

**Chapter 10: REGULATIONS RELATING TO ADMINISTRATION OF INTRAVENOUS THERAPY BY LICENSED NURSES**

---

**SUMMARY:** This chapter identifies the roles of licensed nurses in the administration of intravenous therapy. It also includes the approved course outlines for the administration of intravenous therapy by the licensed practical nurse, who works with the adult and/or pediatric patient.

---

**1. Roles of Licensed Nurses****A. Definitions**

For the purposes of this chapter of the Rules and Regulations, the following definitions pertain:

- (1) supervision - shall mean that the registered nurse is on-site and immediately available to assess and evaluate nurse performance
- (2) on-site - the registered nurse is physically present within the facility when intravenous therapy is being administered by the licensed practical nurse
- (3) except as limited - those procedures that shall NOT be performed by the licensed practical nurse
- (4) pediatric patient - shall mean a child twelve (12) years of age and under, **EXCLUDING** newborn (under 28 days of age) and premature infants
- (5) theory - classroom teaching in a formal class setting presented by an instructor this shall not be conducted as independent study
- (6) return demonstration - individualized laboratory practice
- (7) clinical - individualized supervised practice, including at least three (3) observed, successful venipunctures or until proficiency is determined acceptable and competency has been validated through facility's competency assessment program
- (8) peripheral- beginning and ending in an extremity. For the purpose of this chapter, midlines (beginning peripheral and ending in the axilla) and midclaviculars (beginning peripheral and ending midclavicular) are included.
- (9) central catheter/line-is one whose tip is located in a central venous vessel. This includes peripherally inserted central lines (PICC). A peripherally inserted

central catheter is a catheter that begins in a peripheral site and ends in a central vessel.

B. Category I

Because of the knowledge and skills acquired in approved educational programs practical nursing, the licensed practical nurse may perform the following procedures upon successful completion of a state-approved practical nursing program, under the delegation and supervision of a registered nurse:

- (1) perform simple calculation, and adjust flow rates of a peripheral infusion by a mechanical infusion pump, gravity, or other rate controller device
- (2) observe, report and document subjective and objective signs of adverse reactions to intravenous administration
- (3) inspect insertion site, change dressing and remove intravenous needle or catheter from peripheral veins, except as limited by the board. (Removal of the intravenous needle does not include midlines and midclaviculars.)

C. Category II

Because the curricula taught in approved educational programs in practical nursing provide the basic background knowledge for the licensed practical nurse to develop new skills and upgrade knowledge through continuing education, the licensed practical nurse may perform the following procedures, except as limited by the board, only upon successful completion of a board-approved continuing education course for intravenous therapy/procedures, under the delegation and supervision of a registered nurse:

- (1) perform venipuncture to administer intravenous fluids in peripheral veins of the upper extremities (Venipuncture does not include midlines and midclaviculars.)
- (2) change or add premixed fluid container and tubing
- (3) administer I.V. fluids without added medication and/or administer commercially prepared intravenous solutions via peripheral or central lines
- (4) administer intravenous fluids containing medications that have been prepared and labeled by a pharmacist, registered nurse, physician, dentist or manufacturer via peripheral or central lines
- (5) reconstitute and administer unit dose medication for I.V. therapy, e.g., ADD-vantage, Mini-Bag Plus
- (6) flush peripheral or central intravenous catheter and intermittent device with premixed heparin solution or saline
- (7) change a patient controlled analgesia (PCA) cassette, program the PCA pump pursuant to a physician order that prescribes a specific dosage and assist patient with self-bolus when necessary

- (8) administer solution for total parenteral nutrition
- (9) change dressing and intravenous administration set on a central line
- (10) administer intradermal lidocaine for the purpose of pain control when inserting an intravenous catheter per established protocols and with the necessary emergency equipment available
- (11) administer morphine or other narcotic medications such as dilaudid by a peripheral and central IV line using a continuous infusion pump such as a CADD PCA
- (12) draw blood specimens on initial insertion of an IV

D. Category III

The registered nurse may perform all procedures in Categories I and II. Because the basic curricula taught in state-approved educational programs in professional nursing include the in-depth application of principles of psychological, biological, physical and social sciences for the performance of those acts requiring substantial specialized knowledge, judgment and nursing skills, **ONLY** the REGISTERED NURSE may perform, but not be limited to, the following intravenous procedures:

- (1) assess the patient in relation to appropriateness of specific order for intravenous therapy
- (2) administer blood and blood components
- (3) administer chemotherapeutic agents
- (4) administer medication via intravenous route:
  - a. inject medication into an auxiliary fluid chamber, e.g., volutrol, buretrol
  - b. inject medication via direct intravenous route, e.g., bolus, push
- (5) prepare admixtures
- (6) flush or aspirate an intravenous line, arterial line, needle or catheter
- (7) remove an intravenous cannula from the following: femoral, subclavian, or jugular vein; any venous or arterial site in which a central line is inserted; or any arterial site or cut-down site
- (8) change dressing and intravenous administration set on any arterial site
- (9) draw blood specimens from IV site
- (10) insert and remove midline, midclavicular and peripherally inserted central catheters (PICC).

## **2. General Regulations Pertaining to the Licensed Practical Nurse Working with Adult Patients**

### **A. Authorization to Practice**

- (1) Authorization to practice intravenous therapy administration (Adults) limits the licensed practical nurse to such practice in a hospital, nursing home or skilled care facility, under the on-site supervision of a registered nurse.
- (2) Authorization to practice intravenous therapy administration (Adults) does NOT permit the licensed practical nurse to perform procedures for pediatric patients.
- (3) Authorization to practice intravenous therapy administration does NOT permit the licensed practical nurse to perform procedures that involve arterial sites/lines.

### **B. Facilities Authorized to Conduct a Course in Intravenous Therapy Administration (Adults) by the Licensed Practical Nurse**

- (1) Such course may be conducted only by a facility approved by the board.
- (2) Facilities conducting such course shall award a certificate of completion to the licensed practical nurse who has satisfactorily completed such course.
- (3) Revisions in a previously approved course must be submitted for approval by the board prior to implementation; this shall include a change in the course instructor.

### **C. Requirements Related to Patient Care Settings**

- (1) Utilization of the licensed practical nurse in intravenous therapy administration shall be determined by the individual patient care setting.
- (2) Each patient care setting in which intravenous therapy is administered by the licensed practical nurse must have intravenous therapy administration policies and procedures developed and approved by the nursing staff and, if appropriate, the medical staff; such policies should include a listing of premixed solutions containing drugs that should NOT be administered by the licensed practical nurse, e.g., antihypertensives, vasopressors and anticonvulsants.

### **D. Application for Board Approval of Course**

- (1) Name of facility conducting course
- (2) Instructor's vitae, including qualifications to teach such course
- (3) Course outline, hours and clinical facilities to be utilized
- (4) Mechanism for evaluation of participants.

3. **Board-Approved Course Outline for the Administration of Intravenous Therapy (Adults) by the Licensed Practical Nurse**

A. Purpose

This course is designed to increase knowledge and understanding and develop skills to prepare the licensed practical nurse for safe and effective practice in the administration of intravenous therapy, as defined in this chapter.

B. Instructor

The instructor responsible for the content and delivery of such course shall be a currently licensed registered nurse with demonstrated competency in the administration of intravenous therapy and in teaching techniques; other appropriate resources may be used, e.g., pharmacist.

C. Minimum Hours of Course

No course shall be conducted that includes less than 12 hours of classroom theory, 2 1/2 hours per student of individualized laboratory practice and 5 1/2 hours per student of individualized supervised clinical practice, including at least three (3) observed, successful venipunctures or until proficiency is determined acceptable and competency has been validated through the facility's competency assessment program.

D. Supervised Clinical Practice

- (1) Clinical practice shall be supervised by registered nurses ONLY.
- (2) Such supervised practice shall be documented.

E. Qualifications of Applicants

- (1) Graduation from a state-approved school of practical nursing and successful completion of a practical nurse licensure examination acceptable to the board
- (2) Holds a current (active) license as a practical nurse in Maine
- (3) Readiness for participation in this course should be assessed by the individual and his/her nursing supervisor
- (4) Prior to participation in the course, the applicant must pass a qualifying examination based on the understandings required in Section 1, sub-section B (Category I) of this chapter.

F. Course Completion

- (1) The facility conducting this course shall award to the licensed practical nurse a certificate documenting successful completion of the entire course; the facility shall maintain records of licensed practical nurses participating in this program.

- (2) Health care facilities that utilize the licensed practical nurse in intravenous therapy administration shall provide a mechanism for maintaining competency.

G. Objectives

At the completion of the course, the licensed practical nurse will be able to:

- (1) identify the legal scope of practice and accountability of the licensed practical nurse in the administration of intravenous therapy
- (2) state the underlying reasons for the administration of intravenous therapy
- (3) describe the anatomy and physiology of the peripheral and central venous cardiovascular system as it relates to intravenous therapy
- (4) demonstrate correct care and maintenance of the central venous catheter including tunneled, non tunneled, implanted vascular access devices and peripherally inserted central lines. Care and maintenance of the central venous catheter includes dressing changes, flushing lines, tubing and solution changes per facility/organization policy.
- (5) identify the nursing responsibilities when safely administering intravenous therapy
- (6) state the principles of aseptic technique when performing intravenous therapy and the use of standard precaution procedures
- (7) demonstrate correct intravenous insertion and removal techniques of peripheral lines (Insertion and removal of peripheral lines for the adult patient does not include midlines and midclaviculars.)
- (8) safely administer intravenous fluids
- (9) safely administer intravenous fluids containing medications that have been prepared and labeled by the pharmacist, registered nurse, physician, dentist or manufacturer
- (10) safely reconstitute and administer unit dose medication for I.V. therapy
- (11) state the instructions that should be given to a patient receiving intravenous therapy
- (12) list potential local and systemic complications of intravenous therapy as well as preventive measures and treatment.

H. Course Outline

- (1) Unit I Legal Aspects

- a. Describe the role and accountability of the licensed practical nurse in intravenous therapy administration in the State of Maine, as defined in Section 1, sub-section C (Category II) of this chapter
- b. Describe the intravenous therapy policies of the employing health care facility

(2) Unit II Anatomy and Physiology

- a. Describe the differences between a vein and an artery
- b. Describe the anatomical hazards associated with venipuncture
- c. Identify appropriate upper extremity sites for venipunctures
- d. Identify peripheral and central vein locations
- e. Identify location of central venous catheters

(3) Unit III asepsis

- a. Theory
  - i. state the principles of aseptic technique applicable to administration of intravenous therapy
  - ii. identify potential complications with breach of aseptic technique in intravenous therapy administration
  - iii. describe the signs and symptoms of each potential complication
  - iv. describe the appropriate nursing intervention for each potential complication
  - v. describe the use of standard precautions applicable to the administration of intravenous therapy
- b. Clinical
  - i. demonstrate aseptic technique
  - ii. demonstrate the use of personal protective equipment, engineering controls and procedures related to standard precautions
  - iii. demonstrate competency in central venous dressing change

(4) Unit IV Equipment

- a. Theory

- i. describe equipment used for intravenous therapy
- ii. state indications for the use of each
- b. Clinical
  - i. demonstrate correct use and proper maintenance of equipment

(5) Unit V Insertion and Removal

- a. Theory
  - i. state the principles of intravenous insertion and removal
- b. Clinical
  - i. demonstrate competency in venipuncture technique
  - ii. demonstrate competency in removal of a peripheral intravenous device
  - iii. demonstrate competency in inserting and removing a huber needle from an implanted venous access device

(6) Unit VI Administration of Intravenous Fluids

- a. Theory
  - i. state the main reasons for administration of intravenous fluids
  - ii. identify the types of intravenous fluids and indications for use
  - iii. identify potential local and systemic complications with intravenous fluid administration
  - iv. define the role of the licensed practical nurse in the prevention and treatment of complications
- b. Clinical
  - i. demonstrate measures to be taken to prepare intravenous fluids for administration
  - ii. demonstrate competency in administering, regulating and maintaining intravenous fluids

(7) Unit VII Administration of Intravenous Drugs

- a. Theory

- i. list the advantages and disadvantages of the intravenous route for drug administration
- ii. review the pharmacologic aspects of the major classifications of drugs in intravenous therapy
- iii. identify the types of drug incompatibilities
- iv. identify resources for determining drug incompatibilities
- v. define the role of the licensed practical nurse in intravenous drug administration
- b. Clinical
  - i. demonstrate safe practice in administering intravenous fluids containing drugs

(8) Unit VIII Patient Education

- a. Theory
  - i. identify the content of a teaching program for patients receiving intravenous therapy
- b. Clinical
  - i. reinforce patient instructions on aspects of intravenous therapy using principles of teaching

(9) Unit IX Documentation in Administration of Intravenous Therapy

- a. Theory
  - i. identify the data to be documented
- b. Clinical
  - i. record accurately the care and observations during intravenous therapy

**4. General Regulations Pertaining to the Licensed Practical Nurse Working with Pediatric Patients**

A. Authorization to Practice

- (1) Authorization to practice intravenous therapy administration with pediatric patients is granted through awarding of a separate certificate after completion of

additional course work, individualized laboratory practice and supervised clinical practice.

- (2) Authorization to practice intravenous therapy administration(Pediatrics) limits the licensed practical nurse to such practice in a hospital, nursing home or skilled care facility, under the on-site supervision of a registered nurse.
- (3) Authorization to administer premixed medications limits the licensed practical nurse to administer
  - a. intravenous fluids containing medications that have been prepared and labeled by a pharmacist, registered nurse, physician, dentist or manufacturer: and
  - b. intravenous fluids which contain unit dose medication that has been reconstituted by the licensed practical nurse, e.g., ADD-vantage, Mini-Bag Plus.
- (4) Authorization to practice intravenous therapy administration (Pediatric) does NOT permit the licensed practical nurse to perform procedures for newborn or premature infants.
- (5) Authorization to practice intravenous therapy venipunctures for pediatric patients is restricted to hands and feet.
- (6) Authorization to practice intravenous therapy administration does NOT permit the licensed practical nurse to perform procedures that involve arterial sites/lines.
- (7) Authorization to practice intravenous therapy administration for pediatric patients with peripheral and central lines limits the licensed practical nurse to those patients with controlled volume and microdrip sets.

**B. Facilities Authorized to Conduct a Course in Intravenous Therapy Administration (Pediatrics) by the Licensed Practical Nurse**

- (1) Such course may be conducted only by a facility approved by the board.
- (2) Facilities conducting such course shall award a certificate of completion to the licensed practical nurse who has satisfactorily completed such course.
- (3) Revisions in a previously approved course must be submitted for approval by the board prior to implementation; this shall include a change in the course instructor.

**C. Requirements Related to Patient Care Settings**

- (1) Utilization of the licensed practical nurse in intravenous therapy administration shall be determined by the individual patient care setting.

- (2) Each patient care setting in which intravenous therapy is administered by the licensed practical nurse must have intravenous therapy administration policies and procedures developed and approved by the nursing staff and, if appropriate, the medical staff; such policies should include a listing of premixed solutions containing drugs that should NOT be administered by the Licensed practical nurse, e.g., antihypertensives, vasopressors and anticonvulsants.

D. Application for Board Approval of Course

- (1) Name of facility conducting course
- (2) Instructor's vitae, including qualifications to teach such course
- (3) Course outline, hours and clinical facilities to be utilized
- (4) Mechanism for evaluation of participants

**5. Board-Approved Course Outline for the Administration of Intravenous Therapy (Pediatrics) by the Licensed Practical Nurse**

A. Purpose

This course, which is an adjunct to the (Adult) course, is designed to increase knowledge and understanding and develop skills to prepare the licensed practical nurse for safe and effective practice in the administration of intravenous therapy to pediatric patients, as defined in this chapter.

B. Instructor

The instructor responsible for the content and delivery of such course shall be a currently licensed registered nurse with demonstrated competency in the administration of intravenous therapy and in teaching techniques; other appropriate resources may be used, e.g., pharmacist.

C. Minimum Hours of Course

- (1) In order for the licensed practical nurse to work with pediatric patients, s/he must complete a course of 3 hours minimum in addition to the 20 hour (Adult) course described in Section 3.
- (2) This additional adjunct course (Pediatrics) will consist of
  - a. two (2) hours of classroom theory; such theory shall address specific issues related to intravenous therapy in the pediatric population;
  - b. one (1) hour per student of individualized laboratory and supervised clinical practice; and

- c. the performance of supervised venipuncture on appropriate pediatric patients until proficiency is determined acceptable and competency has been validated through facility's competency assessment program.

D. Supervised Clinical Practice

- (1) Clinical practice shall be supervised by registered nurses ONLY.
- (2) Such supervised practice shall be documented.

E. Qualifications of Applicants

- (1) Graduation from a state-approved school of practical nursing and successful completion of a practical nurse licensure examination acceptable to the board
- (2) Holds a current (active) license as a practical nurse in Maine
- (3) Readiness for participation in this course should be assessed by the individual and his/her nursing supervisor
- (4) Has successfully completed the board-approved course in intravenous therapy administration (Adult).

F. Course Completion

- (1) The facility conducting this course shall award to the licensed practical nurse a certificate documenting successful completion of the adjunct pediatric course; the facility shall maintain records of licensed practical nurses participating in this program.
- (2) Health care facilities that utilize the licensed practical nurse in intravenous therapy administration shall provide a mechanism for maintaining competency.

G. Objectives

At the completion of the course, the licensed practical nurse will be able to:

- (1) identify the legal scope of practice and accountability of the licensed practical nurse in the administration of intravenous therapy to pediatric patients
- (2) identify the basic physiologic differences between adults and children as they relate to intravenous therapy
- (3) identify the nursing responsibilities when safely administering intravenous therapy to the pediatric patient
- (4) state the acceptable sites for venipuncture in the pediatric patient
- (5) identify the type(s) of intravenous equipment utilized for the pediatric patient

- (6) demonstrate correct intravenous insertion and removal techniques for the pediatric patient (Insertion and removal for the pediatric patient does not include PICCs.)
- (7) identify the critical considerations associated with intravenous fluid and drug administration in the pediatric patient
- (8) identify the appropriate content and methodology for teaching the pediatric patient and his/her family about intravenous therapy.

## H. Course Outline

Units I through IX, as described in the Course Outline for the Administration of Intravenous Therapy (Adults) by the Licensed Practical Nurse, shall be successfully completed prior to participation in this adjunct course.

### (1) Unit I Legal Aspects

- a. Describe the role and accountability of the licensed practical nurse in intravenous therapy administration in the State of Maine, as defined in Category II (Section 1, sub-section C) of this chapter
- b. Describe the intravenous therapy policies of the employing health care facility

### (2) Unit II Anatomy and Physiology

- a. Theory
  - i. identify the basic physiologic differences between adults and children
  - ii. discuss safety considerations related to intravenous therapy for the pediatric patient
  - iii. state the acceptable sites for venipuncture in the pediatric patient
- b. Clinical
  - i. demonstrate competency in the use of devices utilized to secure and restrain the pediatric patient during venipuncture

### (3) Unit III Equipment

- a. Theory
  - i. describe the various types of intravenous therapy equipment utilized for the pediatric patient in accord with his/her individual age, size and physical condition
- b. Clinical

- i. demonstrate correct use and proper maintenance of equipment
  - (4) Unit IV Insertion and Removal
    - a. Clinical
      - i. demonstrate competency in venipuncture technique on the hands and feet of the pediatric patient
      - ii. demonstrate competency in the removal of intravenous devices in the pediatric patient
  - (5) Unit V Administration of Intravenous Fluids and Medications
    - a. Theory
      - i. identify the critical considerations associated with fluid and medication administration in the pediatric patient
  - (6) Unit VI Patient Education
    - a. Theory
      - i. identify appropriate content and methodology for reinforcing the teaching plan for the pediatric patient and his/her family about intravenous therapy
-

STATUTORY AUTHORITY: 32 M.R.S.A. §2153-A(1)

EFFECTIVE DATE:

October 30, 1985

AMENDED:

February 20, 1991

EFFECTIVE DATE (ELECTRONIC CONVERSION):

September 24, 1996

AMENDED:

July 7, 1999

March 23, 2004 - filing 2004-85

NON-SUBSTANTIVE CORRECTIONS:

April 27, 2004 - punctuation and capitalization only

AMENDED:

December 21, 2009 – filing 2009-651