Advanced IV Therapy Class

Pumps
All pumps come to PT's home programmed for therapy

1. All ambulatory pumps will function in Continuous Flow, Intermittent Flow, Total Parenteral Nutrition and patient controlled analgesia
For this class we will focus on TPN for the cadd prism pump

Batteries are changed every time you change a bag, so q 24 hours for TPN, q48 hours for intermittent and with every bag change for PCA.

Remember if using the Cadd pump for PCA you will need key which should be in pump box from Pharmacy

Pump should be programmed to include total volume, infuse volume, cc/hr, hours, KVO rate and taper up or down. With Tpn there is usally over fill of 50- 100cc

Cadd Prism pump for TPN – Prepare bag with additives, change batteries qd. When you place new battery set pump down and wait for it to do it's self test. Attach tubing to pump. Once tubing is attached, pump will state tubing attached press next to continue. Hit the next button and it will ask if you want to reset Res. Vol press Y for yes. Next screen will say do you want to prime press Y and pump will tell you to be sure to disconnect from patient then just hold Y button until all air is out of tubing when done press no to stop priming The next screen will state start pump Yes or No. Using a new alcohol wipe for each entry into line, flush line with saline attach pump tubing to line and press Y for starting pump. The pump will once again go over the parameters and when it starts to run you will see a green light flash on right top of pump. This indicates the pump is running The screen with text on it will go blank to save battery and can be viewed by hitting any button on pump just once

CADD PRIZM TPN

Equipment

- ✓ TPN at room temperature
- ✓ Pump
- ✓ 9 volt battery or battery pack
- ✓ Tubing set with filter
- ✓ (2) Saline flushes
- ✓ (1) Heparin flush
- ✓ Multivitamins
- ✓ 10ml syringe with needle
- ✓ Alcohol wipes
- ✓ Coin
- ✓ Other additives as ordered (syringes and needles as appropriate)
- ✓ Sharps container
- ✓ Waste container

Procedure

1. **Wash your Hands**
2. **Clean your Work Area**
3. **Gather up your Equipment**
4. **Check your IV site (check for signs of redness, tenderness, swelling or drainage- notify your nurse if any signs present)**
5. **Prepare the Heparin and Saline flushes by removing air**
6. **Check your Bag for:**
   - ➢ The right name
   - ➢ The right drug
   - ➢ The expiration date
   - ➢ Particles or discoloration
7. **Add ordered Medication to bag---- be careful not to puncture bag**
8. **Set up the TPN**
   - ➢ Open the tubing set and close the clamp
   - ➢ Pull the tab off the TPN bag
   - ➢ Remove the cap from the spike end of the tubing
   - ➢ Push the spike into the port

Completion of Therapy

1. **Disconnect TPN**
   - Press the **Start/Stop** button
   - **"Stop the Pump?"** appears on the screen
   - Press the **"Y"** button
   - Close clamp on pump tubing
   - Remove tubing from IV line + pump and discard

2. **Administer the Saline Flush**
   - Clean the end of the catheter with an alcohol wipe
   - Remove the cap from the saline flush
   - Attach the saline flush and administer
   - Remove syringe and discard

3. **Administer Heparin Flush (if applicable)**
   - Repeat STEP 2 using Heparin
   - Close clamp on line

If IV therapy is ordered through port you must put a transparent dressing over Port and date and sign. After you flush with saline you may then start your IV therapy as ordered by the MD.
See handout for troubleshooting Ports

Troubleshooting*

FFICULTY USHING ORTAL

Symptoms

felt when pushing syringe

lush or infuse portal

fusions

auses

y be closed on extension set

may be wedged in or up against

y be kinked

not be inserted s too short

y be occluded g precipitate, a at catheter tip, clot

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on tubing

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until bottom of reaccess using gth needle

or larger syringe, al saline, alter- irrigation and

ombolytic adminis-

DIFFICULTY ASPIRATING BLOOD

Signs and Symptoms

- High resistance is felt when aspirating blood
- Pink-tinged color to aspiration fluid
- Unable to withdraw blood from catheter, but flushing may or may not be possible

Possible Causes

- Catheter tip may be wedged in smaller vessel or up against vessel wall
- Catheter may be kinked
- Needle may not be inserted completely or is too short
- Catheter may be occluded because of drug precipitate, fibrin formation at catheter tip, or intraluminal clot

Possible Solutions

- Reposition patient's head and shoulders
- Insert needle until bottom of portal is felt or reaccess using appropriate length needle
- Using 10-ml or larger syringe, flush with normal saline, alternating between irrigation and aspiration
- Consider thrombolytic administration

PAIN UPON PORTAL PALPATION

Signs and Symptoms

- Redness, tenderness or swelling at or around portal site or along catheter tract
- Skin is warm to touch
- May or may not see drainage at insertion site

Possible Causes

- Portal pocket or catheter insertion site infection
- Vein irritation
- Needle may have pulled out of septum; fluid may be infusing into tissue

Possible Solutions

- Check for drainage or discharge at insertion site; if present notify physician
- Check patient for other signs or symptoms of infection, such as fever and chills; if present notify physician
- Re-evaluate site care regimen and implantation procedure

OCCLUSION OR HIGH PRESSURE ALARM

Signs and Symptoms

- High pressure alarm during I.V. therapy delivery when using infusion pump
- Elastomeric device or gravity system does not show reduction in initial volume, or reduction in volume is slower than normal

Possible Causes

- Clamps may be closed on tubing and/or extension set
- Catheter tip may be wedged in smaller vessel or up against vessel wall
- Catheter may be kinked
- Needle may not be inserted completely or is too short
- Catheter may be occluded because of fibrin formation at catheter tip, intraluminal clot, or drug precipitate

Possible Solutions

- Open clamps on tubing
- Reposition patient's head and shoulders
- Insert needle until bottom of portal is felt or reaccess using appropriate length needle
- Consider changing infusion pump, tubing or elastomeric device
- Using 10-ml or larger syringe, flush with normal saline, alternating between irrigation and aspiration
- Consider thrombolytic administration

MOISTURE AT OR AROUND INSERTION SITE

Signs and Symptoms

- Damp or saturated dressing
- Noticeable amount of fluid collecting under dressing
- Swelling under dressing
- Fluid leaking from portal site upon palpation

Possible Causes

- Dressing exposed to excessive moisture
- Connection between injection cap and Luer hub may be loose
- Needle may be displaced
- Needle may have been inserted in surrounding tissue instead of septum
- Septum integrity may have been compromised and fluid is leaking from portal

Possible Solutions

- Inquire about patient's recent activity
- Tighten injection cap and Luer hub connection
- Verify that needle is non-siliconized
- Insert needle until bottom of portal is felt or reaccess using appropriate length needle
- Aspirate blood to determine correct needle placement

*Troubleshooting procedures apply to PORT-A-CATH® venous and arterial systems only

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received Chemotherapy they should double flush toilet with lid closed. Discuss increasing fluids and discuss nutrition with MD if appetite becomes decreased.

Handling Chemotherapy
Because of the toxicity of chemotherapeutic drugs there are special procedures for their use.

Special chemotherapy gloves, gowns and masks are provided by the IV co. There should always be a yellow or red chemo biohazard waste container in the home as well as a chemo spill kit. If all this equipment is not in the home please call the IV co. and ask them to send it out. If gowns and masks are provided please use them. All items which touch the chemo, must be placed in the yellow bucket

Sometimes labs are ordered in the home but most of the time they are draw at the clinic before treatment. Pediatric patients are mostly drawn in home and their meds are given either later that day given the next day based on labs by nurse or mother

You will be taken out to a patient to hook-up chemo before you will do it on your own

Now if you will open to the documentation section and we will review the documentation for these therapies in the nurse's note.

Any questions

9. **Remove Medication/Cassette**
   - Close the clamp on the used medication tubing
   - Unlatch the medication from the pump using a coin to release the lock
   - Remove and discard the used medication

10. **Change the Battery**
   - Slide the battery cover on the side of the pump
   - Remove the old battery
   - Insert new battery
   - Slide cover back into the pump until closed
   - Set pump down and wait for pump to complete self test

11. **Attach new Medication Cassette or Bag**
   - Insert the new medication reservoir hooks into the hinge pins on the pump
   - Place the pump upright on a flat surface
   - Using the coin, push in and turn the latching button until the mark on the latch lines up with the solid dot

12. **Reset the Pump Program**
   - The pump will ask **"Reset Reservoir Volume to _____ml?"**
   - Press the **"Y"** button
   - The pump will ask **"Prime tubing?"**
   - Press the **"Y"** or **"N"** button
   - Press and hold **"Y"** button until a few drops come out of end of tubing if you do need to prime

13. **Reconnect Medication**
   - Clean the end of your IV with an alcohol wipe
   - Remove the cap from the end of the tubing
   - Twist the tubing onto your IV
   - Open all clamps

14. **Start the Pump**
   - Press the **"START/STOP"** button
   - The pump will ask **"Start the Pump?"**
   - Press the **"Y"** button

The pump will run through the program. The Green Light will begin to flash.

Your Medication is due every _____ hours.

Your Continuous Rate is _____.

8. **Administer saline flush**

Clean the cap on your IV with an alcohol wipe
Remove the cap from the saline flush
Remove any air from syringe
Twist the saline syringe onto your IV
Depress the plunger slowly to administer the flush
Remove the syringe and discard

9. **Connect your medication**

Clean the end of you IV with an alcohol wipe
Remove the cap from the medication tubing
Attach the tubing to your IV
Open any clamps

10. **Program the pump**

Turn the pump on by depressing the blue "On/Off" key
The pump will perform a self-test than beep 3 times
A screen with "PROGRAM, BIOMEDSETUP" will appear
Select "PROGRAM" by pressing the "YES/ENTER" key
The screen will read "RESUME, REPEAT Rx, PROGRAM"
Move the cursor by pressing the "↓" key to "REPEAT Rx"
Press the "YES/ENTER" key
Your program will automatically scroll through
The "RUN OPTIONS" screen will appear next
Press the "RUN/PAUSE" button to start you infusion

11. **Completion of infusion**

When your infusion is complete the pump will beep and the screen will read" INFUSION COMPLETE"
Press the "RUN/PAUSE" button
Press the "ON/OFF" button to shut the pump off

12. **Administer saline flush**

13. **Administer heparin flush (if applicable)**

14. **Remove tubing from the pump**

Lift the lever on the top of the pump and swing the door arm to the open position
Remove the tubing from the pump
Discard used tubing and medication in trash

PROCEDURE

Comment [lp1]: Formerly Policy #2232 - Changed to Procedure per IV Nurse Specialist and Chair of Policy Committee 08/04

ORIGINAL DATE: 12/93
Revised Date: 09/02

Home Health Foundation, Inc.

SUBJECT: CYTOTOXIC SPILLS

PURPOSE: To contain, neutralize and clean cytotoxic spills with a minimum of exposure to agency personnel, family and patient.

Policy

1. All chemotherapy patients will have a chemotherapy spill kit in their home (or place of infusion) at all times. This kit will be provided by the IV vendor who has supplied the chemotherapy.
2. All IV RNs will be responsible for containing, neutralizing, and cleaning up cytotoxic spills. The IV RN will instruct patient and/or caregiver during initial teaching on how to appropriately respond in the event of a cytotoxic spill.
3. All members of the IV Therapy Team will attend a review inservice annually in the management of cytotoxic spills.
4. Pregnant staff shall not be required to clean a cytotoxic spill.

Equipment	
Chemotherapy Spill Kit Containing:	Disposable Chux Pads
1 pair splash-proof goggles	Bleach in a 1:10 Dilution with Water or Appropriate as sent by the IV Vendor
1 plastic moisture-resistant gown	
2 pairs heavy latex gloves-at least 15mm thick. Vinyl gloves are **not** recommended as they are not impervious to chemotherapy.	
1 dust/mist respirator mask-NIOSH approved	
3 12x12 absorbent towels	
1 scoop and brush (to collect glass fragments)	
2 large chemo waste disposal bags	
2 spill control pillows	
6 "Chemo Hazard" labels	
1 "Chemo Spill" caution sign	
1 exposure report form	

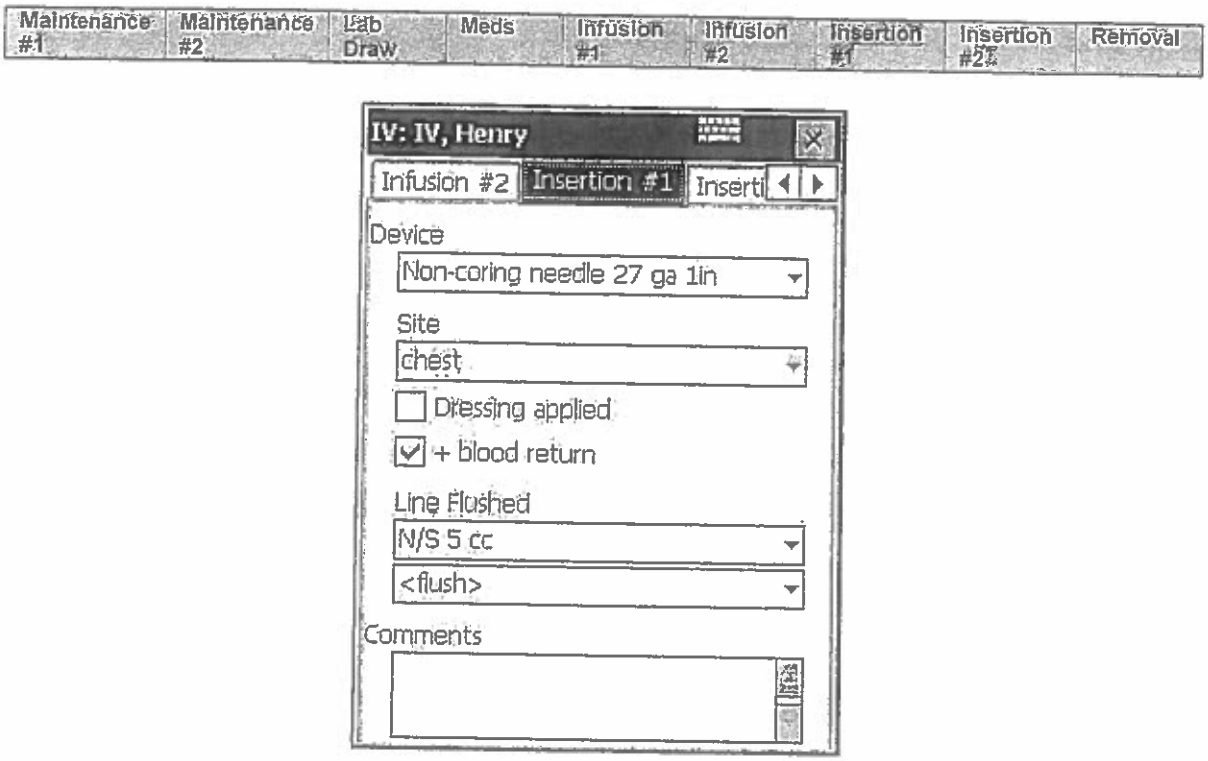
Procedure

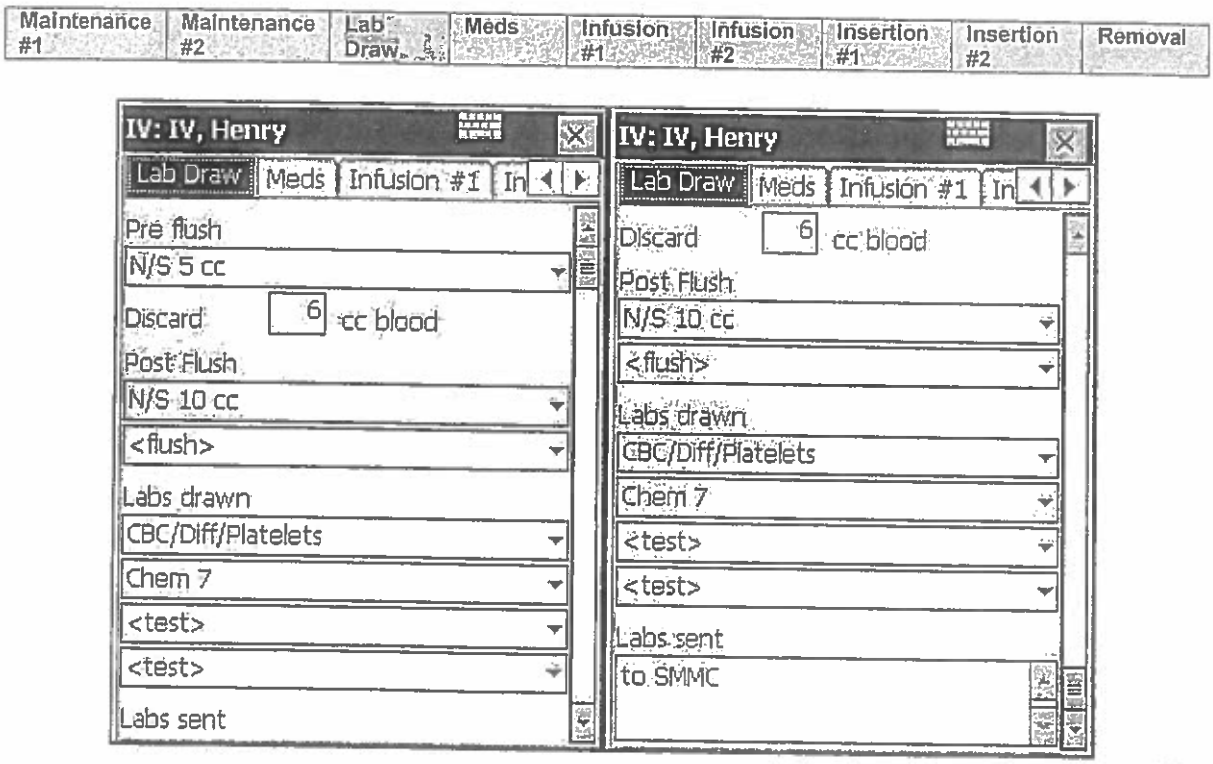
1. Put on gloves, goggles, gown and mask. Place "Chemo Spill" caution sign at site of spill.

Key Points

To prevent accidental exposure to cytotoxic materials.

Re-access POC. Lasix 80mg IV. Lab draw: CBC with diff,, Platelets, chem7, then de-access.





TPN, Electrolytes 2L IV qd over 14 hr. taper up/down 1hr. Add MVI 10cc, Reg. Insulin 10u. IV's via Y-tubing to Hickman line. Rocephin 1gm IV qd. CBC with diff., chem. 20, LFT today and q Mon.