <input checked="" type="checkbox"/>	Mode: <b>Accordion</b> Expanded <a href="#">View All</a> <span style="float: right;">1m 5m 10m 15m 30m 1h 2h 4h 8h 24h Based On: 0700   <a href="#">Reset</a> <a href="#">Now</a></span>						
Dominant Hand <input checked="" type="checkbox"/>	Admission (Current) from 11/17/2015 in M...						
Implanted Venous Acce... <input checked="" type="checkbox"/>	12/1/16						
Double Port Implan... <input checked="" type="checkbox"/>	1000		1004				
<b>Blood Specimen Collection Status</b>							
Blood Specimen Collection							
<b>Dominant Hand</b>							
Which is your dominant hand?							
<b>Double Port Implanted Venous Access (Port A Cath) Right Chest Powerport</b>							
Properties	Placement Date/Time: 12/01/16 1001 Location: Right Chest Placement Verified by Provider: Yes Device Type : Powerport						
Medial Access Action	Accessed	De-accessed					
Medial Access Date	12/1/2016	12/1/2016					
Medial Accessed by:							
Medial Needle Change Due	12/7/2016						
Medial Needle Type	Power injectable						
Medial Needle Size (gauge)							
Medial Needle Length							
Lateral Access Action							
Lateral Access Date							
Lateral Accessed by:							
Lateral Needle Change Due							
Lateral Needle Type							
Lateral Needle Size (gauge)							
Lateral Needle Length							
Local Anesthetic							
Patient Prep							
Site Assessment	Clean,Dry,Intact						
Dressing Type	Adhesive bandage,T...						
Dressing Status	Clean,Dry,Intact						
Dressing Intervention	Dressing changed	Removed					
Dressing Change Due	12/7/2016						
Medial Lumen Status	Blood return noted,...						
Lateral Lumen Status	<input type="text" value=""/>						
Line Care	Flushed;Cap changed	Flushed					
Date to be Reflushed		1/1/2017					

# Documentation

IAR

[Refresh](#) [Report](#) [MAR Note](#) [Rx Messages](#) [Legend](#) [Link Lines](#) [Doc Flowsheets](#)

ALL Scheduled PRN Continuous Respiratory Due/Overdue Meds Override Pulls Chemo Immunizations Intra-Proc MAR Action Help Guide MAR Held Doses

Go to Now or Select Date:  Overdue Not Scanned

Thursday December 01, 2016

0600	0700	0800	0900	1000	1100
<b>heparin (PF) 100 units/mL flush 5 mL</b> : Dose 5 mL : Intravenous : As needed : other (free text field), line care					
Ordered Admin Amount: 5 mL					
<b>sodium chloride (NS) 0.9 % syringe flush 3 mL</b> : Dose 3 mL : Intravenous : As needed : line care :					
Ordered Admin Amount: 3 mL					

Recent Actions  
08/24 08/24 08/24  
1627 1628 1641

# Resources

- ▶ Guidelines for the Prevention of Intravascular Catheter Related Infections
  - ▶ <https://www.cdc.gov/hicpac/pdf/guidelines/bsi-guidelines-2011.pdf>
- ▶ Identification and Access of Implantable Central Venous Access Devices, MGH Nursing Policy
  - ▶ <https://hospitalpolicies.ellucid.com/documents/view/1101>
- ▶ Excellence Every Day Central Lines
  - ▶ [http://www.mghpcs.org/eed\\_portal/EED\\_centralines.asp](http://www.mghpcs.org/eed_portal/EED_centralines.asp)