

Oregon State Board of Nursing Advisory Guidelines for Infusion Therapy

Statement of Purpose

The primary purpose of these Advisory Guidelines is to differentiate the role and responsibility of the Licensed Practical Nurse, Registered Nurse, Licensed Practical Nurse with advanced training, and the Registered Nurse with advanced training in infusion therapy. Included in this document are the basic requirements for education, competencies and limitations of role.

Background Information

Nursing practice is a dynamic process. Treatment modalities and technology define the scope of nursing practice relating to infusion therapy. Patients, from the neonate to the geriatric receive infusion therapy. They represent a wide variety of diagnoses and severity of illnesses. Having acquired knowledge and skill in infusion therapy, the infusion therapy nurse may be a Registered Nurse (RN) or a Licensed Practical Nurse (LPN). The practice setting may be a variety of settings such as hospitals, private homes, healthcare facilities or other alternative care sites. The purpose of the Advisory Guidelines for Infusion Therapy is to guide and preserve the patient's right to safe, quality infusion care provided by competent nurses (RN and/or LPN). This document gives a description of acceptable nursing practice relating to infusion therapy.

I. Core Competencies in Infusion Therapy

It is the expectation that the following competencies are gained through the basic education leading to initial licensure. This core nursing education includes theory and supervised clinical practice of technical skills and equipment used. If these competencies were not gained through basic education of the Registered Nurse or Licensed Practical Nurse, it is the expectation these be attained before performing infusion therapy.

Education, training, experience and ongoing competency appropriate to responsibilities, treatment provided and the patient/client population served is evidenced in personnel files and/or individual portfolios.

Nursing Roles and Responsibilities:

Registered Nurse

- Assesses and evaluates health status.
 - Collects data.
 - Analyzes, reports and records data.
 - Validates, refines and modifies data.
-
- Utilizes all data to identify and document health care problems.
 - Makes judgements, decisions and modifies care.
-
- Establishes short and long term realistic goals.
 - Sets realistic and measurable goals.

Licensed Practical Nurse

- Contributes to assessment by: collecting, reporting and recording objective and subjective data.
 - Observes condition or change in condition.
-
- Assists in formulating needs / problems.
-
- Contributes to setting measurable goals by identifying short and long term goals.

1. The RN and LPN must possess a knowledge of:
 - A. Anatomy and physiology of age-specific disease processes and recognition of normal and abnormal laboratory values.
 - B. Organizational policies and procedures pertaining to infusion therapy.
 - C. Specific signs and symptoms of infusion therapy complications and actions to be taken in the event of suspected adverse reaction or complication.
 - D. Interventions specific to the drugs and intravenous solutions, infusion access device, supplies and infusion equipment to achieve desired patient outcomes including:
 - i. special patient specific considerations regarding delivery systems;
 - ii. treatment modalities; such as dosing, site selection; and
 - iii. psychological implications
 - E. Drugs which include, at a minimum, drug actions, potential complications, side-effects, untoward effects and storage instructions to ensure safe administration.
 - F. Proper function, care and maintenance of supplies and equipment used in the delivery of infusion therapy and action to be taken in the event of problems or adverse situations.
2. The RN and LPN must be able to demonstrate:
 - A. Ability to correctly calculate flow rate.
 - B. Principles of asepsis and standard precautions in the management of infusion methods.
 - C. Techniques for prevention of infection, phlebitis, occlusion, and infiltration / extravasation
3. The RN and LPN providing care must:
 - A. Validate the authorized prescriber's specific infusion therapy order including dosage, frequency, rate, mode of administration, and duration.
 - B. Identify and utilize resources available for acquiring information concerning patient/client specific medications, including knowledge of resources available for immediate consultation in adverse situations.
 - C. Assess and/or observe patient's physical and psychosocial status, with appropriate interventions including measures for the prevention of adverse reactions and complications.
 - D. Coordinate and communicate with healthcare providers.
 - E. Educate peers, patient/client and/or caregivers based on patient/client need relative to the prescribed infusion therapy and care plan and appropriate to the care setting.
 - F. Document in the medical record:
 - i. patient assessment,
 - ii. prescribed therapy,
 - iii. initiation, ongoing monitoring and discontinuation of treatment
 - iv. patient response.

II. Additional Competencies

- A. With appropriate knowledge and demonstrated competency the following may be performed by a LPN or RN:
 1. Maintaining an infusion via ambulatory infusion pump, including narcotics
 2. Administering central line drugs and fluids
 3. Accessing implanted port
 4. Inserting/discontinuing a peripheral line
 5. Maintaining total parenteral nutrition (TPN)
 6. Maintaining non-obstetrical epidurals
 7. Changing central line dressings
 8. Administering narcotics by direct push

- B. The RN, with advanced knowledge and demonstrated competency, may administer and monitor the following therapies:
 - 1. Medication via ambulatory infusion pump
 - 2. Vesicant medications with knowledge of extravasation protocols
 - 3. Antineoplastic medications
 - 4. Vasoactive drugs
 - 5. Antiarrhythmic therapy
 - 6. Thrombolytic therapy

- C. The RN, with advanced knowledge and demonstrated competency, may perform the following procedures:
 - 1. Exchange of existing CVC over a guidewire
 - 2. X-ray identification of catheter tip location for PICC line placement.
 - 3. Suturing of central venous catheters
 - 4. Central venous catheter blood draw
 - 5. Therapeutic phlebotomy
 - 6. Autologous blood donor draw
 - 7. Peripherally inserted central catheter (PICC)/midline placement and/or exchange
 - 8. Catheter clearance
 - a. nonthrombotic occlusion
 - b. thrombotic occlusion.
 - 9. Catheter repair, temporary or permanent
 - 10. Access nonvascular sites.
 - a. epidural, except antepartal care.
 - b. intraosseous
 - c. intrathecal
 - 11. Discontinuation of peripheral – short, midline, midclavicular, and peripherally inserted central catheter (PICC).
 - 12. Arterial and hemodynamic pressure monitoring.
 - 13. Refill/reprogram implanted pumps

III. Limitations of Licensed Practical Nursing (LPN) Infusion Therapy:

- A. The following items **may not** be initiated but may be monitored or performed by a LPN under the **direct supervision** of a RN. Direct supervision means that a Registered Nurse, Clinical Nurse Specialist, Nurse Practitioner, physician or dentist is physically present and accessible in the immediate client care area and available to intervene if necessary.
 - 1. antineoplastic agents
 - 2. blood and blood components
 - 3. antiarrhythmic including digitalis
 - 4. antiseizure medication including valium, dilantin
 - 5. initiation of ambulatory infusion device, such as CADD pump
 - 6. hypertensive agents

- B. The following items are not within the core or advanced competencies for a LPN and **should not be performed by LPN even with additional training**:
 - 1. pharmacological agents not allowed by agency or facility policy and procedure
 - 2. arterial blood draws
 - 3. mid line and PICC placement
 - 4. catheter declotting
 - 5. drawing blood from a central venous catheter
 - 6. removal of PICC and mid line

7. obstetric epidurals
8. temporary epidurals
9. temporary and permanent catheter repair.

IV. Definitions

Reference: Intravenous Nurses Society (INS). Infusion Nursing Standards of Practice. Journal of Intravenous Nursing. Vol.23, No 6S, November/December 2000.

Ambulatory Infusion Device. Electronic infusion device specifically designed to be worn on the body to promote patient mobility and independence.

Antineoplastic Agent. Medication that prevents the development, growth, or proliferation of malignant cells.

Arterial Pressure Monitoring. Monitoring of arterial pressure through an indwelling arterial catheter connected to an electronic monitor.

Aseptic Technique. Mechanisms employed to reduce potential contamination.

Catheter. Tube for injecting or evacuating fluids.

Central Venous Catheter. Catheter inserted into a centrally located vein with the tip residing in the vena cava; permits intermittent or continuous infusion and/or access into the venous system.

Delivery System. Product that allows for the administration of medication. The system can be integral or can have component parts and includes all products used in the administration, from the solution container to the catheter.

Document. Written or printed record containing original, official, or legal information.

Documentation. Record in written or printed form, containing original, official, or legal information.

Epidural Space. Space superior to the dura mater of the brain and the spinal cord and inferior to the ligamentum flavum.

Extravasation. Inadvertent infiltration of vesicant solution or medication into surrounding tissue; rated by a standard scale.

Hemodynamic Pressure Monitoring. General term for determining the functional status of the cardiovascular system as it responds to acute stress such as myocardial infarction and cardiogenic or septic shock. A pulmonary artery catheter is used to directly measure intracardiac pressure changes, cardiac output, blood pressure, and heart rate.

Implanted Port. A catheter surgically placed in a vessel or body cavity and attached to a reservoir located under the skin.

Implanted Pump. A catheter surgically placed into a vessel or body cavity and attached to a reservoir located under the skin that contains a pumping mechanism for continuous medication administration.

Incompatible. Incapable of being mixed or used simultaneously without undergoing chemical or physical changes or producing undesirable effects.

Infiltration. Inadvertent administration of a nonvesicant solution or medication into surrounding tissue; rated by a standard scale.

Infusate. Parenteral solution administered into the vascular or nonvascular systems; infusion.

Injection/Access Port. Resealable cap or other configuration designed to accommodate needles or needless devices for administration of solutions into the vascular system.

Intraosseous. Within the bone substance.

Intrathecal. Within the spinal canal.

Intermittent Intravenous Therapy. Intravenous therapy administered at prescribed intervals with periods of infusion cessation.

Midclavicular Catheter. A long peripheral catheter in which the distal end resides in the proximal axillary or brachiocephalic (innominate vein). It is not a central line.

Midline Catheter. A long peripheral catheter in which the distal end resides in the mid to upper arm.

Nurse Practice Act. Legislation that defines the practice of registered nurses and licensed practical nurses within the state. Oregon Nurse Practice Act: Chapter 678.

Parenteral. Administered by any route other than the alimentary canal, such as the intravenous, subcutaneous, intramuscular, or mucosal route.

Parenteral Nutrition. Intravenous provision of total nutritional needs for a patient who is unable to take appropriate amounts of food enterally; typical components include carbohydrates, proteins, and/or fats, as well as additives such as electrolytes, vitamins, and trace elements.

Phlebitis. Inflammation of a vein; may be accompanied by pain, erythema, edema, streak formation, and/or palpable cord; rated by a standard scale.

Phlebotomy. Withdrawal of blood from a vein.

Peripherally Inserted Central Catheter (PICC). Soft, flexible central venous catheter inserted into an extremity and advanced until the tip is positioned in the vena cava.

Process. Actual performance and observation of performance based on compliance with policies, procedures, and professional standards.

Standard. Authoritative statement enunciated and promulgated by the profession by which the quality of practice, service, or education can be judged.

Thrombolytic Agent. Pharmacological agent capable of dissolving blood clots.

Thrombophlebitis. Inflammation of the vein in conjunction with formation of a blood clot (thrombus).

Thrombosis. Formation, development or existence of a blood clot within the vascular system.

Thrombolytic. Pertaining to a drug or other agent that dissolves thrombi.

Vesicant. Agent capable of causing injury when it escapes from the intended vascular pathway into surrounding tissue.

Adopted: September 20, 2001