

COURSE OUTLINE **IV Therapy for LPN**

Course Description

NR 115. IV Therapy for LPN. 3 hours credit. Prerequisite: LPN with a current Kansas license. This course will enable the student to perform safely and competently the intravenous fluid therapy activities as defined in the Kansas Nurse Practice Act. The course is based on the nursing process and current intravenous nursing standards of practice. The student must be prepared to complete all the pre-clinical requirements for the Department of Nursing. Butler Community College is approved as a provider of continuing education by the Kansas State Board of Nursing. This course may be taken for continuing education credit in lieu of college credit hours.

Course Relevance

Successful completion of this course increases the licensed practical nurse's scope of practice to include intravenous fluid therapy under the supervision of a registered professional nurse. This course outline follows the *Venous Access and Intravenous Infusion Treatment Modalities* which is the Kansas State Board of Nursing's only approved intravenous fluid therapy curriculum.

Required Materials

Roth, V. D. (2003). *Venous access and intravenous infusion treatment modalities*.
Columbia MO: Curators of the University of Missouri.

Learning Outcomes

The intention is for the student to be able to

1. Identify the duties and functions of the LPN performing intravenous fluid therapy as defined by the Kansas State Board of Nursing
2. Initiate a peripheral venous access device
3. Initiate an intravenous infusion treatment modality on an individual
4. Provide ongoing monitoring of intravenous therapy
5. Implement appropriate nursing interventions to prevent or recognize and treat local and systemic complications of intravenous therapy
6. Discontinue a peripheral intravenous therapy site
7. Implement nursing management of an individual receiving drug therapy

Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Problem Solving
 - Through the analysis of case studies and lab simulations, the student will develop problem solving skills.

2. Field-Related Technology
 - Through lab and clinical experiences, the student will successfully initiate a peripheral intravenous site and initiation of an intravenous infusion treatment modality on an individual.

Secondary skills (developed but not documented):

Health Management

Internet Use

Major Summative Assessment Task(s)

These learning outcomes and the primary Learning PACT skills will be demonstrated by

1. Initiation of at least one successful peripheral intravenous site
2. Initiation of an intravenous infusion treatment modality on an individual
3. Completion of a clinical simulation involving intravenous therapy and medication administration

Course Content

- I. Themes – Key recurring concepts that run throughout this course:
 - A. Anatomy and physiology of the circulatory system
 - B. Fluid balance and electrolytes
 - C. Infection control
 - D. Equipment used in intravenous therapy
 - E. Pharmacology
 - F. Nursing Process
 - G. Accountability
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Current Kansas Nurse Practice Act regulations and hospital policies and procedures
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. Kansas Nurse Practice Act
 - B. Clinical agency intravenous therapy policies and procedures
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
 - A. Perform a successful peripheral intravenous access procedure
 - B. Initiate an intravenous infusion therapy treatment modality on an individual

Learning Units

- I. Kansas Nurse Practice Act
 - A. Scope of practice for LPN performing intravenous fluid therapy
 - B. Intravenous activities that are specifically disallowed for the IV certified LPN
- II. Anatomy and physiology as applied to intravenous therapy
 - A. Structure and functions of the skin
 - B. Structural components of veins and arteries
 - C. Physiological reaction of vessels to stimulation
 - D. Veins in the hand and forearm

- E. Structure and function of the heart
 - F. Function of the pulmonary system
 - G. Path of circulation through the cardiopulmonary system
 - H. Amount, formation, and functions of blood
 - I. Blood components
- III. Fundamental aspects of fluid and electrolyte balance
- A. Fluid and electrolyte balance
 - B. Fluid and electrolyte imbalances
 - C. Parenteral fluids
- IV. Recognition and prevention of IV therapy-related complications
- A. Potential local and systemic complications
 - B. Infection control
- V. Administration of intravenous fluid therapy
- A. Patient approach
 - B. Identifying IV therapy equipment
 - C. Preparing to insert a peripheral intravenous line
 - D. Inserting peripheral intravenous cannula
 - E. Converting a peripheral catheter to an intermittent infusion device
 - F. Principles of parenteral infusion flow rate
 - G. Principles of pediatric intravenous fluid therapy
 - H. Principles of geriatric intravenous fluid therapy
 - I. Use of armboards and restraints
- VI. Principles of intravenous therapy maintenance
- A. Ongoing monitoring IV therapy patient
 - B. Cannula site assessment
 - C. Flow rate assessment
 - D. Changes of intravenous therapy system components
 - E. Peripheral IV site rotation
 - F. Maintaining patency of intermittent infusion devices
 - G. Documentation
- VII. Discontinuation of peripheral IV sites
- A. Reasons for discontinuation of peripheral IV site
 - B. Principles of safe and effective peripheral IV site discontinuation
 - C. Instructions to patient
 - D. Essential elements of appropriate documentation
 - E. Perform procedure for discontinuing a peripheral IV site
- VIII. Pharmacological considerations of intravenous medication
- A. Introduction to intravenous drug administration
 - B. Untoward response to intravenous drug administration

- C. Calculations for intravenous drug administration
- D. Intravenous piggyback drug administration
- E. Manual IV push drug administration
- F. Introduction to precalculated, prepackaged drug systems
- G. Administering intravenous drugs via volume control set
- H. Monitoring chemotherapy patients

IX. Monitoring blood transfusion therapy

X. Total parenteral nutrition and nursing practice

Learning Activities

Independent and collaborative learning activities will be assigned to assist the student to achieve the intended learning outcomes. Class discussion, lecture, laboratory and clinical experiences, group activities, reading assignments, and classroom and Internet activities will also contribute to the learning process.

Grade Determination

Grade determination will be based upon assignments, exams, and the assessment tasks.