Intravenous (I.V.) Insertion Review
Review

• Introduction
• Anatomy and Physiology
• Equipment
• Considerations
• Infection Control
• Steps to IV insertion
• Complications
Introduction

• Intravenous (IV) therapy allows the administration of parenteral fluids, nutrients, medications and blood products (RNAO, 2005)
QUESTION:

• Can a nurse initiate a venipuncture to establish an IV?

• If so, under what conditions?
ANSWER:

- Yes, a nurse initiate a venipuncture to establish an IV with NaCL 0.9% when;
  - An individual needs immediate medical attention
  - Delaying venipuncture is likely to result in harm to the individual

In non-emergency situations, a physician order is required to initiate IV therapy.
Anatomy and Physiology

Skin = Epidermis + Dermis

4 Types of sensory receptors are:
- Mechanicoreceptors
- Thermoreceptors
- Chemoreceptors
- Nociceptors
Blood Vessels

Arteries are:
- Thicker wall
- Stiff and won’t collapse w/ pressure
- Have a Pulse

Veins are:
- Collapses w/ pressure
- Have valves
Circulatory Branches of Arm

- Cephalic Vein
- Basilic Vein
- Brachial Artery
- Accessory Cephalic Vein
- Median Cubital Vein
- Basilic Vein
- Median Antebrachial Vein
- Radial Artery
- Ulnar Artery
- Superficial veins of the forearm
- Digital Veins
- Superficial veins of the dorsal aspect of the hand
Equipment needed

• BD “Nexiva” Closed IV Catheter System

• Each colour corresponds to a different size needle:
  Yellow = 24 gauge
  Blue = 22 gauge
  Pink = 20 gauge
  Green = 18 gauge

Features of BD Catheter
QUESTION:

• If your patient was ordered TPN, what size IV catheter would you use to start their IV?

• If the order was for blood instead, what would you do?
ANSWER:

• For TPN = 18 ga

• For Blood = 18, 20, 22 ga

REMEMBER: Consider the patient’s age, activity and venous status, the type of solution and medications being administered, the length of therapy, and any procedures/surgery scheduled
Equipment

What other equipment will you bring to start an IV?

1. Primed IV tubing (if appropriate)
2. Nexiva IV Catheter & Hospira Needleless connector
3. NaCL 0.9% pre-filled syringe (5 or 10 ml)
4. Gloves
5. Small Tegaderm
6. Chlorhexidine/alcohol wipes
7. Tape
8. ????
The other equipment you will bring to start an IV is:

1. Primed IV tubing (if appropriate)
2. Nexiva IV Catheter & Hospira Needleless connector
3. NaCL 0.9% pre-filled syringe (5 or 10 ml)
4. Gloves
5. Small Tegaderm
6. Chlorhexidine and alcohol wipes
7. Tape
8. **Tourniquet**
Considerations …

Name the 7 things to consider when preparing to start on IV?

HINT:
• Size of patient
• Meds given (i.e. chemotherapy)
Seven things to consider when preparing to start on IV

1. Size of patient
2. Meds given (i.e. chemotherapy)
3. Age (i.e. Geriatric or Pediatric)
4. Site selection (i.e. redness, blistering)
5. Vein selection (i.e. distal b4 proximal)
6. Psychological background (i.e. anxious)
7. Physiological background (i.e. scarring, valves)
Infection Control

Break the chain of infection by:

1. Following aseptic technique during IV initiation

2. Using only aseptic supplies
Six Techniques to Successful IV Insertion

• 1. Pick your IV site in 12 seconds or less
• 2. Don’t just look, feel.
• 3. Use solid traction.
• 4. Use a shallow angle.
• 5. The catheter goes forward.
• 6. Let the bad ones go.
Steps to IV insertion Using BD Nexiva Closed Catheter System:

1. Verify there is a physician’s order.
2. Assess physical and mental readiness of patient.
3. Perform hand hygiene.
4. Prepare equipment (including releasing IV “seal”).
5. Select site and dilate veins.
6. Sanitize hands and don gloves.
7. Scrub site with chlorhexidine/alcohol wipes
Steps to IV insertion Using BD Nexiva Closed Catheter System:

8. Position middle finger & thumb on white finger grips.
9. Keep the index finger flat behind the grey push tab.
10. Once initial flashback is seen in catheter tubing, lower and advance entire device.
11. Stabilize system and pull back on the white finger grips to remove the needle.
12. Apply dressing over entire catheter system and label with initials, date/time & IV catheter gauge.
Don’t Forget…..

For the BD Nexiva Closed IV Catheter System Single Port:

1. Engage clamp and remove vent plug.
2. Attach primed Hospira Needleless connector
3. Flush using start/stop and positive pressure technique.

Nexiva IV Catheter Insertion Video
Complications requiring IV change

MATCH THE NAME TO THE SYMPTOM

1. Infiltration
   a. Redness, pain, erythema at site

2. Phlebitis
   b. Swelling, blanched, coolness, leaking at site

3. Extravasation
   c. Swelling, blanched, cool, leaking and tissue sloughing at site
Complications requiring immediate action

MATCH NAME TO ITS SYMPTOMS

1. Pain
   a. Blood clot dislodged d/t forced flushing with syringe
2. Speed Shock
   b. Prolonged cessation of IV fluids
3. Embolism
   c. Fast infusion of too much fluid
4. Fluid Overload
   d. Insertion of cannula in sensitive area
5. Occlusion
IV Insertion Review

QUESTIONS??