

Doug Ducey
Governor



Joey Ridenour
Executive Director

Arizona State Board of Nursing

1740 W Adams Street, Suite 2000
Phoenix, AZ 85014-3655
Phone (602) 771-7800
Home Page: www.azbn.gov

ADVISORY OPINION

INFUSION THERAPY: THE ROLE OF THE LICENSED PRACTICAL NURSE

An advisory opinion adopted by AZBN is an interpretation of what the law requires. While an advisory opinion is not law, it is more than a recommendation. In other words, an advisory opinion is an official opinion of AZBN regarding the practice of nursing as it relates to the functions of nursing. Facility policies may restrict practice further in their setting and/or require additional expectations related to competency, validation, training, and supervision to assure the safety of their patient population and or decrease risk.

OPINION: INFUSION THERAPY THE ROLE OF THE LICENSED PRACTICAL NURSE

APPROVED: 7/95

REVISED DATE: 6/01,07/02, 2006, 7/07, 3/08,9/11,3/12, 9/16, 1/22

ORIGINATING COMMITTEE: SCOPE OF PRACTICE

Within the Scope of Practice of RN LPN

STATEMENT OF SCOPE

It is within the scope of practice for a licensed practical nurse (LPN) to provide infusion therapy if they are delegated to do so by a registered nurse (RN) or licensed independent practitioner (LIP) and the following requirements are met.

I. GENERAL REQUIREMENTS:

- A. Written policies and procedures are maintained by the employer, which include but are not limited to, medication classes the LPN can and cannot administer either by intravenous (IV), or subcutaneous (SubQ) routes.
- B. Individual facilities maintain initial and ongoing infusion therapy competency validation and required documentation.
- C. Basic infusion therapy training consists of limited, standard training received within the LPN core curriculum or from an organized course of instruction which meets the core curriculum standards.
- D. Advanced infusion therapy training consists of documentation of the completion and competency validation from an instructional program by a qualified Bachelor's prepared RN with two or more years of infusion therapy

experience and meets the requirements of the course of instruction criteria specific to each vascular access device (VAD).

II. COURSE OF INSTRUCTION:

A. Formal instruction for advanced infusion therapy includes, but is not limited to the following:

1. Anatomy and physiology of skin and vascular systems of the upper extremities
2. Patient site assessment and clinical indications for infusion therapy
3. Proper site and device selection.
4. Appropriate patient set-up and preparation of supplies
5. Infection prevention and safety
6. Insertion technique of short peripheral intravenous catheters
7. Flushing and locking techniques for all VADs
8. Principles of infusion therapy, including medication administration, care and maintenance and removal of all VADs as permitted (described in tables below)
9. Complications of infusion therapy
10. Nursing care responsibilities and documentation
11. Dosage calculations and nursing implications for selected intravenous fluids and medications
12. Phlebotomy via VADs

B. Formal instruction related to SubQ infusion therapy includes, but is not limited to the following:

1. Anatomy and physiology of appropriate insertion sites (generally SubQ access is placed in the abdomen, upper arm, or thigh of subcutaneous tissue)
2. Nursing responsibilities for patient site assessment, site preparation, needle/catheter selection, insertion of devices and site rotation, dressing, preparing/monitoring the infusion, assessing for complications, and patient education.
3. Complications management including potential adverse reactions (e.g inflammation of the site, occluded tubing, lack of absorption, fluid overload, extravasations, bacteremia/infection, and thrombosis)

III. DESCRIPTION OF VADS AND SCOPE OF LPNS WITH BASIC AND ADVANCED INFUSION THERAPY TRAINING.

A. The Infusion Nurses Society (INS) categorizes 3 types of peripheral intravenous catheters (PIVCs):

1. **Short peripheral intravenous catheter (short PIVC):** an over-the-needle catheter with a hollow metal stylet (needle) positioned inside the catheter, generally inserted in superficial veins.
2. **Long peripheral intravenous catheter (long PIVC):** inserted in either superficial or deep peripheral veins and offers an option when a short PIVC is not long enough to adequately cannulate the available vein. A long PIVC can be inserted via traditional over-the-needle technique or with more advanced procedures, such as Seldinger and accelerated Seldinger techniques.
3. **Midline catheter:** inserted into a peripheral vein of the upper arm via the basilica, cephalic, or brachial vein with the terminal tip located at the level of the axilla in children and adults; for neonates, in addition to arm veins, midline catheters may be inserted via a scalp vein with the distal tip located in the jugular vein above the

clavicle or in the lower extremity with the distal tip located below the inguinal crease.

B. INS defines central vascular access devices (CVADs) types as:

1. **Peripherally Inserted Central Catheter (PICC):** inserted through veins of the upper extremity or neck in adults and children; for infants, may be inserted through veins of the scalp or lower extremity; catheter tip is located in the superior or inferior vena cava, preferably at its junction with the right atrium, regardless of insertion site.
2. **Implanted Vascular Access Port:** a catheter inserted into a vein, attached to a reservoir located under the skin.
3. **Non-tunneled Central Vascular Access Device (CVAD):** a type of CVAD for short-term use that is inserted directly through the skin, usually via the axillary subclavian, internal jugular, or femoral vein.
4. **Tunneled, Cuffed Catheter:** a central vascular access device with a segment of the catheter lying in a subcutaneous tunnel with the presence of a cuff into which the subcutaneous tissue grows to offer security for the catheter, indicates that the skin exit site and vein entry site are separated by the subcutaneous tunnel.

<p>Skills Pertaining to all VADs within the scope of LPNs who have basic and advanced training</p>	<ul style="list-style-type: none"> ● Calculation of infusion rates for medicated and unmedicated solutions Regulation of unmedicated IV solutions (i.e. normal saline, D5W) ● Monitoring, inspection and reporting of complications of all vascular access sites ● Providing intake and output ● Observing patient responses and recognizing and reporting adverse reaction 	
<p>Vascular Access Device (VAD)</p>	<p>LPNs with basic IV training</p>	<p>LPNs with advanced training (Tasks listed under basic training, plus):</p>
<p>Short PIVCs</p>	<ul style="list-style-type: none"> ● Changing existing IV fluids (medicated and unmedicated) ● VAD site care ● Routine flushes or locking with saline or heparin per facility protocol ● Removal of catheters, excluding catheters placed in the external jugular vein 	<ul style="list-style-type: none"> ● Insertion of short PIVC ● Excludes the external jugular site. ● Administration of medications per facility and manufacturer guidelines ● Use of vein visualization technology to gain peripheral access with additional training and competency on file with the employer. ● Blood sampling from catheter
<p>Long PIVCs or midline catheters</p>	<ul style="list-style-type: none"> ● Changing existing IV fluids (medicated and unmedicated) ● VAD site care 	<ul style="list-style-type: none"> ● Routine flushes and locking with saline or heparin per facility protocol Administration of medications per facility and manufacturer guidelines Blood sampling

		<ul style="list-style-type: none"> from catheter ● Removal of long PIVCs and midline catheters
<p>Central Vascular Access Devices (CVAD), including peripherally inserted central catheters (PICC)</p> <p><i>Exclusion: temporary dialysis catheter</i></p>	<ul style="list-style-type: none"> ● Changing existing IV fluids ● (medicated and unmedicated) ● VAD site care ● Removal of a tunneled central VAD is NOT within the scope of the LPN 	<ul style="list-style-type: none"> ● Routine flushes and locking with saline or heparin per facility protocol Administration of medications per facility and manufacturer guidelines Blood sampling from catheter ● Removal of non-tunneled CVADs, such as PICC ● Removal of a tunneled central VAD is NOT within the scope of the LPN

Implanted Vascular Access Ports	<ul style="list-style-type: none"> ● Changing existing IV fluids ● (medicated and unmedicated) ● Access and de-accessing an ● implanted vascular access port is NOT within the scope of the LPN 	<ul style="list-style-type: none"> ● Routine flushes and locking with saline or heparin per facility protocol Administration of medications per facility and manufacturer guidelines ● Blood sampling from an accessed implanted port ● Access and de-accessing an ● implanted vascular access port is NOT within the scope of the LPN
Intraosseous (IO)	<ul style="list-style-type: none"> ● IO is NOT within the scope of the LPN 	<ul style="list-style-type: none"> ● IO is NOT within the scope of the LPN
SubQ	<ul style="list-style-type: none"> ● Changing existing IV fluids ● (medicated and unmedicated) ● Removal of catheters 	<ul style="list-style-type: none"> ● Insertion and site preparation/changes and dressings ● Administration of medications per facility and manufacturer guidelines

IV. SKILLS THAT ARE NOT CONSIDERED WITHIN THE SCOPE OF AN LPN

<p>Medication administration NOT within the scope of an LPN:</p>	<p>The LPN cannot administer:</p> <ul style="list-style-type: none"> ● Medications which require close RN monitoring, assessment, or interpretation of data, or titration. ● Intralipids ● Blood, blood products, or plasma expanders, immunoglobulins, or auto transfusion ● Antineoplastic drugs ● Investigative or research medications ● Direct IV push except flushes (heparinized or saline) ● IV Medications for moderate sedation/anesthesia or deep sedation ● IV contrast
<p>Other IV therapy actions</p>	<p>The LPN cannot initiate, program, administer solutions or medications via:</p> <ul style="list-style-type: none"> ● Implanted infusion pumps ● Intrathecal, epidural, umbilical, or ventricular reservoirs ● Arterial catheters ● An IO VAD <p>The LPN cannot repair or remove the following devices:</p> <ul style="list-style-type: none"> ● Implanted infusion pumps ● Intrathecal, epidural, umbilical, or ventricular reservoirs ● Arterial catheters ● An IO VAD <p>The LPN cannot:</p> <ul style="list-style-type: none"> ● Insert, repair or remove tunneled CVADs ● Insert long PIVCs, midline VAD, PICCs, or other non-tunneled CVADs ● Repair PICCs ● Insert or remove IO devices ● Access and de-accessing an implanted vascular access port ● May not administer patient-specific fluids or medications unless prepared by a pharmacist and prescribed by a LIP.

IV. RATIONALE:

LPNS with additional training and on delegation from an RN or LIP, can safely perform infusion therapy within their scope of practice.

V. REFERENCES

Arkansas State Board of Nursing. (n.d.). Position statement: Guidelines for teaching content related to IV therapy for Arkansas licensed practical nurses and licensed practical nursing student Retrieved from

<https://www.arsbn.org/Websites/arsbn/images/guidelinesivtherapy3.pdf>

Barreto Annes, L.M., Andrade, R.G.A, Pontes, I.E., Sena, G.S. deOrange, F.A. (2020). Subcutaneous versus intravenous rehydration in hospitalized older adults. *Journal of Infusion Nursing*, 43 (5), 283-291. Doi: 10.1097/NAN.0000000000000388

Broadhurst, D., Cooke, M., Siriam, D., & Gray, B. (2020). Subcutaneous hydration and medication infusion (effectiveness, safety, acceptability): A systematic review of systemic reviews. *PLOS ONE* 15 (8), e02327572.

<https://doi.org/10.1371/journal.pone.0237572>

Colorado Board of Nursing. (2018). IV certification by endorsement for licensed practical nurse (LPN) or licensed vocational nurse (LVN). Policy 30-01. Retrieved from

<https://drive.google.com/file/d/0BzKoVwvexVATQ19rMzhOMURrRmc/view>

Dickman, A., Bickerstaff, M., Jackson, R., Schneider, J., Mason, S., & Ellershaw, J. (2017). Identification of drug combinations administered by continuous subcutaneous infusion that require analysis for compatibility and stability. *BMC Palliative Care*, 16, 22. <http://doi.org/10.1186/s12904-017-0195-y>

Gorski, L.A., Hadaway, L., Hagle, M.E., et al. (2021) Infusion therapy standards practice. *Journal of Infusion Nursing*.44 (suppl 1): S1-S224.

Kansas Office of Revisor of Statutes. (n.d.). Intravenous fluid therapy; qualifications of licensed practical nurses to administer; definitions, rules and regulations; advisory committee established; prohibitions; exceptions. §65-1136. Retrieved from

Retrieved from

https://www.ksrevisor.org/statutes/chapters/ch65/065_011_0036.html

Kentucky Board of Nursing. (2018). Licensed practical nursing scope of practice in Kentucky. Retrieved from

<https://kbn.ky.gov/practice/Documents/Licensed%20Practical%20Nursing%20Brochure.pdf>

Maine State Board of Nursing. (2017). Practice questions related to licensed practical nurses: Subcutaneous morphine infusion.

Retrieved from https://www1.maine.gov/boardofnursing/practice/lpn_questions.html#morphine

North Carolina Board of Nursing. (2013). Position statement: Infusion therapy/access procedures. Retrieved from

<https://www.ncbon.com/myfiles/downloads/position-statements-decision-trees/infusion-therapy.pdf>

North Dakota Board of Nursing. (2012). Role of LPN in IV therapy. Retrieved from:
<https://www.ndbon.org/Practice/Policies-Procedures-Guidelins/LPNRole-IVTherapy.asp>

Texas Board of Nursing. (2020). LVNs engaging in intravenous therapy, venipuncture, or peripherally inserted central catheter (PICC) lines Retrieved from:
https://www.bon.texas.gov/pdfs/practice_dept_pdfs/position_statements_pdfs/BON%20Position%20Statements%202020%20Final.pdf.