Intravenous Piggyback Medication Administration

Course ID: 1025  -  Credit Hours: 1

Author(s)
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Disclosures
Insert any affiliations that should be disclosed here.

Audience
Registered Nurse

Accreditation
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Course Objectives
Upon completion of this course participants will be able to:

1. Explain the rational for the use of IVPB.
2. Explain the importance of using secondary tubing.
3. Describe the equipment used in an IVPB set up.
4. Explain the procedure.
5. Understand intermittent use of IVPB.
7. Describe proper labeling of fluid bags and tubing.
8. Discuss IV Fluid Compatibility.
Medication Administration via Intravenous Piggyback (IVPB)
Objectives

- Explain the rational for the use of IVPB.
- Explain the importance of using secondary tubing.
- Describe the equipment used in an IVPB set up.
- Explain the procedure.
- Understand intermittent use of IVPB.
- Describe Back Priming & Back Flushing.
- Describe proper labeling of fluid bags and tubing.
- Discuss IV Fluid Compatibility.
What is an IVPB?

• IVPB is a method of medication administration commonly used for medical treatments, especially antibiotics.

• Small volume of intravenous solution given by intermittent infusion.

• Typically prepared in the pharmacy

• Administered by a trained Nurse

• Administered via a secondary line connected to primary tubing.
Why do we want to use an IVPB?

• It is important to use this route to ensure the complete delivery of the prescribed dosage of an IVPB

• IVPBs must be administered via a secondary line connected to the primary tubing
Why do we want to use an IVPB?

• If abx infused through primary line only, then we can’t administer a flush and part of the abx dose stays in the tubing. When IVPB is connected to a primary line it allows us to flush the meds out of line.
Anatomy of an IVPB System

Secondary Tubing for IVPB

Primary Tubing for Primary Line

IVPB

Flush Bag
Equipment for setting up an IVPB System

Primary IV Tubing

Secondary IV Tubing

Electronic Infusion Pump on IV Pole

Flush Bag  500ml NS or D5W

Clean Gloves

Alcohol Pads
Procedure for hanging IVPBs

1. Wash hands and don gloves

2. Scan IVPB according to BCMA policy and procedures.

3. Explain procedure to patient

4. Check 5 Rights
5. Inspect IVPB solution for integrity, discoloration, turbidity and particulates. Check expiration date.

6. Assess pt’s IV site/CVC for patency.
   • To ensure patency of a CVC, observe brisk blood return

7. Aseptically spike the solution port of the IVPB with the 2° tubing.
   • Ensure that the roller clamp is closed below the fluid chamber!

8. Before connecting the 2° tubing to the 1° line, scrub the injection port above the pump with alcohol prep pad for at least 15 seconds. “Scrub the Hub”!!!
Back Priming???
Back Priming

1. Lower the secondary set to let fluid flow into it from the primary set.
   - Concept of gravity
   - Removes air from secondary tubing

2. Release roller clamp to allow $1^\circ$ solution to fill $2^\circ$ tubing (don’t overfill fluid chamber)

3. Clamp off the $2^\circ$ tubing once the fluid chamber is half filled.

4. Squeeze any excessive fluid from the fluid chamber into the piggyback unit.
Back Flushing

Figure 1.
Lowering the secondary set to let fluid flow into it from the primary set.

Figure 2.
Moving excess fluid into the secondary medication container.

Figure 3.
Attaching the new secondary medication container.
Back Flushing Using the Same Secondary Tubing

- Used between doses
- Lower the 2° line with the IVPB
- Allow for 1° solution to back fill the 2° tubing thoroughly draining into old med bag.
- Don’t overfill chamber, squeeze any excess fluid into old IVPB unit
- Remove old IVPB unit without contaminating spike
- Discard old IVPB
- Spike new med bag aseptically
• Hang piggyback unit back onto IV pole
• Make sure unit is at least 6” higher than primary fluid bag
• Program infusion pump
What are some benefits of back flushing?
Benefits of Back flushing

• Back flushing allows for one secondary set to be used for all intermittent meds

• Minimizing the connection and disconnection of sets decreases the risk of contamination

• One secondary set remains attached to the primary set and both are changed together at 72

• Safe and cost effective method for infusion

• Saves you valuable nursing time!
After programming pump...

• Release roller clamp

• Visually confirm that the IVPB is infusing
  – Check drip chamber of secondary tubing!

• Observe patient for signs of infiltration or reaction to medication
Once IVPB Infusion is Completed...

• Allow additional ml of primary fluid (typically programmed in pump) to infuse

• Disconnect IV tubing from patient

• Apply sterile cap to IV tubing

  Yes!  Yes!  No!
Proper labeling of fluid bags and IV Tubing

Flush Bag expires after 24 hours

Primary Fluid Bag
- Contents
- Date
- Time
- Initials
- Patient ID

IVPB
- Pharmacy Label with Patient ID
- Date
- Time
- Initials

Date and time when tubing expires (72 hours)
IVPB Compatibility

• Typical IV Fluids = 500 ml Flush Bag
  – Normal Saline (NS)
  – 5% Dextrose (D5W)

• Always check the compatibility of the primary solution and the IVPB
  – Common medications with known incompatibility:
    • Dilantin - only use NS
    • Amphotericin B - only use D5W

• Flush bag should be the same as the diluents used to reconstitute the medication

• Utilize compatibility charts, Pharmacists, and online tools such as Micromedex
References
