



Lesson 3 Assignment Packet

Gallbladder & Biliary System Sonography

Assignment 1

Fill-in-the-Blank Worksheet

Student Name: _____

Date: _____

Instructions

Complete each statement by filling in the blank with the correct answer.

1. The gallbladder is a _____-shaped organ located beneath the liver.
2. The primary function of the gallbladder is to _____ and _____ bile.
3. Bile is produced by the _____.
4. The gallbladder is located in the _____ quadrant.
5. The three anatomical parts of the gallbladder are the fundus, _____, and _____.
6. The gallbladder connects to the common hepatic duct through the _____ duct.
7. The common hepatic duct and cystic duct join to form the _____ duct.
8. The portal triad consists of the portal vein, hepatic artery, and _____ duct.
9. Patients should fast _____ to _____ hours before a gallbladder ultrasound.
10. Fasting allows the gallbladder to remain _____.
11. The primary transducer used for gallbladder imaging is the _____ transducer.
12. The normal gallbladder wall measures _____ mm or less.
13. The normal common bile duct measures approximately _____ mm or less in most adults.
14. Gallstones are also called _____.
15. Gallstones appear _____ on ultrasound and produce posterior acoustic _____.
16. Biliary sludge usually does _____ produce posterior acoustic shadowing.
17. A positive sonographic Murphy's Sign suggests acute _____.
18. Gallbladder polyps remain attached to the gallbladder _____.

19. Color Doppler may be used to evaluate blood _____ and surrounding vascular structures.
20. The interpreting _____ is responsible for making the final diagnosis.
-

Assignment 2

Image Labeling Assignment

Directions

Using the diagrams provided in Lesson 3, label each structure.

Diagram 1 – Gallbladder Anatomy

Label the following:

- Liver
 - Gallbladder Fundus
 - Gallbladder Body
 - Gallbladder Neck
 - Cystic Duct
-

Diagram 2 – Biliary Tree

Label the following:

- Right Hepatic Duct
 - Left Hepatic Duct
 - Common Hepatic Duct
 - Cystic Duct
 - Common Bile Duct (CBD)
 - Gallbladder
-

Diagram 3 – Portal Triad

Label the following:

- Portal Vein
 - Hepatic Artery
 - Common Bile Duct
-

Diagram 4 – Gallstones

Label the following:

- Gallstone
 - Gallbladder Wall
 - Acoustic Shadow
 - Bile
-

Diagram 5 – Murphy's Sign

Label the following:

- Ultrasound Transducer
 - Gallbladder
 - Area of Maximum Tenderness
 - Liver
-

Assignment 3

Lesson Takeaway Reflection

Directions

After completing Lesson 3, write a brief reflection describing what you learned.

Prompt

Please explain what you learned in Lesson 3: Gallbladder & Biliary System Sonography.

Your reflection should include:

- Gallbladder anatomy
 - Biliary tree anatomy
 - Functions of bile
 - Patient preparation
 - Scanning techniques
 - Normal sonographic appearance
 - Gallstones and biliary sludge
 - Murphy's Sign
 - Image documentation
-

Requirements

- Minimum: **1 paragraph**
 - Maximum: **500 words**
 - Write in your own words.
 - Use complete sentences.
 - Demonstrate your understanding of the lesson.
-

Assignment 4

Lesson 3 Chapter Examination

Instructions

Select the **one best answer** for each question.

1.

The gallbladder is located in the:

- A. Left Upper Quadrant
- B. Right Upper Quadrant
- C. Left Lower Quadrant

D. Pelvic cavity

2.

The primary function of the gallbladder is to:

- A. Produce insulin
 - B. Filter blood
 - C. Store and concentrate bile
 - D. Produce urine
-

3.

Bile is produced by the:

- A. Pancreas
 - B. Gallbladder
 - C. Liver
 - D. Kidney
-

4.

The three major parts of the gallbladder are:

- A. Apex, body, base
 - B. Fundus, body, neck
 - C. Head, body, tail
 - D. Cortex, medulla, pelvis
-

5.

The cystic duct joins the:

- A. Hepatic vein
 - B. Common hepatic duct
 - C. Portal vein
 - D. Pancreatic duct
-

6.

The common hepatic duct and cystic duct form the:

- A. Hepatic artery
 - B. Common bile duct
 - C. Portal vein
 - D. Splenic vein
-

7.

The portal triad contains the portal vein, hepatic artery, and:

- A. Splenic vein
 - B. Common bile duct
 - C. Inferior vena cava
 - D. Pancreatic duct
-

8.

Patients should generally fast before a gallbladder ultrasound for:

- A. 1–2 hours
 - B. 3–4 hours
 - C. 6–8 hours
 - D. 24 hours
-

9.

The standard transducer for gallbladder imaging is:

- A. Linear
 - B. Phased Array
 - C. Curvilinear
 - D. Endocavity
-

10.

A normal gallbladder wall measures:

- A. Less than or equal to 3 mm
 - B. Less than or equal to 8 mm
 - C. Less than or equal to 12 mm
 - D. Less than or equal to 15 mm
-

11.

A normal common bile duct generally measures:

- A. ≤ 2 mm
- B. ≤ 4 mm

C. ≤ 6 mm

D. ≤ 10 mm

12.

Gallstones appear:

A. Anechoic

B. Hypoechoic

C. Echogenic with posterior acoustic shadowing

D. Invisible

13.

Biliary sludge usually:

A. Produces acoustic shadowing

B. Is mobile and produces strong shadows

C. Appears as low-level echoes without shadowing

D. Cannot be seen with ultrasound

14.

A positive sonographic Murphy's Sign suggests:

A. Renal failure

B. Acute cholecystitis

C. Pancreatitis

D. Appendicitis

15.

Gallbladder polyps:

- A. Move freely
 - B. Produce acoustic shadowing
 - C. Remain attached to the gallbladder wall
 - D. Are always malignant
-

16.

Color Doppler is primarily used to evaluate:

- A. Bone density
 - B. Blood flow
 - C. Gallstone size
 - D. Organ weight
-

17.

The gallbladder should be scanned in:

- A. One plane only
 - B. Longitudinal and transverse planes
 - C. Coronal only
 - D. Axial only
-

18.

The sonographer is responsible for:

- A. Performing surgery
 - B. Diagnosing disease
 - C. Obtaining diagnostic images
 - D. Prescribing medication
-

19.

The interpreting physician is responsible for:

- A. Image acquisition
 - B. Equipment maintenance
 - C. Final diagnosis
 - D. Patient positioning
-

20.

The primary focus of Lesson 3 was:

- A. Kidney imaging
- B. Gallbladder anatomy, biliary system, scanning techniques, and common pathology
- C. Cardiac ultrasound
- D. Obstetric sonography