

LPN Full Scope Surgical Study Package

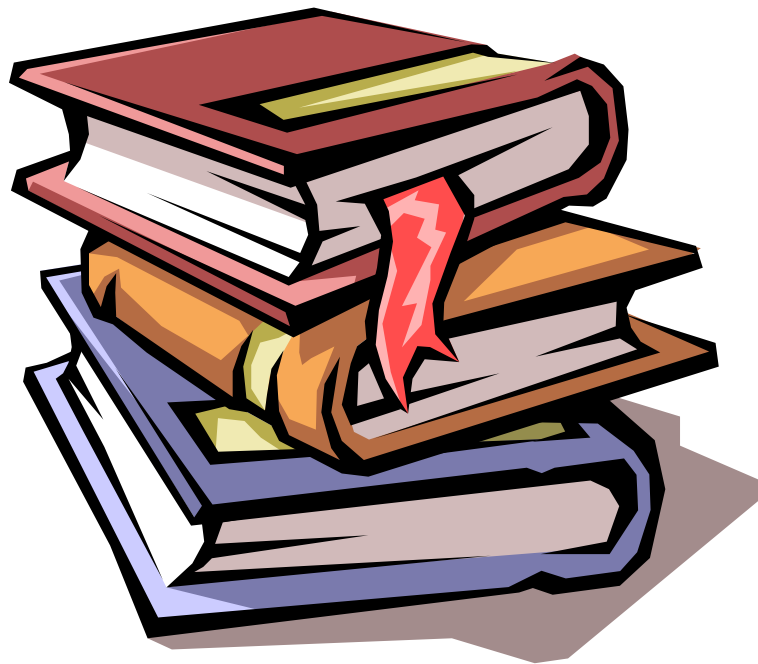


Table of Contents

GENERAL OVERVIEW 4

MEDICATION POLICY 7

SCOPE POLICY 8

FREQUENTLY ASKED QUESTIONS 11

ASSIGNMENT CONSIDERATIONS 13

IV THERAPY GUIDELINES 15

MEDICATION ADMINISTRATION 16

NARCOTICS AND CONTROLLED DRUGS 21

EPIDURALS 23

PCAs 24

INR AND COUMADIN ADMINISTRATION 25

LAB RESULT INTERPRETATION 26

PATIENT DISCHARGE/TRANSFER 38

QUIZZES 42

 IV Therapy Quiz 43

 General Medication Administration Quiz 49

 Coumadin Administration Quiz 53

 Home Medications Quiz 54

ORIENTATION FOR LPNs MOVING TO FULL SCOPE ON SURGICAL UNITS AT NRGH

This orientation will provide a review of the following:

1. IV therapy
2. Narcotic Count
3. Stock Medications
4. What to Do When Medications Not Available
5. Accessing Medications after Hours
6. Documentation
7. Acute Pain Management
8. Anticoagulation Therapy
9. Diabetic Therapy
10. Checking Patients Home Medications
11. Reporting of Errors
12. Patient Teaching

This information will be *covered using many formats:*

- ❖ Self study modules
- ❖ Quizzes
- ❖ Seek and find
- ❖ Scenarios/case study reviews
- ❖ Skills labs

It is the responsibility of the LPN to be aware of his/her own level of competency related to the above learning. The Coordinator and CNE are resources to be utilized when identifying learning needs and developing a plan to address them. When the learning is translated to the patient care area, care must be taken to determine, in collaboration with the RN, which patients you could safely have assigned to you.

General Overview

IV Therapy

Objective: LPN will demonstrate the competence with priming IV tubing, programming an IVAC pump, flushing a saline lock, removing air from IV tubing.

Learning Activities:

1. Participate in the IV lab and perform return demonstrations of these skills.

Narcotic Count

Objective: The LPN will correctly complete a narcotic count with an RN. The LPN will demonstrate knowledge of the correct action to take in the event of an incorrect count.

Learning Activities:

1. Read the "Narcotics And Controlled Drugs" Learning Sheet.
2. Complete a narcotic count with the CNE and have this signed off by your CNE.
3. Complete an order sheet for narcotics on the unit ordering days (supervised by your CNE).

Stock Medications

Objective: LPN will demonstrate knowledge of the following:

- a) What medications are stock and which are patient specific medications
- b) Where Stock Medications are located
- c) What to do to access medications that are missing/unavailable

Learning Activities:

1. Complete Medication Quiz.

Accessing Medications after Hours

Objective: LPN will be able to effectively utilize the night cupboard system to access appropriate medications for his/her patient in a timely manner.

Learning Activities:

1. Find the Night Cupboard Manual
2. Complete the Medication Quiz.

Documentation

Objective: LPN will document his/her assessment, medication administration, and medication effectiveness completely and accurately.

Learning Activities:

1. Review Case Scenario for medication documentation in the Medication Quiz

Acute Pain Management

Objective: LPN will demonstrate understanding of acute pain and will effectively use knowledge to treat pain using both pharmacological and non-pharmacological interventions

Learning Activities:

- 1 Review the Self-Study package on Epidurals, PCAs and perineural blocks.
- 2 Review the Power Point on acute pain management with the CNE.

Anticoagulation Therapy

Objective: LPN will demonstrate safe care of the patient receiving anticoagulation therapy

Learning Activities:

1. Complete Learning Session on Anticoagulation Therapy with CNE
2. Complete the Medication Quiz

Articles available for review:

- I. Breen, P. (2000). DVT What every nurse should know. RN. Vol. 63. No. 4. pp. 58-62.
- II. Malacaria, B. & Feloney, C.D. (2003). Going with the flow of anticoagulant therapy. Nursing 2003. Vol. 33. No. 3. pp. 36-44.

Diabetic Therapy

Objective: LPN will demonstrate safe care of the diabetic patient, including blood glucose monitoring, testing, and administration of medication (oral and injectable).

Learning Activities:

1. Review Power Point Presentation with CNE on "Diabetes"

2. Complete "Treatment of Hypoglycemia and Blood Glucose Monitoring" self-study (package if not already done) and sign it off in the in-services book.

Home Medications

Objective: LPN will effectively use all available methods of information gathering to determine the patient's current medication usage and act on information to ensure ongoing safe care through the notification of physician for orders, proper storage of patient medications, and patient teaching, as required.

Learning Activities:

1. Complete the Medication Quiz .

Reporting of Errors

Objective: LPN will demonstrate knowledge of organizational reporting structure for medication errors by: reporting as warranted, using the correct form, and completing the form with accuracy and thoroughness.

Learning Activities:

1. Locate the Form on the Unit

Patient Teaching

Objective: LPN will demonstrate knowledge of patient teaching resources and indications for teaching opportunities of the post surgical orthopaedic patient.

Learning Activities:

1. Locate Patient Teaching resources on the Unit
2. Locate Printed Materials Available
3. Review with CNE one teaching opportunity that presented itself and:
 - a) What you taught,
 - b) Resources you used,
 - c) Where you documented your teaching,
 - d) And how effective you felt your teaching was.

**VANCOUVER ISLAND HEALTH AUTHORITY (SOUTH ISLAND)
MEDICATION POLICY & PROCEDURE**

SECTION:	RULES GOVERNING ADMINISTRATION OF MEDICATIONS	NUMBER:	D.02
TITLE:	Personnel Authorized to Administer Medications	PAGE:	1 of 2
APPROVED BY:	Medical Advisory Committee (via P&T Committee)	ORIGINAL DATE OF POLICY:	Jun 85
		REVISED DATE:	Dec 03

POLICY

1. Health Care Professionals may administer any medication approved for use in the hospital and will do so in accordance with their Scope of Practice and/or any legislated acts which must include the following:
 - a. Knowledge of medication. (E.g. Indications for use, dose, administration guidelines, potential adverse reactions.)
 - b. Ability to undertake the appropriate monitoring specific to the medication
 - c. Documentation of administration of medication in the health record.
2. Any Health Care Professional administering medications must adhere to all policies and procedures set out in the Medication Manual and the IV Therapy Manual.
 - Patients may self-administer medications as outlined in the policy D.13 Patient Self Administration.



12.0 Interdisciplinary Practice and Clinical Standards

12.2 Nursing

12.2.1 Scope of Practice

1.0 Policy

Nurses' work collaboratively to support nurses to practice within the legally recognized scope of practice of their profession. The provision of safe, competent, ethical and appropriate nursing care is met by matching the competencies of the nurses providing care with the nursing needs required by patients/residents/clients.

2.0 Principles

- 2.1 Nurses (in all regulated categories) require and provide leadership and supportive practice environments to enable full scope of practice across the VIHA.
- 2.2 The Philosophy of Care provides guidance for nursing practice. This includes an emphasis on client/patient/resident-centred care.
- 2.3 Nurses provide care independently for those patients whose needs for nursing care are within their scope of practice.
- 2.4 All nurses are accountable and responsible for their own practice, for assessing change in the client's condition requiring care beyond their own ability to intervene or their scope of practice, and for initiating consultation with other health care team members to determine the appropriate course of action.
- 2.5 If a client's/patient's/resident's condition requires nursing beyond the nurses' competencies, the client/patient/resident is either cared for by another nurse or cared for in partnership with another nurse who has the competencies required. When caring occurs in a partnership, the nurses determine together how care is to be provided and the responsibilities of each, while practicing within the VIHA Philosophy of Care.

Issuing Authority: Regional Nurses Practice Council
Chief Nursing Officer

Date Issued: March 2003

Date Last Reviewed(r); Revised(R): September 26, 2005 (r); November 1, 2005 (r)

LPN Full Scope

Policy Relationships: Clinical
Interdisciplinary Practice and Clinical Standards: Nursing
Effective Date: September 26, 2005

Section Number: 12.0
Sub-section Number: 12.2
Policy Number: 12.2.1

- 2.6 If a client's/patient's/resident's condition under the care of an Nurse Practitioner (NP) requires care beyond the scope of practice of an NP, or that NP's competencies, a consultation or referral is made to a physician or other appropriate health professional by the NP.
- 2.7 All nurses are accountable for communicating, consulting and collaborating with other members of the health care team regarding activities of care planning, implementation and evaluation for their patients/residents/clients.
- 2.8 It is the responsibility of all nurses to understand and apply their standards of nursing practice.

3.0 Definitions

Nurse – includes LPNs, RNs, RPNs, UGNs and NPs

LPN – Licensed Practical Nurse who holds current licensure from the College of Licensed Practical Nurses of British Columbia (CLPNBC)

RN – Registered Nurse who holds current registration from the College of Registered Nurses of British Columbia (CRNBC)

RPN- Registered Psychiatric Nurse who holds current registration from the College of Registered Psychiatric Nurses of British Columbia (CRPNBC)

UGN- An Undergraduate Nurse is a person engaged in the practice of nursing for the purpose of working as a nursing student in a health care facility during or between terms of the Nursing Education Program, in accordance with the Nurses (Registered) Act Rules and CRNBC Registration Program Policies.

NP - A Nurse Practitioner is a Registered Nurse who has achieved additional competencies required for registration as a Nurse Practitioner with the College of Registered Nurses of British Columbia. Their scope of practice includes providing health care services from a holistic nursing perspective combined with a focus on diagnosing and treating acute and chronic illnesses, including prescribing medications.

Scope of practice of a profession – The activities that nurses are educated and authorized to perform established through government legislation and complemented by standards, limits and conditions set by the regulatory body.

Issuing Authority: Regional Nurses Practice Council
Chief Nursing Officer

Date Issued: March 2003

Date Last Reviewed(r); Revised(R): September 26, 2005 (r); November 1, 2005 (r)

LPN Full Scope

Policy Relationships: Clinical
Interdisciplinary Practice and Clinical Standards: Nursing
Effective Date: September 26, 2005

Section Number: 12.0
Sub-section Number: 12.2
Policy Number: 12.2.1

Function - A function is a client care intervention. Performing a function includes assessing when to perform the function, planning and implementing the care, and evaluating and managing the outcomes of care.

Competencies of an individual nurse – the current state of practice of the nurse in his/her profession. This is dependent on education, experience and continuing professional development as well as self-assessed competency.

Competency – the integration of knowledge, skills, attitudes and judgment required to deliver safe care within one's context of practice according to the standards, limits, and conditions established by the professional regulatory body

Issuing Authority: Regional Nurses Practice Council Page
Chief Nursing Officer

Date Issued: March 2003

Date Last Reviewed(r); Revised(R): September 26, 2005 (r); November 1, 2005 (r)

LPN Full Scope

Frequently Asked Questions – Patient Care

1. Do RN's need to "supervise" the LPN's?

The answer is "no". LPN's are assigned patients that are appropriate to their scope of practice, therefore, LPN's work under their own scope of practice. However, we are still a team, the RN's act as a resource for the LPN's as they are expanding in their new skills and knowledge.. The dimensions of nursing should facilitate that if we have questions, we always seek the answers from an individual that has more knowledge than ourselves in that particular area. Consequently, RN's act as a support and resource for the LPN's.

2. How many patients can the LPN's safely assume?

The LPN's should be caring for stable medical patients... therefore; a patient load of 4 or 5 patients is an average assignment. We try not to exceed that number. **If there are more LPN patients than RN patients**, it does not mean the RN's will carry 2 patients while the LPN's carry 8.... What it does mean is that the workload is distributed equally amongst all nursing dimensions ensuring that LPN patients do not exceed their scope of practice.

3. What does the typical morning routine look like?

Every collaborative dyad (**RN and LPN**) is responsible for assuming the total care of their patients. That includes assessments including vitals, medications, treatments, blood glucose monitoring, and AM washes and toileting routines. **However, some patients require more than one nurse to perform these tasks.** Nursing colleagues should be negotiating assistance from their other team members. **We are still a team and should support each other accordingly!** However, RN's should not expect that LPN's will take care of their patients and then do all the personal care for the RN patients. **RN's will find this tactic will backfire when they have LPN's make themselves "Unavailable" to assist, if they do not see the RN making an honest effort to perform the patient care and toileting of their own patients.**

4. **Do LPN's know the medications they are giving out?**

The answer is yes... LPN's have taken a medication administration course from the College of LPN's. During their orientation, LPN's are reminded they should never administer any medication they know nothing about. Taking a few moments to quickly research an unfamiliar medication in the CPS is part of personal professional responsibility. Similarly, every RN should always research an unknown medication before giving it. It is up to each individual to maintain his or her professional responsibility. The Clinical Coordinators and the College that governs their practice subject those individual's who do not, to disciplinary action.

5. **"This just seems like more work to me..."**

While this is not "more" work, it is an increase in responsibility. The amount of work will be roughly the same, simply reorganized. Any new project has its learning curve! In order to fully evaluate the effectiveness of any program, you must go through a trial and error period of at least six months. We encourage the feedback of both RN's and LPN's along with all other multidisciplinary team members that will be affected by the changes. An honest effort must be given by all participants... otherwise, don't complain! If any team member wishes to submit a complaint, you must also submit a solution!

6. **"Patient's won't be receiving the same level of care!"**

No they won't. Our experience is that patients often receive **BETTER CARE** with the staff mix of RN/LPN when each member is able to use all of their skills and knowledge. The keys are **COMMUNICATION** and **COLLABORATION!**

Assignment Considerations

1) LPN's looking after patients with IV's

- a. Obviously the patient who does not have an IV should be assigned first. However, if the patient is stable and predictable but requires IV antibiotics or K+, the RN will look after the IV aspect and the LPN could be assigned this patient.
- b. It is important to keep in mind that each patient is unique and these decisions need to be based on acuity, variability and complexity.
- c. If in doubt talk with the Clinical Coordinator (CC), CNE or amongst yourselves.

2) What if a patient is on ETOH protocol/withdrawal?

- a. This would not be an appropriate LPN patient.

3) What about coumadin / INR?

- a. If the patient is on daily INR's, an LPN can look after this patient, providing the patient is otherwise stable and predictable. S/he will need the RN to call the physician for a Coumadin order if the physician has not seen the INR result.
- b. If a patient is on OD (daily) or BID INR's and their coumadin dosage is stable than they would be appropriate for an LPN to care for.
- c. * If critical lab values come back on your patient you need to be asking why and whether the complexity or acuity of your patient has now changed enough that an RN needs to assume care.

4) What if a patient is palliative with pain issues?

- a. This patient is having complex issues around pain and pain management. An RN or the team would care them for.

5) Can LPN's give Enoxaparin and Heparin?

- a. Yes, LPN's can administer SQ injections.

6) Can LPN's transcribe orders? Or take phone orders/verbal orders?

- a. Not at this time. This will be coming in the future.

- b. We are encouraging all LPN's to initiate conversations and open communications with physicians and if an order is given to you, ask the physician to repeat the order to an RN.

7) Can an LPN be assigned a patient with an epidural or PCA?

- a. Yes, providing that the patient is in other respects stable and predictable. The LPN would be responsible for the entire pain assessment but would need the RN to change the narcotic bag, change the machine programming or discontinue/cap the catheter.
- b. A patient who is still on his/her hourly epidural checks would not be a suitable LPN alone assignment. By definition, this patient would be unpredictable. Once the 18 hours are over, if the patient is otherwise stable and predictable, care could be transferred to the LPN.

When considering what is meant by 'stable' here are 3 variables to consider:

1. **Acuity** - the degree of severity of a client's condition and/or situation
 - Is the patient stable?
 - Is the patient awaiting rehab, placement?
2. **Complexity** - the degree to which a client's condition and/or situation is characterized or influenced by a range of variables
 - Does the patient have multiple complex diagnoses?
 - Does the patient have impaired decision-making ability?
 - Does the patient have challenging family dynamics?
3. **Variability** - the degree to which a client's condition or situation changes or is likely to change
 - Are outcomes predictable?
 - Does the patient have potential for adverse outcomes?

The key is ongoing communication and collaboration throughout the shift about any changes in the patient's condition or concerns either the RN or LPN might have.

**IV Therapy for LPNS
Guidelines for Surgical Services**

DO's	DON'Ts
NON-MEDICATED ONLY if patient is within LPN Scope & Competency (consider acuity, complexity, variability, and potential for adverse outcomes)	MEDICATED ALL IV medications including premixed KCL
IV Maintenance <ul style="list-style-type: none"> • Site monitoring (peripheral and central lines) • Site care (peripheral only) 	ANY intervention on any central line (including: site care, flushing, capping, medication administration)
Infusion <ul style="list-style-type: none"> • Assess for appropriateness of solution • Assess the IV bag (integrity, colour, expiry) • Tubing Changes • Bag Changes • Rate Calculation/adjustment/regulation • Record the flow rate • Flush the line • May care for an infusion without medication (including KCL) that is flowing through a central line. 	
Discontinuation of peripheral IV (running or capped)	
Flush a Saline Lock	
Documentation of assessment and care	
IV Pump Set up and monitoring (once received inservice on IVAC pump)	
Supporting Blood Infusion Therapy	
DO's	DON'Ts
Check blood & blood products with RN at bedside . LPN can so-sign.	Hang blood
Monitor the infusion of blood & blood products (v/s, IV site, assessing for reaction)	Discontinue blood
Monitor and report client's vital signs	Manage a transfusion reaction
Ensure alternate RN aware and able to support, if primary RN on break(s)	

Medication Administration

LPN's are accountable for seven rights of medication administration:

- Right client
- Right time
- Right medication
- Right route
- Right dose
- Right reason
- Right documentation

Mixing Insulin:

- Clear - Regular
- Cloudy - NPH or 70/30
 - Gently roll between hands to mix
 - Always draw up clear first



To recall the order in which to insert air and withdraw insulin

Remember: "Cloudy-Clear-Clear-Cloudy"

- Remember that no matter whether the patient is on low, normal or high sliding scale at HS, the diabetic patients follow the HS Sliding Scale
- Insulin's are charted on the diabetic record under the Medication section in the patients chart
- **General Rule:** chart an insulin right after you have given it so that you do not forget and so the physician has an up-to-date record when doing rounds in the morning.
- **Insulins need to be double-checked with a co-worker prior to giving.**

Subcutaneous Injections:

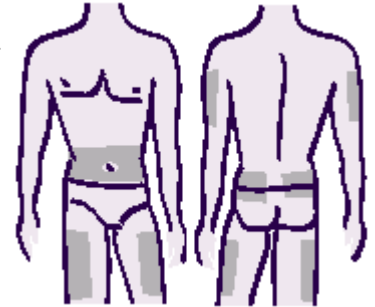
Do not aspirate for blood return when giving insulin or heparin subcutaneously. Aspiration is not necessary with insulin and may cause a hematoma with heparin.

Insulin Injections

Where to inject

- Insulin must be injected under the skin for it to work, but not directly into the blood.
- Insulin should be injected in the fatty part of the abdomen, upper arms, thighs or buttocks. The fastest and most consistent absorption is from the abdomen.
- Insulin is absorbed from different parts of your body at different rates and can also be affected by the amount of physical activity you are doing. Discuss a pattern for injections with your doctor or diabetes educator and mark them on the next page.

Insulin Injection Sites



Giving your insulin injection

- Choose the site for your injection.
- Clean the skin with an alcohol swab (if desired).
- Pinch up a large area of skin. Push the needle into the skin going straight in (90-degree angle). When using a very short needle, 5 mm in length, there is usually no need to pinch up the skin.
- Push the plunger all the way down. Release the pinched skin.
- Pull the needle out. If insulin leaks out of the skin after removing the needle, try waiting for five to ten seconds before removing the needle next time. Do not worry if a small drop of blood appears at the site.
- Dispose of the needle in a puncture-proof container.
- NOTE: If your patient is overweight you may find that the blood glucose levels rise when you use short needles.

Taken from the Canadian Diabetic Website:

http://www.diabetes.ca/section_main/welcome.asp

Vancouver Island Health Authority
Nanaimo Regional General Hospital

**SUBCUTANEOUS SLIDING SCALE
 INSULIN PROTOCOL**

Monitor Blood Sugar q _____
 If not indicated, start with "NORMAL"
 Scale.
 Insulin Type:

Novolin ge Toronto if not specified.
 NovoRapid/Humalog must not be the
 only insulin, an intermediate or long-
 acting insulin must also be used.

Please note, unless someone is receiving
 continuous nutrition such as TPN or tube feed,
 s/he will automatically get the HS scale at
 bedtime.

IF BLOOD SUGAR IS:	LOW SCALE AC	NORMAL SCALE AC	HIGH SCALE AC	ALL SCALES HS*
< 3.5	SWITCH TO LOWER SCALE [TO LEFT] UNTIL FURTHER ORDERS			
< 5.5	0	0	0	0
5.6 – 7	0	1	2	0
7.1 – 8.8	0	2	3	0
8.9 – 11	1	3	5	0
11.1 – 14	2	4	10	0
14.1 – 17	3	6	15	2
17.1 – 20	4	8	20	3
> 20	5	10	25	4
> 20	ON 2 CONSECUTIVE OCCASIONS, SWITCH TO HIGHER SCALE [TO RIGHT] UNTIL FURTHER ORDERS			

LPN Full Scope

If patient is receiving nutrition **continuously [e.g., TPN or enteral feedings] **do NOT follow the HS part of the scale.***

If you have to switch to a higher or lower scale, continue on that scale until otherwise ordered.

Enoxaparin/Heparin Administration:

- a. Position patient supine
- b. Select an area at least 2 inches to the right or left of the umbilicus
 - a. Avoid areas near the waistband
 - b. Rotate sites
 - c. Document site used
 - d. Lateral abdominal wall is recommended
- c. Change needles if using multi-dose vial
 - a. You may use a small air bubble in the syringe to ensure the enoxaparin does not track back through the skin as you withdraw the needle.
- d. Technique
 - a. Pinch skin
 - b. Inject 90 degrees gently
- e. Inject slowly
- f. Pull needle straight out
 - a. Release skin
 - b. DO NOT RUB injection site

Any injectable anticoagulants need to be double checked by your co-worker before giving.

Oral Hypoglycemic Agent's

- Oral hypoglycemic agents are charted on the diabetic record under the Medication section in the patients chart
- **General Rule:** chart Oral hypoglycemic agents right after you have given them so that you do not forget and so the physician has an up-to-date record when doing rounds in the morning.
- If you do not have time to chart the insulin or oral hypoglycemic agent right after giving, make a note of the insulin or oral hypoglycemic agent and dose and time on your work sheet and chart it ASAP.

Doctor's Orders

- Check for new orders throughout the morning - especially before doing a medication round
- If you have an new order, it needs to be checked by the RN first

- It would be helpful if you take the MAR and the chart to the RN who will be doing the checking.
- **Remember** that it is not the RN's responsibility to go looking for new orders on your patients.

Blood Work

- Check every shift your patient's blood work and report to the RN/physician any abnormal results or if you are unclear about any results
- Pay attention especially to K+ levels for those who are on diuretics

Dosage Calculations

$$\frac{\text{Desired Dose (Required Dose)}}{\text{Available Dose (Stock Dose)}} \times \frac{\text{Quantity (Stock Volume)}}{1} = \text{Volume to be given}$$

Example:

Patient's weight = 70 kg
Enoxaparin is given 1mg/kg

Therefore 70 x 1 mg = 70 mg. The Enoxaparin is available in 3ml vials. There is 300mg of Enoxaparin in that 3ml vial.

$$\frac{70 \text{ mg}}{300 \text{ mg}} \times \frac{3 \text{ ml}}{1 \text{ ml}} = \frac{210}{300} = 0.70$$

For another more extensive medication review test, please see the College of LPNs web site at:

- www.clpnbc.org
- Click on "what's new".
- Then click on "Pharmacology and Medication Administration Self-Assessment Process" (second from the bottom).

NARCOTICS AND CONTROLLED DRUGS

Please read through the following information

- ❖ Either during each shift or at the change of shift, **TWO** registered nurses will count the drugs to ensure an accurate balance. Under the LPN full scope of practice policy, this task may be completed by LPN staff.
- ❖ If an error in recording a number is made, cross out the incorrect number, write 'error', and initial. Write in the correct number as close a possible to where it should be. **DO NOT** overwrite any numbers.
- ❖ The nursing staff counting and the nursing staff member recording the count will both sign the Narcotic Drug Record. The count may be done in red pen.
- ❖ Oral liquid narcotics are allowed a 10% wastage. The count will be corrected upon completion of each bottle
- ❖ **INCORRECT COUNTS** - all efforts must be made to locate the error. If the error cannot be accounted for an incident report must be completed and given to the coordinator within 24hrs of discovering the error.
- ❖ All narcotic drugs, controlled drugs and other drugs requiring control must be stored in a **LOCKED** narcotic cupboard on the nursing unit.
- ❖ A minimal supply of these drugs may be stored on the cart.
- ❖ If a narcotic cupboard key is genuinely lost, the lock will be replaced as son as possible.
- ❖ Narcotics, controlled and stock drugs are delivered on Tuesday and Thursday (for both 3rd and 6th). The Narcotic and controlled drug requisition form is used to order narcotics between delivery dates. Fax the form to pharmacy (usually this is done on night for delivery the next day). If the narcotic is required immediately, once you fax the form, call pharmacy to ask when you can come to get it, then go to pharmacy to sign out the narcotic. Do not forget to take the narcotic book to sign the narcotic into it.

LPN Full Scope

- ❖ Drugs will be delivered to the unit by the pharmacy on our scheduled days (Tuesday and Thursday). Staff receiving the drugs will count the drugs received with the pharmacy staff, adding them to the count on the narcotic drug record; as well as signing for the drugs received on the pharmacy sheet.
- ❖ Narcotic and controlled drug records will be kept in the pharmacy department for a period of two years to enable audits by the Bureau of Dangerous Drugs.

Forms for ordering, recording or reporting narcotic and controlled drug information are kept in the filing cabinet. The exception is the Narcotic Drug Record, which is ordered from pharmacy when a new one is to be initiated. If you are asking a Narcotic Drug Record, make sure you ask for the correct one (oral or injectable).

LPN RESPONSIBILITIES FOR PATIENTS WITH EPIDURAL AND PCA LINES

EPIDURALS

THE PATIENT

- Assist the RN with basic care delivery as delegated by the RN for unstable patients
- Check for and initiate the bedside supplies required for patients with epidurals
 - Oxygen prongs
 - Suction readily available on unit or set up at bedside if patient is unstable
- Assess IV access site for redness, swelling, comfort. Report any concerns to the RN (must have IV access until 5 or 18 hours after epidural infusion stopped)
- Check vital signs as per protocol
- Take temperature BID until epidural removed
- Report to RN if patient complains of
 - Headache
 - Difficulty breathing
 - Nausea or vomiting
 - Voiding difficulties
 - Altered LOC
 - Alteration in pain level
 - Back discomfort
 - Feeling of wetness on back
 - The inability to move legs where previously they could
 - Change in level of sensory deficit
- Keep the HOB elevated at 20-30 degrees at all times
- Record intake and output PRN
- Refer any patient concerns re: epidural to the RN for resolution

THE EPIDURAL LINE

- Assess that the dressing is intact. If not, report to RN
- Ensure that the blue/black epidural catheter/infusion line connector is taped to the skin
- Report to the RN when any disconnects are discovered. Place sterile gauze or cap over exposed end of line and stay with the patient.

PCAs

THE PATIENT

- Assess IV site for comfort and placement
- Assess vital signs and patient assessments (pain scale, sedation score, side effects, attempts vs injections) Q4H or as delegated by RN. Report any alterations to RN and document on PCA flow sheet and graphics record.
- Ensure the PCA is attached to the patient's gown in an easily accessible area.
- Zero out the shift total between 1800 - 1900hrs.

THE PUMP

- The RN is responsible for all programming of the PCA and responding to all PCA alarms. LPN may silence the alarm while alerting/awaiting RN.

Daily INR and Coumadin Administration

LPN On Day Shift:

1. In the AM when writing down the names of patients to check whether the patient is on daily INR's
 - If so: make a notation on worksheet
2. Check the lab work for the INR results
 - a. INR's are generally back by noon
 - b. If you are unable to find an INR result - check to see if a req has been sent and if it is marked "rec'd" in the computer
 - If not: send an INR req to the lab
 - Check for the INR result
3. Give the RN the INR result
 - a. Ask the RN to call the Doctor for the Coumadin order

LPN On Evening Shift:

1. In the afternoon when writing down the names of patients to check whether the patient is on daily INR's
 - a. If so: make a notation on worksheet
2. Check for returned INR result
3. Check Doctor's order for Coumadin order
 - a. Double check Doctor's order with the MAR
4. Give Coumadin at 1600
5. **Make sure you chart** the Coumadin given and INR result on the Anticoagulant record in the patient's chart under the Medication section.

Please be very cautious when giving Coumadin:

Before giving:

1. Check INR result
2. Check Doctor's order and for any changes in Coumadin order

After giving:

1. Make sure you chart the INR and Coumadin given on the Anticoagulant record in the patient's chart.

Interpreting Lab Results

Overview

Laboratory tests are tools helpful in evaluating the health status of an individual. It is important to realize that laboratory results may be outside of the so-called "normal range" for many reasons. These variations may be due to such things as race, dietetic preference, age, sex, menstrual cycle, and degree of physical activity, problems with collection and/or handling of the specimen, non-prescription drugs (aspirin, cold medications, vitamins, etc.), prescription drugs, alcohol intake and a number of non-illness-related factors. Any unusual or abnormal results should be discussed with the physician. While it is not possible to diagnose or treat any disease or problem with one blood test alone, it can help you to learn more about your patient's clinical picture and help detect potential problems in early stages when treatment or changes in personal habits can be most effective.

Our lab, like almost all labs, sets the normal result range for a particular test so that 95% of our healthy patients fall within the normal range. That means that 5% of our healthy patients fall outside of the normal range, even when there is nothing wrong with them. Thus, an abnormal test does not necessarily mean that there is something wrong.

Glucose: This is a measure of the sugar level in the blood. High values are associated with eating before the test and diabetes.

The normal range for a fasting glucose is 3.6 - 7.8 mm/mol. Sometimes a glucose tolerance test, which involves giving the person a sugary drink followed by several blood glucose tests, is necessary to properly sort out normal from impaired fasting glucose from diabetes. **Electrolytes:** These are your potassium, sodium, chloride, and CO₂ levels.

Potassium is controlled very carefully by the kidneys. It is important for the proper functioning of the nerves and muscles, particularly the heart. Any value outside the expected range, high or low, requires medical evaluation. This is especially important if the patient is taking a diuretic or heart pill (Digitalis, Lanoxin, etc.).

Sodium is also regulated by the kidneys and adrenal glands. There are numerous causes of high and low sodium levels, but the most common causes of low sodium are diuretic usage, diabetes drugs like chlorpropamide, and excessive water intake in patients with heart or liver disease.

CO₂ reflects the acid status of the blood. Low CO₂ levels can be due to either to increased acidity from uncontrolled diabetes, kidney disease, metabolic disorders, or low CO₂ can be due to chronic hyperventilation.

Waste products:

Blood Urea Nitrogen (BUN) is a waste product produced in the liver and excreted by the kidneys. High values may mean that the kidneys are not working as well as they should. BUN is also affected by high protein diets and/or strenuous exercise that can raise levels, and by pregnancy which lowers it.

Creatinine is a waste product largely from muscle breakdown. High values, especially with high BUN levels, may indicate problems with the kidneys (specifically breakdown of the kidney tissue itself).

Uric Acid is normally excreted in urine. High values are associated with gout, arthritis, kidney problems and the use of some diuretics.

Enzymes

AST, ALT, SGOT, SGPT and Alkaline Phosphatase are abbreviations for proteins called enzymes which help all the chemical activities within cells to take place. Injury to cells releases these enzymes into the blood. They are found in muscles, the liver and heart. Damage from alcohol and a number of diseases are reflected in high values.

Alkaline phosphatase is an enzyme found primarily in bones and the liver. Expected values are higher for those who are growing (children and pregnant women) or when damage to bones or liver has occurred or with gallstones. Low values are probably not significant.

AST/SGOT, ALT/ SGPT are also liver and muscle enzymes. They may be elevated from liver problems, hepatitis, excess alcohol ingestion, muscle injury and recent heart attack.

LDH is the enzyme present in all the cells in the body. Anything which damages cells, including blood drawing itself, will raise amounts in the blood. If blood is not processed promptly and properly, high levels may occur. If all values except LDH are within expected ranges, it is probably a processing error and does not require further evaluation.

Bilirubin: is a pigment removed from the blood by the liver. Low values are of no concern. If slightly elevated above the expected ranges, but with all other enzymes (LDH, GOT, GPT, GGT) within expected values, it is probably a condition known as Gilbert's syndrome and is not significant

CPK is an enzyme, which is very useful for diagnosing diseases of the heart and skeletal muscle. This enzyme is the first to be elevated after a heart attack (3 to 4 hours). If CPK is high in the absence of heart muscle injury, this is a strong indication of skeletal muscle disease.

Proteins

Albumin and **Globulin** measure the amount and type of protein in your blood. They are a general index of overall health and nutrition. Globulin is the "antibody" protein important for fighting disease. Albumin is a fluid volume expander that helps keep fluid in the vascular system and out of the cells.

Blood Fats

Cholesterol is a fat-like substance in the blood which, if elevated has been associated with heart disease.

Total Cholesterol: High cholesterol in the blood is a major risk factor for heart and blood vessel disease. Cholesterol in itself is not all bad; in fact, our bodies need a certain amount of this substance to function properly. However, when the level gets too high, vascular disease can result. Total cholesterol of less than 200 and LDL Cholesterol of 100 or less is considered optimal by the National Heart, Lung, and Blood Institute.

As the level of blood cholesterol increases, so does the possibility of plugging the arteries due to cholesterol plaque build-up. Such a disease process is called "hardening of the arteries" or atherosclerosis. When the arteries feeding the heart become plugged, a heart attack may occur. If the arteries that go to the brain are affected, the result is a stroke.

There are three major kinds of cholesterol, High Density Lipoprotein (HDL), Low Density Lipoprotein (LDL), and Very Low Density Lipoprotein (VLDL).

LDL Cholesterol is considered "bad cholesterol" because cholesterol deposits form in the arteries when LDL levels are high. An LDL level of less than 130 is

recommended, 100 is optimal, values greater than 160 are considered high. There are two ways to report LDL. The most common is simply an estimate calculated from the Total Cholesterol, HDL, and triglycerides results. This may say "LDL Calc". A directly measured LDL Cholesterol is usually more accurate but more expensive.

HDL Cholesterol is a 'good cholesterol' as it protects against heart disease by helping remove excess cholesterol deposited in the arteries. High levels seem to be associated with low incidence of coronary heart disease.

Triglyceride is fat in the blood which, if elevated, has been associated with heart disease, especially if over 500 mg. High triglycerides are also associated with pancreatitis. Triglyceride levels over 150 mg/dl may be associated with problems other than heart disease.

Minerals

Calcium is controlled in the blood by the parathyroid glands and the kidneys. Calcium is found mostly in bone and is important for proper blood clotting, nerve, and cell activity. Elevated calcium can be due to medications such as thiazide type diuretics, inherited disorders of calcium handling in the kidneys, or excess parathyroid gland activity or vitamin D. Low calcium can be due to certain metabolic disorders such as insufficient parathyroid hormone; or drugs like Fosamax or loop type diuretics. Calcium is bound to albumin in the blood, so a low albumin level will cause the total calcium level in the blood to drop.

Phosphorus is also largely stored in the bone. It is regulated by the kidneys, and high levels may be due to kidney disease. When low levels are seen with high calcium levels it suggests parathyroid disease, however, there are other causes. Low phosphorus, in combination with high calcium, may suggest an overactive parathyroid gland.

Thyroid

There are 2 types of thyroid hormones easily measurable in the blood, thyroxin (T4) and triiodothyronine (T3). For technical reasons, it is easier and less expensive to measure the T4 level, so T3 is usually not measured on screening tests.

Please be clear on which test you are looking at. There is a tremendous amount of confusion among doctors, nurses, lab techs, and patients on which test is

which. In particular, the "Total T3", "Free T3" and "T3 Uptake tests" are very confusing and are not the same test.

Thyroxin (T4). This shows the total amount of the T4. High levels may be due to hyperthyroidism; however technical artifact occurs when estrogen levels are higher from pregnancy, birth control pills or estrogen replacement therapy. A Free T4 (see below) can avoid this interference.

T3 Resin Uptake or Thyroid Uptake. This is a test that confuses doctors, nurses, and patients. First, this is not a thyroid test, but a test on the proteins that carry thyroid around in your blood stream. Not only that, a high test number may indicate a low level of the protein! The method of reporting varies from lab to lab. The proper use of the test is to compute the free thyroxin index.

Free Thyroxin Index (FTI or T7): A mathematical computation allows the lab to estimate the free thyroxin index from the T4 and T3 Uptake tests. The results tell us how much thyroid hormone is free in the blood stream to work on the body. Unlike the T4 alone, it is not affected by estrogen levels.

Free T4: This test directly measures the free T4 in the blood rather than estimating it like the FTI. It is a more reliable, but a little more expensive test. Some labs now do the Free T4 routinely rather than the Total T4.

Total T3: This is usually not ordered as a screening test, but rather when thyroid disease is being evaluated. T3 is the more potent and shorter lived version of thyroid hormone. Some people with high thyroid levels secrete more T3 than T4. In these (overactive) hyperthyroid cases the T4 can be normal, the T3 high, and the TSH low. The Total T3 reports the total amount of T3 in the bloodstream, including T3 bound to carrier proteins plus freely circulating T3.

Free T3: This test measures only the portion of thyroid hormone T3 that is "free", that is, not bound to carrier proteins.

Thyroid Stimulating Hormone (TSH): This protein hormone is secreted by the pituitary gland and regulates the thyroid gland. A high level suggests your thyroid is under active, and a low level suggests your thyroid is overactive.

Glycohemoglobin (Hemoglobin A1 or A1c, HbA1c) (One of Dr. Forrest's favorites): Glycohemoglobin measures the amount of glucose chemically attached to your red blood cells. Since blood cells live about 3 months, it tells us your average glucose for

the last 6 - 8 weeks. A high level suggests poor diabetes control. Standardization for glycohemoglobin from lab to lab is poor, and you cannot compare a test from different labs unless you can verify the technique for measuring glycohemoglobin is the same.

Hormones

Insulin: Insulin is secreted by the pancreas in response to eating or elevated blood sugar. It is deficient in persons with type 1 diabetes and present at insufficient levels in persons with type 2 diabetes. The natural evolution of type 2 diabetes causes insulin levels to fall from high levels to low levels over a course of years. Thus insulin levels in persons with type 1 and type 2 diabetes overlap significantly, and insulin levels are not very useful in determining type 1 vs type 2.

Complete Blood Count (CBC)

The **CBC** typically has several parameters that are created from an automated cell counter. These are the most relevant:

White Blood Count (WBC) is the number of white cells. High WBC can be a sign of infection. WBC is also increased in certain types of leukemia. Low white counts can be a sign of bone marrow diseases or an enlarged spleen.

Hemoglobin (Hgb) and Hematocrit (Hct): The hemoglobin is the amount of oxygen carrying protein contained within the red blood cells. The hematocrit is the percentage of the blood volume occupied by red blood cells. In most labs the Hgb is actually measured, while the Hct is computed using the RBC measurement and the MCV measurement. Thus purists prefer to use the Hgb measurement as more reliable. Low Hgb or Hct suggest an anemia. Anemia can be due to nutritional deficiencies, blood loss, destruction of blood cells internally, or failure to produce blood in the bone marrow. High Hgb can occur due to lung disease, living at high altitude, or excessive bone marrow production of blood cells.

Mean Corpuscular Volume (MCV) - This helps diagnose a cause of an anemia. Low values suggest iron deficiency; high values suggest either deficiencies of B12 or Folate, ineffective production in the bone marrow, or recent blood loss with replacement by newer (and larger) cells from the bone marrow.

Platelet Count (PLT): This is the number of cells that plug up holes in your blood vessels and prevent bleeding. High values can occur with bleeding, cigarette smoking

or excess production by the bone marrow. Low values can occur from destruction states such as Thrombocytopenia, acute blood loss, drug effects (such as heparin), infections with sepsis, entrapment of platelets in an enlarged spleen, or bone marrow failure from diseases such as myelofibrosis or leukemia.

Urinalysis

pH: This is a measure of acidity for your urine.

Specific Gravity (SG): This measures how dilute your urine is. Water would have a SG of 1.000. Most urine is around 1.010, but it can vary greatly depending on when you drank fluids last, or if you are dehydrated.

Glucose: Normally there is no glucose in urine. A positive glucose occurs in diabetes. There are a small number of people that have glucose in their urine with normal blood glucose levels; however any glucose in the urine would raise the possibility of diabetes or glucose intolerance.

Protein: Normally there is no protein detectable on a urinalysis strip. Protein can indicate kidney damage, blood in the urine, or an infection. Up to 10% of children can have protein in their urine.

Blood: Normally there is no blood in the urine. Blood can indicate an infection, kidney stones, trauma, menstruation or bleeding from a bladder or kidney tumor.

Bilirubin: Normally there is no bilirubin or urobilinogen in the urine. These are pigments that are cleared by the liver. In liver or gallbladder disease they may appear in the urine as well.

Nitrate: Normally negative, this usually indicates a urinary tract infection.

Leukocyte esterase: Normally negative. Leukocytes are the white blood cells (or pus cells). White blood cells in the urine suggest a urinary tract infection.

Sediment: Once the urine has been spun in a centrifuge, items such as mucous and squamous cells are commonly seen. Abnormal findings would include more than 0-2 red blood cells, more than 0-2 white blood cells, crystals, casts, renal tubular cells or bacteria. (Bacteria can be present if there was contamination at the time of collection.)

Interpreting the INR:

- A person not on warfarin (= coumadin®) has a value around 1.0 (usually between 0.9 - 1.1). This is a "normal INR".
- Once a patient is on coumadin, the INR increases. The higher the INR, the longer the blood takes to clot. Patients with DVT or PE are often kept at a "therapeutic INR range" of 2.0 - 3.0. If the INR is above 3.0 in that patient, the blood is too anticoagulated and there is danger of bleeding. If the INR is below 2.0, the blood is not anticoagulated enough and there is a risk of a(nother) clot.
- If a patient has had a second clot in spite of a therapeutic INR, the physician may increase the target INR range to 2.5 - 3.5 or even to 3.0 - 3.5. If one gets above 3.5, there is usually no increased benefit regarding the protection from blood clots, but the risk of bleeding increases significantly.

What to do With All This

The main thing with interpreting blood test results is to not necessarily look at a single, isolated lab value. A Hbg of 84 does not tell you much other than the patient is anemic at that particular moment in time. What is more important is the **trend** in that value. If the patient's Hbg had been 78 and he received two units of blood, this may be an expected value and one that the physician is happy with given the patient's clinical picture. If, on the other hand, the patient's previous value was 99 and they have a liver condition or are on Coumadin, this could signal bleeding and is something that should be brought to the physician's attention.

There are, of course, those lab values that must be attended to in isolation. For example, a high potassium, even if it is an isolated value, must be brought to the physician's attention quickly because of the cardiac implications. By and large, however, those values that are just over the high/low limits need to be seen by the physician, but are not immediately concerning.

The bottom line is that the patient's clinical picture, underlying co-morbidities and usual norms must be considered. If a patient always runs with a higher than normal CO₂ because of COPD, the health care team is never going to get that lab result into a normal range. Use your critical thinking to decide if the lab result is one you should move on quickly and consult others, particularly the RN with whom you are working or the CNE, if you are just not sure if the value is one that should be of concern.

CX3 Chemistry

Test		Definition	Normal Values
Glucose		Measures sugar level in the blood	3.6 - 7.8 mmol/L
Electrolytes		Play a crucial role in the operation of cells and the electrical activity of the heart	
	Sodium	Regulated by the kidneys and adrenal glands	135 - 145 mmol/L
	Potassium	Controlled by the kidneys, essential for the heart and kidney function	3.5 - 5.1 mmol/L
	Chloride	Measures the amount of chloride in serum (serum is the fluid portion of the blood). Chloride (Cl ⁻) is the major negative ion in the fluid outside the body's cells. Its main function is to maintain electrical neutrality, mostly as a counter-ion to sodium. Changes in the chloride level often accompany sodium losses and excesses.	95 - 107 mmol/L
	Bicarbonate	Measures the amount of carbon dioxide (CO ₂) in serum (the liquid portion of the blood). The CO ₂ levels in the blood influenced by kidney and respiratory (lung) function.	23 - 31 mmol/L
Kidney Function			
	Urea (BUN)	Waste product produced in the liver and excreted by the kidneys.	2.0 - 8.0 mmol/L
	Creatinine	Waste product largely from muscle breakdown	60 - 110 umol/L
	eGFR	(Glomerular filtration rate) Measures how many mls the kidney can filter in a minute. Tells you how well the kidney is working.	>59 ml/min
Phosphorus		Largely stored in the bone and regulated by the kidneys	
Calcium		Calcium controlled in the blood by the parathyroid glands and the kidneys.	2.12 - 2.62 mmol/L

LPN Full Scope

		Calcium found mostly in bone. It is important for proper blood clotting, nerve, and cell activity.	
Anion Gap		The Anion Gap is an approximate measurement of ions that is molecules with a charge, either negative or positive.	7 - 14 mmol/L
Liver Function Tests			
	Total Bilirubin	Pigment removed from the blood by the liver	0 -22 umol/L
	AST (SGOT)	Enzymes produced by the liver	10 - 40 U/L
	Alk Phosphatase	Enzyme found primarily in bones and the liver	40 - 125 U/L
	Gamma GT	Measures the amount of the enzyme GGT in the blood This test used to detect diseases of the liver, bile ducts, and kidney; and to differentiate liver or bile duct (hepatobiliary) disorders from bone disease.	10 - 50 U/L
	ALT (SGPT)	Enzymes produced by the liver	10 - 40 U/L
Albumin		One of the major types of protein made by the liver and its level in the blood reflects both dietary intake of protein and the liver's ability to make proteins	

CBC Profile

Test	Definition	Normal Values
WBC	Measures the amount of white blood cells. These immune cells form in the bone marrow to help fight infection. High levels may indicate infection. Low levels may result from treatment or disease.	4.2 - 10.8 $10^9/L$
RBC	Measures the number of red blood cells	4.30 - 5.50

LPN Full Scope

		10 ¹² /L
Hemoglobin (Hgb)	Amount of oxygen carrying protein contained within the red blood cells.	135 - 170 G/L
Hematocrit (Hct)	Percentage of the blood volume occupied by red blood cells	0.400 - 0.490 L/L
MCV (mean corpuscular volume)	Helps diagnose a cause of an anemia. Average red blood cell size	83.0 - 97.5 fL
MCH (mean corpuscular hemoglobin)	Hemoglobin amount per red blood cell MCH = Hgb/RBC	27.2 - 33.4 pg
MCHC (mean corpuscular hemoglobin concentration)	Hemoglobin concentration (hemoglobin amount relative to the size of the cell) per red blood cell MCHC = Hgb/Hct	322 - 362 g/L
RDW (Red blood cell distribution width)	Measures the range of sizes of red blood cells in a blood sample. The RDW results often used together with MCV results to determine possible cause of anemia when indicated by other test results.	12.1 - 14.5 %
Platelets	Number of cells that plug up holes in the blood vessels and prevent bleeding. Platelets are cells produced by the bone marrow to help your blood clot in order to stop bleeding from injury	160 - 390 10 ⁹ /L
MPV (Mean Platelet Volume)	Measures the average volume (size) of your platelets. Higher-than-normal MPV is associated with an increased risk of heart attacks and stroke.	8.9 - 12.6 fL
Differential	Differential measures the relative numbers of white blood cells (WBC's) in the blood. It also includes information about abnormal cell structure and the presence of immature cells.	
	Lymphocyte	Synthesize and secrete antibodies. 1.0 - 4.0 10 ⁹ /L
	Monocyte	Monocytes are a type of phagocyte. These mature into macrophages, important germ eating cells. A low

LPN Full Scope

		number can put you at a higher risk of getting sick from an infection, particularly those caused by bacteria.	
	Neutrophil	Neutrophils attracted to sites of injury and infection. Percentage often increased during a bacterial infection. A low number (neutropenia) increases risk of bacterial infection. Multiplying the percentage of neutrophils by the total number of white blood cells will give the "absolute" number of these types of cells.	2.0 - 6.0 $10^9/L$
	Eosinophil	Eosinophil is a type of phagocyte that produces the anti-inflammatory protein histamine. A high number indicates allergies or parasitic infections.	0.0 - 0.5 $10^9/L$
	Basophil	Basophils stimulated by allergens. Control inflammation and damage of tissues in the body.	0.0. - 0.1 $10^9/L$

Blood Gases

Blood gases measure the pH (acidity), oxygen content, and carbon dioxide content of the blood. Usually, blood gases used to analyze the arterial blood. In rare cases, venous blood may be used.

Test	Definition	Normal Values
pH	Blood Gases measures the dissolved gases in your bloodstream. This provides one of the best measurements of the acid-base balance, pH.	7.35 - 7.45 > 7.45 alkalosis < 7.35 acidosis
pCO ₂		35 - 45 mm Hg
pO ₂		80 - 100 mm Hg
Bicarb		21 - 29 mmol/L
Base Excess		-3.0 - 3.0 mmol/L
O ₂ Saturation		85 - 100 %

DISCHARGES AND TRANSFERS

Discharge options from the floor:

1. Transfer to another floor within the hospital
2. Transfer to nursing home (Community Care Facility)
3. Transfer to another facility (Hospital)
4. To the Community
 - a. Without community care services
 - b. With community care services
 - c. With home O₂

1. Transfer to another floor:

- Fill out the pink sheet called: Inpatient Transfer Report
- NOTE:** If the patient has not been swabbed for MROs within the past 10 days, they **MUST** be swabbed before being transferred to another unit.
- Goes with the patient:
 - a. MAR
 - b. Kardex
 - c. All the medications
 - d. Personal belongings
 - e. Any information above the bed
 - f. The chart

In the front of the chart goes:

1. Pink transfer sheet, MAR and Kardex goes in front of everything in front of the chart
 2. All the medications - place in a bag and put in front of chart
- If the patient is going to TLC:
 - a. On the Doctor's order sheet write out the list of current medications the patient is on and request the medications to be bubble packed
 - Check if the floor is ready to receive the patient
 - Put the patient in the VIP System (Porter System)

2. Transfer to Community Care Facility:

- Fill out the Transfer Form for Community Care Facilities
 - Transfer to Dufferin:

- The list of medications is generally written by the pharmacists on the Doctor's Orders. Fax to pharmacy and request the meds to be bubble packed (write this on the order sheet)
- Send along with the patient:
 - All the medications
 - Chart
 - MAR (diabetic record and anticoagulant record)
 - Kardex
- Chart patient been discharged to Dufferin and how they went
- Put in front of chart:
 - Patient's medications
 - Pink transfer form, Transfer form, MAR, Kardex
- Call the facility to inform that the patient is coming and how the patient will be arriving
- Transfer to other Community Care Facilities
 - Fill out the Transfer Form for the Community Care Facility
 - Send along with the patient:
 - The Transfer form and any current information that nursing needs to know
 - On the Doctors Order sheet, include a list of the current medications (including the PRN medications) which the Doctor signs
 - Place all of the above information in a brown envelope, which accompanies the patient on transfer
- Transfer to Trillium:
 - Fill out the Transfer Form for the Community Care Facility
 - Send along with the patient:
 - The Transfer form and any current information that nursing needs to know
 - On the Doctors Order sheet, include a list of the current medications (including the PRN medications) which the Doctor signs
 - 24 hours worth of medications
 - Place all of the above information in a brown envelope, which accompanies the patient on transfer

3. Transfer to another facility - Hospital

- Fill out the Transfer Form for Patient Transfer - Record of Care

- Relevant information is photocopied and accompanies with the transfer form and the information is placed in a brown envelope
- Ambulance is booked for Date and Time
 - Ambulance will ask for:
 - Patient's name and patient's room
 - Health Card Number
 - d. Any equipment going the patient - IV, O₂, etc.
 - Which hospital and floor patient is going to
 - Receiving Doctor
 - Ambulance will give the date and time for pick up
 - Call receiving hospital with estimated time of arrival

4. A) Discharge to Community without Community Services

- Check the following:
 - Doctor's orders for discharge
 - Prescriptions
 - Any blood work to be done as outpatient
 - Any tests to be done as outpatient
 - Any instructions for the patient
- Give to the patient before discharge any or all of the above information
- Make sure the following has been removed:
 - Capped Jelco
 - Subcu butterfly

4. B) Discharge to Community with Community Services

- Do the same as the patient where to be discharged without Community Services
- Fill out the yellow Home Care Community Referral Form (check in front of the chart if there is one already)
- Photocopy the following:
 - Any prescriptions, blood work, tests and/or instructions for the patient - as home care will want a copy of them
- If the yellow Home Care Community Referral Form has not been completed or faxed:
 - Complete the form - provide with as much information as you can as this is a communication tool for Home Care
 - Fax to Home Care the following:
 - The completed referral form

- Any photocopies of prescriptions, lab tests, tests and/or instructions for the patient
 - Admission/separation record
 - Any appropriate documents from the chart
 - Once faxed, stamp 'faxed' with the date and time on the yellow Home Care form
 - Call Home Care to tell them that you have faxed the referral
- If the patient is returning home and had previous services, Home Care likes to know the patient is returning and previous services need to resumed
 - On occasion the Social Worker will have completed the referral and has faxed the form to Home Care with the necessary information
 - If the patient is going home and requires more complexity, then Home Care likes to know more information and detailed information

4. C) Discharge home with Oxygen

- Patient will have qualified for Home Oxygen
 - This is determined by RT by doing a blood gas and the results are below normal
 - RT will need to be called when the patient goes home
 - RT looks after setting up the Home O₂
 - Patient goes home with O₂ on and a portable O₂ tank

LPN Full Scope Surgical Study Package - Quizzes

Please have these quizzes completed *before* attending the 4 hour education session with the CNE. These should be review for the most part. If they are not, please use it as an indicator for further work you must do.

You will find a number of types of quizzes in here requiring different methods to answer the questions. For example, you will have to do a 'seek and find' for the portion of the medication quiz on stock medications. You will need to familiarize yourself with various books on the unit, such as the CPS and the night cupboard book. All of the answers in this quiz can be obtained either somewhere on the unit or in your reference books. We will go over the answers to all these questions during the education session so that you may ask questions if you need to.

If you are having difficulty with any part of this package or with part of a quiz, please do not get discouraged. Call me at 3030 and we can talk about whatever is giving you difficulty. The orientations to 3rd and 6th floors will go at whatever pace you need to set and can be adapted to your needs. There are no set number of days required for this orientation, it will take as long as it needs to (within reason, of course).

Barbara Metcalf

**LPN IV Therapy
Review Quiz**

IV Quiz

1. Which IV solution most closely approximates blood?
 - a. Normal Saline
 - b. Dextrose 5% Water (D5W)
 - c. Ringer's Lactate
 - d. 2/3 Dextrose- 1/3 Saline (2/3D1/3S)

2. What solution must be available at the bedside when a patient is receiving a blood transfusion?
 - a. Dextrose 5% Water (D5W)
 - b. 2/3 Dextrose- 1/3 Saline (2/3D1/3S)
 - c. 5% Dextrose, 0.45% Normal Saline (D5/.45%NS)
 - d. Normal Saline (N/S)

Rate Calculations

3. Calculate the drip rate, using 10gtt/ml tubing, for the following:
 - a. 50ml/hr _____gtts/min.
 - b. 75 ml/hr _____gtts/min.
 - c. 100 ml/hr _____gtts/min.
 - d. 125 ml/hr _____gtts/min.

4. A doctor orders your patient's IV to be reduced TKVO.
What would you do? _____

Assessment

5. What should your hourly assessment of a patient with an IV include?
 - a. Fluid type and amount left to be absorbed
 - b. Patient assessment
 - c. IV site
 - d. All of the above

6. An RN has asked you to check blood with her/him prior to hanging. You will verify the order with the RN. The patient has signed a consent for transfusion. What are the other 3 checks done at the bedside with an RN prior to the RN hanging the blood?

1. _____
2. _____
3. _____

Complications

7. When checking your patient's IV site, you discover the site has the following presentation: edema, blanching of skin around site, wet dressing, skin cool to touch. The patient says the site is tender to touch. What is the likely complication?

- a. Infiltration
- b. Phlebitis
- c. Infection
- d. Catheter embolism

9. You are completing your rounds and discover that your patient's IV is not running. What 3 things would you assess to determine likely cause?

1. _____
2. _____
3. _____

Documentation

10. The doctor has ordered the IV to be discontinued on Ms. McCreedy, 87 year old patient, # hip, 2 days Post Op.

- a. What documentation would you review prior to discontinuing the IV?
 - a. Doctor's order
 - b. Fluid balance record (intake & urine output), Vital signs
 - c. Lab work (electrolytes, hgb)
 - d. All of the above
- b. Once you have discontinued the IV, where must you document?

A Fluid balance record	B IV device record
C Kardex	D Chart
E All of the above	F a, b, c
G b, c, d	

11. What would you do if the previous nurse has not completed the fluid balance record correctly? _____

Case Scenarios - ortho (complete EITHER the ortho or general sx scenarios)

1. Mr. Scully, 58-year-old male, post op day 3 total hip Arthroplasty. PCA d/c'd yesterday. Tolerating oral analgesics well. Post-op orders state: discontinue IV when tolerating oral fluids.

What other things would you consider before you remove his IV?

-
-
-
-

If you decide to remove it, where would you document this?

-
-
-

2. Mrs. Buttons, 78-year-old female is POD3 BKA. IV N/S at 75ml/hr. Pain is well controlled. The RN discontinued her perineural block 2 hours ago. You see that this patient is eating and drinking well. Would you discontinue this IV? Why? Why not?

3. A 72-year-old male, Mr. Hartman, has undergone a Left Oxford Unicompartmental Knee replacement. He is POD1. He has an IV of D2/3 & S1/3 @ 100ml/hr (hung @ 0400 hrs.). He has a hemovac drain and a Foley catheter. He is on oral analgesics for pain. He has had all of his breakfast at 0830 (120 ml of apple juice, 125ml of milk, and 180 ml of coffee. At 1000 hrs, you empty drains and complete the fluid balance record.

IV - 400mls TBA

Hemovac - 75mls sanguinous

Foley - 500 mls clear amber urine.

LPN Full Scope

NANAIMO REGIONAL GENERAL HOSPITAL

24 HOUR FLUID BALANCE /I.V. INFUSION RECORD

DATE:

INTAKE

OUTPUT

ORAL		PARENTERAL						URINE AND OTHER				
Time	Amount	Time		Solution and rate	Amount Remaining Carried Forward	Amount Absorbed	Nurse Initial	Time	Urine	N/G Emesis		
		Start	Stop									
DAY SHIFT												
Total Oral Intake:		Total Parenteral Intake:						TOTALS				
12 Hour Total Intake (oral plus Parenteral):								12 Hour Total Output:				
Total Oral Intake:		Total Parenteral Intake:						TOTALS				
12 Hour Total Intake (oral plus Parenteral):								12 Hour Total Output:				
24 Hour Intake:								24 Hour Output:				

a. Complete the fluid balance record at 1000 hrs with the above information.

At 1230 hrs, he has finished his lunch: 200 mls of soup, 125 mls of juice. At 1330 he has 75mls of yellow emesis. At 1500hrs, you empty his hemovac again for 30mls, and his Foley catheter for 400mls.

b. You complete the shift subtotals at 1800 using the information below. What is the balance for the 12hr day?

At supper (1800 hrs) he is feeling better. His fluid intake includes 200 ml of tea, 180 mls of soup, and 120 mls of juice. He has also consumed 250ml of water since 1500 hrs. His foley output is 400mls and his hemovac drainage has diminished (scant amount). The RN capped his IV at 1800 hrs.

4. What do the patient's totals tell you? What should you consider or do?

Case Scenarios - General Surgery

1. Mr. Scully, 58-year-old male, post op day 4 Laparoscopic Hemicolectomy. PCA d/c'd at 0830. Tolerating oral analgesics well. Post-op orders state: discontinue IV when tolerating oral fluids. It is now 2130.

What other things would you consider before you remove his IV?

-
-
-
-
-

If you decide to remove it, where would you document this?

-
-
-

2. Mrs. Buttons, 78-year-old female is POD5 from a Hartman's. IV N/S at 50cc/hr. Pain is well controlled. The RN capped her epidural 4 hours ago. You see that this patient is eating and drinking well. The orders state: discontinue IV when tolerating oral fluids. Would you discontinue this IV? Why? Why not? _____
-

3. A 72-year-old male, Mr. Hartman, has undergone a Laparoscopic Cholecystectomy, which was converted to an open one. He is POD4. He has an IV of 2/3D1/3S @ 100ml/hr (hung @ 0400 hrs.). He has a hemovac drain and a Foley catheter. He is on oral analgesics for pain. He has had all of his breakfast at 0830 (125 ml of apple juice, 120ml of milk, and 180 ml of coffee. At 1000 hrs, you are emptying drains and completing the fluid balance record.

IV - 400mls TBA

Hemovac - 75mls sanguinous

Foley - 500 mls clear amber urine.

- a. Complete the fluid balance record at 1000 hrs with the above information.

At 1230 hrs, he has finished his lunch: 200 mls of soup, 125 mls of juice. At 1330 he has 75mls of yellow emesis. At 1500, you empty his hemovac again for 30mls and his Foley catheter for 400mls.

- b. You complete the shift subtotals at 1800. What is his balance for the 12hr day?

At supper (1800 hrs) he is feeling better. His fluid intake includes 200 ml of tea, 180 mls of soup, and 120 mls of juice. He has also consumed 250ml of water since 1500 hrs. His Foley output is 400mls and his hemovac drainage has diminished (scant amount). The RN capped his IV at 1800 hrs.

What do the patient's totals tell you? What should you consider or do?

-
-
-
-

General Medication Quiz

Objective: LPN will demonstrate knowledge of the following:

- d) What medications are stock and which are patient specific medications
- e) Where Stock Medications are located
- f) What to do to access medications that are missing/unavailable

List the 7 rights of medication administration: _____

Stock medications are located _____ and _____.

Which of the following are stock and which are patient specific?

Lasix _____

Metaprolol _____

Enoxiparin _____

Cephalexin _____

Pulmicort _____

Spironalactone _____

Coumdin 2.5 mg _____

Prednisone 5mg _____

Metoclopramide _____

ECASA 81 mg _____

Pantoloc _____

Pyridium _____

Loperimide _____

Slow K _____

Ditropan _____

When a *stock* med is missing, how would you get more? _____

What could you do if a patient specific medication were missing?

1 - _____

2 - _____

3 - _____

4 - _____

5 - _____

6 - _____

7 - _____

8 - _____

9 - _____
10- _____

Describe the steps to get a medication from the night-cupboard:

1 - _____
2 - _____

What other handy feature does the night cupboard book have that may help you get a medication that is missing? _____

What number are these medications in the night-cupboard book?

Azithromycin 250 mg po _____ Diltiazem 60 mg po _____
Sinemet CR 100/25 po _____ Theophylline SR 300mg _____

What do you do when you take the last medication in a patient's bag/bottle? _____

When do you perform your 3 checks when giving a medication?

When pouring your medications on days, why would you have to count the # of doses left in the bottle/bag? _____

You have to give your patient a) Salbutamol, b) Pulmicort and c) Ipratropium Bromide via nebulizer. Which ones can you mix together?

- 1 a & b
- 2 a & c
- 3 b & c
- 4 all of them
- 5 none of them

Why? _____

Do you have to add saline to a nebulizer? _____ Why or why not?

Does the patient have to do anything after any of these medications? _____
Why or why not? _____

What important discharge teaching has to be done with a patient going home on
Prednisone? _____

Why is this so important? _____

The times for the following administration orders are

OD _____ BID _____ TID _____ QID _____ QHS
_____ Q4h _____ Q6H _____ Q8H
_____ Q12H _____

LPNs must get an RN to co-sign the narcotics they sign out. *True False*

Match the brand name and generic name of the drugs from the two columns.

CPS green pages Brand and Generic Name Index is one reference for clarifying drug names.

- | | |
|------------------------------|-------------------------------|
| 1. Meperidine ____ | A. Lomotil |
| 2. Pentazocine ____ | B. M-Eslon |
| 3. Morphine IR ____ | C. Leritine |
| 4. Anileridine ____ | D. Demerol |
| 5. Diphenoxlate ____ | E. Talwin |
| 6. Hydromorphone ____ | F. Dilaudid |
| 7. Morphine sulphate SR ____ | G. Morphine Immediate Release |
| 8. Oxazepam ____ | H. Serax |
| 9. Diazepam ____ | I. Ativan |
| 10. Lorazepam ____ | J. Valium |

Which of the above drugs does not have to be locked up? _____

You admitted a patient from the ER at 2000hrs. They have Lasix ordered BID. You have to put the times to take this medication on the MAR. **Which times do you circle and why?** _____

This same patient has Atenolol ordered BID. What 2 things would you do before giving this medication at HS? _____

This same patient has iron ordered BID. What times would you circle for this and why? _____

Is it permissible for Pharmacy to provide a "substitution" for a prescribed medication? Y N If so, how would you know a substitution had been made?

What must you do with all medications that have been poured but the patient refused? _____

What do you do with unused medications? _____

How do you indicate that a medication has been discontinued? _____

When documenting a medication patch that has been placed (eg. Nicotine or Nitro), other than initialing MAR, what else should you document? _____

Your patient has Coumadin 5mg daily ordered. His INR came back at 2.9. Would you give the Coumadin? Y N

What if the INR was 3.0? Y N

What else would you do? _____

Coumadin Quiz

1. Patients going on Coumadin require a baseline PT INR prior to the first dose of coumadin being administered? TRUE FALSE
2. When first starting Coumadin, patients are on daily PT INR collection? TRUE FALSE
3. The PT INR result is documented where? _____
4. The dose of Coumadin is documented only on the MAR? TRUE FALSE
5. It is necessary to monitor patients who are taking coumadin for signs of unusual bleeding. The most likely spots for bleeding are:

6. You can give someone an IM while they are on coumadin. TRUE FALSE
7. The therapeutic range for PT INR is between 2.0 and 3.0 (except in ortho patients)? TRUE FALSE
8. When giving the daily dose of coumadin you must check the physician order sheet before giving the medication? TRUE FALSE
9. The unit standard is to give coumadin at 1600hrs daily? TRUE FALSE
10. Coumadin (Warfarin) is a stock drug on the surgical floors? TRUE FALSE
11. How do you determine if the lab has collected a blood sample for an INR?

Home Medications

1. Where are patient's home medications stored on 3rd or 6th floors?

2. What should you do if the patient refuses to submit medications for storage?

3. What should you do if patient wishes to use own medications?

4. Where must you document that medications have been stored/returned?
