

X: Infusion Therapy

Major Competency Area: **X**
Infusion Therapy

Competency: **X-1**
Principles of Infusion Therapy

Date: January 16, 2017

A Licensed Practical Nurse will:

- X-1-1 Demonstrate knowledge and ability to apply critical thinking and critical inquiry throughout the nursing process related to infusion therapy.**
- X-1-2 Demonstrate knowledge of principles of infusion therapy related to:**
- circulatory system
 - arterial
 - venous
 - blood and blood products
 - chemotherapy (assistive role only – LPN’s will not administer IV chemotherapy)
 - fluid and electrolyte maintenance, restoration and replacement
 - infection prevention and control
 - medications and nutritional feedings
- X-1-3 Demonstrate knowledge of peripheral lines, central lines, implanted ports, spinals, epidurals and patient controlled analgesia pumps.**
- X-1-4 Demonstrate knowledge and ability to provide health teaching and coaching related to infusion therapy.**
- X-1-5 Demonstrate knowledge and ability to communicate and collaborate with inter-professional team.**

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Competency: **X-2**
Peripheral Intravenous Therapy

Date: January 16, 2017

A Licensed Practical Nurse will:

X-2-1 Demonstrate knowledge and ability to perform peripheral infusion therapy:

- initiate, monitor, regulate, lock, discontinue
 - assemble and prime lines
 - calculate infusion rates
 - client safety
 - evaluation of treatment
 - infusion equipment
 - administration of fluids and medications

X-2-2 Demonstrate knowledge and ability to maintain patient controlled analgesia pump (PCA pumps).

- monitor
- regulate, lock, discontinue

X-2-3 Demonstrate knowledge and ability to manage complications of peripheral intravenous therapy including:

- abnormal lab values
- air emboli
- allergic reactions
- dehydration/hypervolemia
- equipment/line problems
- fluid/medication error
- infection
- infiltration
- phlebitis/thrombophlebitis

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Competency: **X-3**
Hypodermoclysis (HDC)

Date: January 16, 2017

A Licensed Practical Nurse will:

X-3-1 Demonstrate knowledge and ability to manage hypodermoclysis:

- initiate, monitor, regulate, lock, discontinue
 - assemble and prime lines
 - calculate infusion rates
 - client safety
 - evaluation of treatment
 - infusion equipment/pumps
 - administration of fluids and medications

X-3-2 Demonstrate knowledge and ability to manage complications of hypodermoclysis including:

- allergic reactions
- edema
- equipment/line problems
- fluid/medication error
- hypervolemia
- infection
- localized pain
- pooling of fluid at site

Major Competency Area: **X**
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Competency: **X-4**

Central Venous Catheter Care

Date: January 16, 2017

View Practice Guideline: [Central Venous Catheters/ Central Lines/ Infusion Therapy](#) for more information.

A Licensed Practical Nurse will:

X-4-1 Demonstrate knowledge of (CVC) central lines and specific application:

- implanted vascular access device (IVAD)
- non-valved or open ended
- midline catheter (not a CVC)
- percutaneous
- peripherally inserted central catheter (PICC)
- tunneled
- valved or closed ended

X-4-2 Demonstrate knowledge of risks associated with central lines including:

- abnormal heart rhythm
- blockage
- brachial plexus injury
- embolus or thrombus
- faulty or fractured device
- hemorrhage/hematoma
- incorrect placement
- infection/sepsis

A Licensed Practical Nurse will:

X-4-3 Demonstrate knowledge and ability to manage risks associated with removal of non-tunneled peripherally inserted central venous catheters (PICC) including:

- abnormal heart rhythm
- embolus or thrombus
- brachial plexus injury
- faulty or fractured device
- hemorrhage/hematoma
- infection/sepsis

X-4-4 Demonstrate knowledge and ability to monitor and manage central venous catheters according to agency policy including:

- dressing changes
- cap/tubing change
- flush and lock
- maintain central venous pressure
- administration of fluids
- administration of medications (continuous, intermittent, IV push-direct)
- occlusion issues
- patient controlled analgesia pump (PCA pump)
- withdraw blood

X-4-5 Demonstrate knowledge and ability to remove non-tunneled peripherally inserted central venous catheters (PICC) according to agency policy.

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Competency: **X-5**
Blood and Blood Products

Date: January 16, 2017

View the Sask Blood Transfusion Competency Manual [here](#) for more information

A Licensed Practical Nurse will:

- X-5-1 Demonstrate knowledge of circulatory system and components of blood and blood products.**
- X-5-2 Demonstrate knowledge of normal/abnormal lab values pertaining to blood transfusion.**
- X-5-3 Demonstrate knowledge of types of transfusions according to composition and indications for use including:**
- albumin
 - cryoprecipitate
 - Factor 8 (anti-hemophilic factor-AHF)
 - fresh frozen plasma
 - immunoglobulin
 - packed red blood cells
 - packed white blood cells
 - plasma expanders
 - platelets
 - whole blood
- X-5-4 Demonstrate knowledge of blood typing and cross-matching of blood.**
- X-5-5 Demonstrate knowledge and ability to obtain informed consent understanding and respecting:**
- ethical and religious beliefs
 - legal right to refuse
- X-5-6 Demonstrate knowledge and ability to prepare for blood administration according to agency policy including:**
- set up and prime infusion
 - obtain blood or blood products
 - check blood or blood products with authorized professional

Competency: **X-5**

Blood and Blood Products

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A Licensed Practical Nurse will:

- X-5-7 Demonstrate knowledge and ability to monitor, administer, regulate and discontinue blood or blood products.**
- X-5-8 Demonstrate knowledge and ability to identify a reaction to blood or blood products according to agency policy including:**
- anaphylaxis
 - abdominal status (pain, nausea)
 - abnormal bleeding
 - abnormal breath sounds (cough, dyspnea, wheezing)
 - chest flank or back pain
 - circulatory overload
 - elevated blood pressure
 - embolus
 - increased temperature
 - mental state (anxious, drowsy, calm)
 - sepsis
 - skin color and appearance (urticaria, jaundice)
 - urine output and color
- X-5-9 Demonstrate knowledge and ability to manage a reaction to blood or blood products according to agency policy.**

Major Competency Area: **X**
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Competency: **X-6**
Epidural and Spinal Infusions

Date: January 16, 2017

A Licensed Practical Nurse will:

X-6-1 Demonstrate knowledge of epidural infusions including:

- calculate infusion rates
- client safety
- infusion equipment/pumps
- neurological assessment and client monitoring
- administration of fluids and medications
- pain management
- indications and complications

X-6-2 Demonstrate knowledge and ability to recognize and report complications of epidural and spinal infusion therapy including:

- abnormal lab values
- allergic reactions
- fluid/medication error
- equipment/line problems
- hemorrhage
- infection
- infiltration
- post epidural cerebrospinal fluid leak/headache

X-6-3 Demonstrate knowledge and ability to manage client care post epidural or spinal regional anesthesia/pain block.

X-6-4 Demonstrate knowledge and ability to maintain epidural infusions.

Note: LPNs are not authorized to initiate or remove epidural and spinal catheters.

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Competency: **X-7**
Parenteral Nutrition

Date: January 16, 2017

A Licensed Practical Nurse will:

X-7-1 Demonstrate knowledge of parenteral nutrition according to:

- composition:
 - dextrose
 - amino acids
 - protein
 - minerals
 - fats
 - vitamins
 - trace elements
- indications for use:
 - absorption impairment
 - inability to tolerate enteral feeding
 - gastro-intestinal tract blockage
 - nutritional impairments

X-7-2 Demonstrate knowledge and ability to administer, monitor, maintain and discontinue parenteral nutrition.

X-7-3 Demonstrate knowledge and ability to manage side effects associated with parenteral nutrition.

X-7-4 Demonstrate knowledge and ability to recognize and report complications associated with parenteral nutrition including:

- convulsion or seizure
- hepatic dysfunction (fatty liver disease, jaundice, hepatomegaly, cholelithiasis)
- metabolic imbalance (hyper/hypoglycemia, hyper/hypokalemia, hyper/hypocalcemia)
- nutritional imbalance
- poor night vision