

Sample LLN assessment – Pathology Collection

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PART A

Activity: Read the following passage then answer the questions related to the article.

Phlebotomy Today

Taken from: McCall, R.E. & Tankersley, C.M. (1998). *Phlebotomy essentials*. 2nd ed. Philadelphia: Lippincott-Raven Publishers. Chapter 1. Phlebotomy: Past and Present, page 4.

Note: *Some medical terminology has been altered to reflect Australian spelling, by M. Colasante, RMIT.*

The practice of phlebotomy continues to this day; however, principles and methods have improved dramatically. Today, the main purpose of phlebotomy is to obtain blood for diagnostic testing. Phlebotomy procedures also are used to remove blood for transfusion purposes. Phlebotomy for therapeutic purposes is still practiced in certain instances, such as for a patient with polycythaemia, a disease involving over-production of red blood cells, or haemochromatosis, a rare disease characterized by excess iron deposits throughout the body. The use of leeches has reemerged with a new purpose: that of reducing haemostatic swelling after microsurgery until reconnected tissue can grow new capillaries and veins to carry deoxygenated blood away, thus improving circulation in the replanted tissue.

Phlebotomy today is primarily accomplished by one of two procedures: (1) venepuncture, which involves collecting blood by penetrating a vein with a needle and syringe or other collection apparatus; and (2) skin puncture, which involves collecting blood after puncturing the skin with a lancet or similar skin puncture device.

The role of the phlebotomist in the changing health environment:

The term phlebotomist is applied to a person who has been trained to perform phlebotomy procedures. The primary responsibility of a phlebotomist is to collect blood for laboratory analysis, which is necessary for the diagnosis and care of a patient. Manual skills required are those necessary to obtain blood specimens by venepuncture and skin puncture techniques. Mental skills required are the ability to organise efficiently, perform under pressure, and follow written standardized procedures. Thorough knowledge of laboratory test requirements and departmental policies is also necessary.

[250 words]

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Participant Activity Sheet

Answer the following questions related to the previous article.

- Test yourself for understanding of the reading. Circle the appropriate letter following each statement to indicate whether it is true (T) or false (F)

		Answer	
(a)	The practice of blood collection is better than it used to be	T	F
(b)	Skin puncture is still practiced as a blood collection method	T	F
(c)	Polycythaemia is a condition of too much iron in the body	T	F
(d)	Haemochromatosis is a common health disorder	T	F
(e)	The removal of blood for health purposes is still occasionally practiced	T	F
(f)	Leeches are no longer used for medical purposes	T	F

- Briefly write down what the following terms mean in the context of the reading. Wherever possible, use your own words.

- Phlebotomy
- Phlebotomist
- Venepuncture
- Skin puncture

- Referring to the reading, what are some of the skills that a phlebotomist requires? Make a list of at least five, and write the answers as much as possible in your own words.

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PART B

Activity: Answer the following numeracy questions.

- The reading on page one was written in 1998. How old is this information now?
- Pathology collectors are required to document the time of each specimen they collect. The time is recorded using a '24 hour clock', or 'army' time. For example, 1:00am is written as 0100 (or 0100hrs), and 10:30pm is written as 2230.

Rewrite the following times using the 24 hour clock method:

		Answer
a)	Six thirty in the morning	
b)	Ten past five in the afternoon	
c)	A quarter to eight in the morning	
d)	Seventeen past three in the afternoon	

- Some pathology test collection procedures require a record of the client's height and weight.

Use the two (2) tables on the following page to convert imperial measurements into metric measurements, to answer the questions below.

- Ms Bertoli is to have an electrocardiography (heart rhythm test). She reports her height as 6 foot 2 inches, and weight as 11 and a half stone. You document her measurements in metric as:

Height----- Weight -----

- My Nguyen is to have a spirometry (breathing capacity test). He report his height as five and a half feet, and his weight as 8 stone, 3 pounds. You document her measurements in metric as:

Height----- Weight -----

- Master Rahim is to have a 24 hour urine test (urine collected over a 24 hour period). His mother reports his height as "about four feet, 7 and 1/2 inches", and his weight as "about five and 3/4 stone". You document his measurements in approximate metric as:

Height----- Weight -----

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Measurements	Imperial: Metric Conversion - Height						
Feet & Inches (“&“)	4’6”	4’7”	4’8”	4’9”	4’10”	4’11”	5’0”
Centimetres (cm)	137	140	142	145	147	150	152
Feet & Inches (“&“)	5’1”	5’2”	5’3”	5’4”	5’5”	5’6”	5’7”
Centimetres (cm)	155	157	160	163	165	168	170
Feet & Inches (“&“)	5’8”	5’9”	5’10”	5’11”	6’0”	6’1”	6’2”
Centimetres (cm)	173	175	178	180	183	185	188
Feet & Inches (“&“)	6’3”	6’4”	6’5”	6’6”	6’7”	6’8”	6’9”
Centimetres (cm)	191	193	196	198	201	203	206

Imperial: Metric Conversion - Weight							
Stones & Pounds (st,lb)	Kilograms (kg)	Stones & Pounds (st,lb)	Kilograms (kg)	Stones & Pounds (st,lb)	Kilograms (kg)	Stones & Pounds (st,lb)	Kilograms (kg)
4	25	9	57	14	89	19	121
4,7	29	9,7	60	14,7	92	19,7	124
5	32	10	64	15	95	20	127
5,7	35	10,7	67	15,7	98	20,7	130
6	38	11	70	16	102	21	133
6,7	41	11,7	73	16,7	105	21,7	137
7	44	12	76	17	108	22	140
7,7	48	12,7	79	17,7	111	22,7	143
8	51	13	83	18	114	23	146
8,7	54	13,7	86	18,7	117	23,7	149

Conversions in the height and weight tables made with the assistance of the following reference:

Schlup, Christian. (Herbst 97 his Frühling 03). Body height weight converter. Retrieved November 19 2002 from <http://www.albireo.ch/bodyconverter/index.htm>

<http://www.albireo.ch/bodyconverter/index.htm>

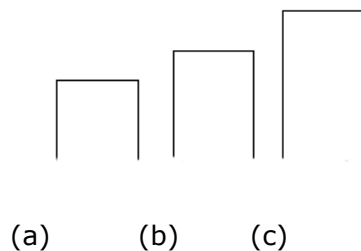
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4. A Glucose Tolerance Test (GTT) is a series of blood tests taken before and after your client drinks a glucose (sweet) drink. A common glucose drink used in the pathology collection industry is 'Glucoscan'. Glucoscan contains 75grams of glucose, in a 375ml drink, which is a standard GTT dose.
 - d. If the doctor has requested a standard 75gram Glucose Tolerance Test, how many millilitres of Glucoscan does your client need to drink
 - e. If the doctor has requested a modified 50gram Glucose Tolerance Test, how many millilitres of Glucoscan does the client need to drink?

* If you would normally use a calculator to work out similar problems, just write down what calculation you would type into the calculator to solve the above problems.

For example, "20 x 3 + 8 ="

5. The electrocardiogram (heart rhythm recording machine) has a setting called 'calibration'. The pathology collector checks the calibration setting before performing an electrocardiography (ECG). If the normal calibration setting of '1', is represented below as diagram (b), and an alternative calibration of '1/2' is represented by diagram (a). What calibration setting could you reasonably expect diagram (c) to represent? _____



ECG Calibration Settings

This assessment task has been developed by Meg Colasante RMIT University