

AOS #3
Infusion Therapy Recommended Course Content
(Revised 04/2019)



KENTUCKY BOARD OF NURSING
312 Whittington Parkway, Suite 300
Louisville, Kentucky 40222-5172
<http://kbn.ky.gov>

ADVISORY OPINION STATEMENT

**RECOMMENDED COURSE CONTENT INFUSION THERAPY
FOR REGISTERED NURSES AND LICENSED PRACTICAL NURSES**

The Kentucky Board of Nursing is authorized by Kentucky Revised Statutes (KRS) Chapter 314 to regulate nurses, nursing education and practice, promulgate regulations and to issue advisory opinions on nursing practice in order to assure that safe and effective nursing care is provided by nurses to the citizens of the Commonwealth.

The Kentucky Board of Nursing issues advisory opinions as to what constitutes safe nursing practice. As such, an opinion is not a regulation of the Board and does not have the force and effect of law. It is issued as a guideline to licensees who wish to engage in safe nursing practice, and to facilitate the delivery of safe, effective nursing care to the public.

Opinion: Recommended Course Content
Infusion Therapy for Registered Nurses
and Licensed Practical Nurses

Approved Date: 8/1989

Revised Date: 10/1989; 12/1989; 12/1992;
10/1993, 6/1999; 6/2005; 2/2010; 4/2015;
4/2019

Accountability and Responsibility of Nurses

In accordance with KRS 314.021(2) nurses are responsible and accountable for making decisions that are based upon the individuals' educational preparation and current clinical competence in nursing, and requires licensees to practice nursing with reasonable skill and safety. Nursing practice should be consistent with the *Kentucky Nursing Laws*, established standards of practice, and be evidence-based.

PURPOSE

The Kentucky Board of Nursing (KBN) has developed recommended course content to be included in a basic infusion therapy prelicensure or continuing education course for licensed practical nurses and registered nurses who wish to perform specified infusion therapy procedures as defined in 201 KAR 20:490.

COURSE DESCRIPTION

An infusion therapy course should be designed to provide fundamental knowledge, skills and abilities needed by Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) to perform specified infusion therapy procedures, including but not limited to the scope of practice of the individual nurse and supervisory requirements.

Course content should be consistent with current evidence-based guidelines from nationally accepted nursing organizations including, but not limited to, the Infusion Nurses Society.
<https://www.ins1.org/default.aspx>

Pursuant to 201 KAR 20:490 Section 2 (2) programs shall be based on the “Policies and Procedures for Infusion Therapy” and “Infusion Therapy: Standards of Practice”. Components of the course shall include the following:

- a.) Legal considerations and risk management issues;
- b) Related anatomy and physiology including fluid and electrolytes balance;
- c) Principles of pharmacology as related to infusion therapy;
- d) Infusion equipment and preparation;
- e) Principles and procedures for administration of specified solutions and medications via intravenous route including transfusion therapy and parenteral nutrition;
- f) Principles and procedures for site maintenance for a peripheral venous access device and a central venous access device;
- g) Assessment of and appropriate interventions for complications related to infusion therapy; and
- h) Demonstration and validation of competency for infusion therapy procedures.

COURSE OBJECTIVES

Upon completion of all instructional components of an Infusion Therapy course the RN or LPN participant should demonstrate the ability to:

1. Discuss the legal implications of RN or LPN practice as related to the performance of infusion therapy procedures.
 - A. Identify a minimum of two (2) legal considerations in each of the following regarding Infusion therapy and the scope of practice for the RN and LPN:
 1. Kentucky Nursing Laws
 2. Related Kentucky administrative regulations
 3. Related KBN advisory opinion statements
 4. National nursing standards of practice
 5. Health care facility policies, and
 6. Health care facility job descriptions
 - B. Discuss the accountability and responsibility of the RN and LPN in the performance of specified infusion therapy procedures.
 - C. State the limitations of practice for the LPN who has successfully completed an infusion therapy course consistent the requirements of 201 KAR 20:490.

- D. State the role of the RN in the supervision and direction of the LPN performing infusion therapy.
 - E. Identify the principles of quality control/assurance and risk management related to infusion therapy practice.
2. Identify normal anatomy and physiology applicable to infusion therapy practice.
- A. Describe the structure and function of the vascular system.
 - B. Describe the interrelatedness of the vascular system and other body systems in maintaining fluid equilibrium.
 - C. Discuss the distribution and physiologic balance of fluids and electrolytes in the body.
 - D. Identify the basic physiological principles applicable to the safe performance of infusion therapy procedures.
 - E. Identify two (2) veins on the dorsal aspect of the hand and two (2) veins in the arm commonly used to administer intravenous fluids.
 - F. Differentiate between arteries and veins in each of the following: tissue layers, color of blood, pulsation, valves, location, tissues supplied, spasm of vessels, and blood flow.
3. Assist in the implementation of the nursing process in caring for clients receiving infusion therapy.
- A. Discuss the role of the LPN and the RN in the management of care for a patient receiving infusion therapy.
 - B. Discuss the nursing responsibilities in assisting the patient to maintain fluid and electrolyte balance.
 - C. Discuss nursing measures for patient's receiving infusion therapy which contribute to the nursing care plan.
 - D. Identify how each of the following affects vital sign measurement, i.e., heart rate/rhythm, respiratory rate, and blood pressure:
 - 1. Fluid retention/deficit
 - 2. Increased/decreased blood volume
 - 3. Vasodilatation/vasoconstriction
 - 4. Increased/decreased cardiac output
 - E. Describe the observable effects of isotonic, hypertonic, and hypotonic IV fluids on the body.
 - F. Observe and report adverse reactions related to infusion therapy and initiate appropriate nursing intervention.
4. Initiate, maintain, monitor, and/or discontinue infusion therapy as defined by 201 KAR 20:490.
- A. Accurately interpret medical orders for infusion therapy.
 - B. Select appropriate sites and infusion devices for intravenous infusion administration.
 - C. Demonstrate assembling and setting up infusion solutions with tubing and needles.

- D. Correctly and aseptically start a peripheral intravenous infusion.
 - E. Given a prescribed quantity of fluid to be infused, calculate a flow rate correctly.
 - F. Demonstrate appropriate use of selected infusion equipment including: infusion pumps, mechanical controllers, and patient controlled administration systems.
 - G. Demonstrate both continuous and intermittent administration of intravenous fluids and/or medications.
 - H. Demonstrate accurate documentation of infusion therapy.
 - I. Demonstrate infusion therapy maintenance procedures, i.e., site care, dressing and tubing changes, flushing, conversion of primary line to intermittent access device, hanging replacement solutions and pre-mixed medications.
 - J. Discontinue intravenous infusion safely.
 - K. Identify local and systemic complications common to infusion therapy and discuss appropriate nursing interventions.
5. Identify the drugs and solutions commonly used in infusion therapy and discuss their action, therapeutic dosage, and adverse effects.
- A. Identify the principles of medication administration as related to premixed medication additives for infusion therapy.
 - B. Identify the incompatibilities of selected drugs and fluids including blood and blood products.
 - C. Address the classifications of infusion medications, including but not limited to, indications for use, pharmacological properties, contraindications, dosing, clinical mathematics, anticipated side effects, potential complications/antidotal therapy, compatibilities, stabilities, and any other specific special considerations.
 - D. Discuss the dosage, action, and adverse effects of the commonly used emergency infusion medications.
 - E. Identify medications approved for IV push or bolus by the LPN and demonstrate proper technique for administration of these IV "push or bolus" medications.
 - F. Identify the principles related to the safe administration of blood and blood products.
 - G. Describe potential reaction to blood/blood products and related nursing interventions.
 - H. Identify the principles related to the safe administration of parenteral nutrition and fat emulsion.
 - I. Describe potential reaction to parenteral nutrition and fat emulsion.
6. Maintain aseptic techniques and established infection control practices.
- A. Discuss universal infection control principles and practices as related to infusion therapy.
 - B. Identify principles of quality control/assurance.
 - C. Demonstrate appropriate practice of medical asepsis when performing infusion therapy procedures.