



**IV Nurse Consultants**



## **Fulfill All Your CE Requirements Through *IV Nurse Consultants (IVNC)***

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### **Washington Board of Nursing State CE Requirements**

#### **CE Requirements for RNs and LPNs:**

**RNs:** Starting on January 1, 2011 all registered nurses must be documenting continuing competency. To comply, all licensed nurses must: Collect documentation of 531 hours of active nursing practice within the previous 36-month review period, keep documentation to show completion of 45 hours of continuing education, self assessment and reflection (for personal use only), and attest to meeting the continuing competency requirements. This must be done every three years, when submitting your renewal.

**LPNs:** Starting on January 1, 2011 all licensed practical nurses must begin documenting continuing competency. To comply, all licensed nurses must: Collect documentation of 531 hours of active nursing practice within the previous 36-month review period, keep documentation to show completion of 45 hours of continuing education, self assessment and reflection (for personal use only), and attest to meeting the continuing competency requirements. This must be done every 3 years, when submitting your renewal.

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#### **\*FYI\***

90-95% of patients in the hospital receive some type of intravenous therapy. Many of those patients finish their treatment in long term skilled nursing facilities.

#### **Protect Your Patients From I.V. Complications!**

Learn to recognize the early signs and symptoms of I.V. complications.

## Complications of peripheral I.V. Therapy

When there is a patient receiving peripheral I.V. therapy, it is important to watch for signs and symptoms of complications to help prevent.

Some signs to watch for are:

- Hypersensitivity
- Infiltration
- Extravasations
- Phlebitis
- Infection



Prevention is the key. Although it is important to be able to recognize these complications and know how to treat them if they should occur.

### Hypersensitivity

Before an IV is started a baseline assessment should be completed. This should include questions about hypersensitivity in the patient.

- Does the patient have any allergies to foods, pollen, tape, medications, etc...
- Is there a family history of allergies. (A person with a family history of allergies is more likely to develop a medication hypersensitivity.)
- If the patient is unable to answer these questions for themselves, ask a family member if possible .
- Once an I.V. medication/drug is given, these precautions should be followed:
  - > Stay with the patient for 5 to 10 minutes after giving the medication/drug to detect early signs and symptoms of adverse reactions, such as sudden rash, urticaria (hives), bronchospasms, wheezing, sudden fever, and joint swelling.
- If the patient is receiving the medication/drug for the first or second time, they will need to be checked every 5 to 10 minutes or according to your facility's policy. An immediate, severe reaction can be life-threatening. Prompt recognition of hypersensitivity to medication and treatment is imperative.
- Discontinue the infusion at once and notify the health care provider immediately.
  - > Administer medications as ordered.
  - > Watch for changes of signs and symptoms either worsening or improving.
  - > Monitor the patient's vital signs and provide emotional support.



## Infiltration

When I.V. fluid leaks into the surrounding tissue it causes an infiltration. This is commonly caused by an improperly placed I.V. line or when the catheter has dislodged. Areas of flexion are best if avoided. When the catheter tip is positioned near a flexion area it increases the risk of the catheter slipping out or through the vessel wall when movement occurs. Elderly patient's veins have a greater chance of becoming thin and fragile, therefore the chance of infiltration increases.

Some signs to watch for:

- Swelling
- Discomfort or pain
- Burning
- Cold or coolness of the skin
- Tightness
- Blanching

Depending on the extent of the infiltration, the patient may experience a mild to severe discomfort. If a small amount of an isotonic solution or non-irritating medication infiltrates and has been caught early, the patient may have only mild discomfort. If the infiltration has not been caught early and a harsh solution or medication has infiltrated into the tissue or the fluid has been allowed to continue to run, the patient may have severe discomfort.



Steps that should be taken:

- Infusion should be stopped and the I.V. device removed. (*Consult with health care provider and pharmacy prior to removal of device if the solution or medication/drug is a vesicant solution.*)
- Increase patient comfort and help to decrease swelling by elevating the limb where the infiltration has occurred.
- Patient's pulse and capillary refill time should be initially checked after infiltration has been discovered and checked frequently thereafter.
- Counteract the effects of the solution and medication/drug as ordered.
- Infusion should be restarted through a new I.V. and in a different location.
- Site should be checked frequently.
- Using the infiltration scale, document your findings.

***Follow the Infiltration Scale (page 4)***

## Infiltration Scale

Use these classifications when documenting infiltration.

Degree	Description
0	<ul style="list-style-type: none"><li>• No symptoms</li></ul>
1+	<ul style="list-style-type: none"><li>• Skin blanched</li><li>• Edema less than 1 inch (2.5 cm) in any direction</li><li>• Cool to touch</li><li>• With or without pain</li></ul>
2+	<ul style="list-style-type: none"><li>• Skin blanched</li><li>• Edema 1 to 6 inches (2.5 to 15 cm) in any direction</li><li>• Cool to touch</li><li>• With or without pain</li></ul>
3+	<ul style="list-style-type: none"><li>• Skin blanched, translucent</li><li>• Gross edema more than 5 inches in any direction</li><li>• Cool to touch</li><li>• Mild to moderate pain</li><li>• Possible numbness</li></ul>
4+	<ul style="list-style-type: none"><li>• Skin blanched, translucent, tight, leaking, discolored, bruised, swollen</li></ul>

Source: Infusion Nurses Society, Infusion Nursing Standards of Practice, *Journal of Infusion Nursing*, January/February 2006

## Extravasation

The leaking of a vesicant medication/drug (such as antineoplastics) into the surrounding tissue can cause severe local tissue damage. This can result in healing delay, infection, tissue necrosis (extravasation), disfigurement, loss of function, and even amputation.

When giving a vesicant, help prevent extravasation by:

- Adhere to the strict administration techniques.
- When using the back of the hand there is an increased chance of tendon and nerve damage.
- It is difficult to immobilize areas of flexion, therefore wrist and fingers should be avoided.
- Avoid areas of previous damage or poor circulation.
- When giving multiple medications/drugs, vesicants should be given last.

Some signs to watch for are:

- Blanching, burning, discomfort at the I.V. site
- Cool skin around the I.V. site
- There may be swelling at or above the I.V. site

Follow your facility's protocol if extravasation is suspected

Here is a list of essential steps:

- When giving I.V. medication/drug you should know what to do if there is an infiltration. What should be done? Remove the I.V. line, or leave it in place to administer the antidote?
- Notify the health care provider, to report the estimated amount of extravasated solution that has infiltrated.
- Antidote should be instilled according to your facility's protocol. Your pharmacy is a good source of information, when needed.
- Extremity should be elevated.
- Document your patient's symptoms, extravasation site, estimated amount of extravasated solution, and treatment.
- Follow manufacturer's recommendations to apply either ice packs or warm compresses to the affected areas.



## Phlebitis

A common complication of peripheral I.V. therapy is Phlebitis. Phlebitis, or inflammation of a vein, can be associated with acidic or alkaline solutions or those that have a high osmolarity.

Other factors may include:

- Trauma to the vein during insertion
- Insertion of a Cannula into a vein that is too small for the size being used
- Use of a vascular access device that's too large for the vein
- Prolonged use of the same I.V. site

Phlebitis can occur with any infusion, but is more common after 2 to 3 days of being exposed to the medication/drug or solution. It is even more common and develops more rapidly in distal veins, larger veins, or veins closer to the heart. Phenytoin and diazepam are very harsh on veins and can produce phlebitis after just one or more injections in the same I.V. site. Other types of medications/drugs in large doses can also cause phlebitis. Examples of this are, potassium chloride, amino acids, dextrose solutions, and multivitamins.

Other types of I.V. medications/drugs that are likely to cause phlebitis when piggybacked, may include:

- Vancomycin
- Nafcillin
- Tetracycline
- Erythromycin
- Amphotericin B

Take these steps to prevent phlebitis:

- Use proper venipuncture techniques
- Observe the I.V. site frequently
- Change the infusion site regularly according to INS standards or your facility's policy
- Monitor administration rates
- If necessary, dilute medication correctly

Some signs to watch for are:

- Redness or tenderness at the tip of the catheter
- Puffy area over the vein
- Temperature may be elevated

I.V. site should be inspected several times a day to detect early signs of phlebitis.

The use of a transparent semi-permeable dressing will enable better visualization to the insertion site and the skin distal to the tip of the catheter.

Follow these steps if you suspect phlebitis:

- Stop the infusion at the first sign of redness or tenderness.
- Use warm packs to ease patient's discomfort.
- Document the patient's signs, symptoms, condition and interventions.
- If I.V. therapy is to continue, insert a new catheter at a different site. The opposite arm is preferable. The use of a larger vein or a smaller device may help to prevent phlebitis.



## Two Types of Phlebitis Scales

### Phlebitis Scale

Use these classifications when documenting Phlebitis.

Grade	Description
0	<ul style="list-style-type: none"> <li>No symptoms</li> </ul>
1	<ul style="list-style-type: none"> <li>Erythema at access site with or without pain</li> </ul>
2	<ul style="list-style-type: none"> <li>Pain at access site with Erythema and/or edema</li> </ul>
3	<ul style="list-style-type: none"> <li>Pain at access site with Erythema and/or edema, streak formation, palpable venous cord</li> </ul>
4	<ul style="list-style-type: none"> <li>Pain at access site with Erythema and/or edema, streak formation, palpable venous cord greater than 1 inch in length; purulent drainage</li> </ul>

Source: From the Infusion Nursing Standards of Practice 2011

### When is a drug considered a vesicant?

If a drug or solution can potentially cause blistering, tissue sloughing, or tissue necrosis when it extravagates, it is considered a vesicant.

### What is the recommended site rotation frequency for a peripheral I.V. catheter?

Site rotation frequency in an adult patient is every 72 hours. Sooner as needed and if longer than 72 hours must have a physician's order.



### V.I.P Score (Visual Infusion Phlebitis Score)

#### A Second Type of Scale

V. I. P. Score (Visual infusion phlebitis score)		
	<b>I.V. site appears healthy</b>	<b>0</b> No sign of phlebitis ■ OBSERVE CANNULA
	<b>One of the following is evident:</b> Slight pain near the i.v. site or slight redness near the i.v. site	<b>1</b> Possible first sign of phlebitis ■ OBSERVE CANNULA
	<b>Two of the following are evident:</b> ● Pale near i.v. site ● Erythema ● Swelling	<b>2</b> Early stage of phlebitis ■ RESITE CANNULA
	<b>All of the following are evident:</b> ● Pain along path of cannula ● Erythema ● Induration	<b>3</b> Medium stage of phlebitis ■ RESITE CANNULA ■ CONSIDER TREATMENT
	<b>All of the following are evident &amp; extensive:</b> ● Pain along path of cannula ● Erythema ● Induration ● Palpable venous cord	<b>4</b> Advanced stage of phlebitis or start of thrombophlebitis ■ RESITE CANNULA ■ CONSIDER TREATMENT
	<b>All of the following are evident &amp; extensive:</b> ● Pain along path of cannula ● Erythema ● Induration ● Palpable venous cord ● pyrexia	<b>5</b> Advanced stage of theombophlebitis ■ INITIATE TREATMENT ■ RESITE CANNULA

## **Infection**

A local or systemic infection may develop while a patient is receiving I.V. therapy. It is important to assess the patient's I.V. site frequently to monitor for any signs and symptoms of infection.

Some signs to watch for are:

- Redness and discharge at the I.V. site
- Elevated temperature

If the infection is systemic:

- Stop the infusion
- Notify the health care provider
- Remove the device
- Culture the site and device as ordered
- Administer medications as prescribed
- Monitor the patient's vital signs

## **Hematoma (bruising)**

A hematoma occurs when there is leakage of blood from the vessel into the surrounding tissue. This can occur when an I.V. catheter passes through more than one wall of a vessel or when sufficient pressure is not applied to the I.V. site when the catheter is removed. A hematoma can be controlled when direct pressure is applied to the site until bleeding has stopped. Once a hematoma has occurred it can take as much as 2 weeks to resolve.



## **How often is the *Infusion Nursing Standards of Practice* revised?**

The *Infusion Nursing Standards of Practice* is revised every 5 years. The last revision was in 2011.

## **Are there certain medications that should not be given through a peripheral I.V.?**

Medications and solutions that have a pH less than 5, more than 9, or an osmolarity greater than 600 mOsm/L, continuous vesicant therapy, and parenteral nutrition should not be given through a peripheral or a midline device.

## **Can a peripheral I.V. be used to obtain blood samples?**

If the expected dwell time of the device is less than 48 hours, and the device is used only for blood sampling, yes. Otherwise, blood samples should be obtained only at the time of insertion.

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**The Nursing Commission has adopted  
 continuing competency requirements.  
 The rules go into effect January 1, 2011.  
 The rules require completion of 531 hours  
 of active practice and 45 hours of nursing  
 continuing education by 2014.**

- IV In-Services:**
- Site Selection
  - Dressing Changes
  - IV Pumps (Various)
  - Midlines / PICCs
  - Port Access
  - Basic IV Start Review
  - Mid/PICC Care & Maintenance
  - Positive pressure flushing
  - Central Lines
  - Possible complications in infusion
- Prevention of patient pulling lines  
 Total Parental Nutrition (TPN)

- IV Courses Offered:**
- Basic Concepts and Technology in I.V. Therapy
  - Advanced Concepts and Technology in I.V. Therapy
  - Mid/PICC Insertion
  - IV Refresher Course
  - The Essentials of IV Therapy (Workshop)

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**Additional Courses Available:**

- BLS for HCP (Healthcare Provider CPR)
- FIRST AID
- HIV
- BloodBorne Pathogens
- ACLS (Advanced Cardiac Life Support)
- PALS (Pediatric Advanced Life Support)
- TNCC (Trauma Nursing Core Course)
- PHTLS (Prehospital Trauma Life Support)
- NAC (Nursing Assistant—Certified)
- EMT (Emergency Medical Technician)

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