



Lesson 1 Assignment Packet

Introduction to Abdominal Sonography & Scanning Fundamentals

Assignment 1

Fill-in-the-Blank Worksheet

Student Name: _____

Date: _____

Complete each statement by filling in the blank.

1. Abdominal sonography uses high-frequency _____ waves to create images.
2. Ultrasound does not use _____ radiation.
3. The largest solid organ in the abdomen is the _____.
4. The gallbladder stores and concentrates _____.
5. The pancreas produces digestive _____.
6. The spleen is part of the body's _____ system.
7. The kidneys filter _____ from the bloodstream.
8. The abdominal aorta carries _____ blood away from the heart.
9. The inferior vena cava returns blood to the _____.
10. The four abdominal quadrants are RUQ, LUQ, RLQ, and _____.
11. The transducer most commonly used for abdominal ultrasound is the _____ transducer.
12. Typical abdominal transducer frequency ranges from _____ to _____ MHz.
13. The brightness of the overall ultrasound image is adjusted using _____.
14. TGC stands for _____ Compensation.
15. Fluid appears _____ on ultrasound.
16. Bright structures are described as _____.
17. Patients are commonly instructed to fast _____ to _____ hours before an abdominal ultrasound.
18. The sonographer must always verify the patient's _____ before beginning the examination.
19. ALARA stands for As Low As _____.
20. The physician is responsible for making the final _____.

Assignment 2

Image Labeling Worksheet

Directions

Using the diagrams provided in Lesson 1, label each structure.

Diagram 1

Label the following structures:

- Liver
 - Gallbladder
 - Pancreas
 - Spleen
 - Right Kidney
 - Left Kidney
 - Abdominal Aorta
 - Inferior Vena Cava (IVC)
 - Urinary Bladder
-

Diagram 2

Label the following:

- Right Upper Quadrant (RUQ)
 - Left Upper Quadrant (LUQ)
 - Right Lower Quadrant (RLQ)
 - Left Lower Quadrant (LLQ)
 - Epigastric Region
-

Assignment 3

Lesson Takeaway Reflection

Directions

After completing this lesson, write a brief reflection describing what you learned.

Prompt

Please explain what you learned in Lesson 1.

Include:

- What abdominal sonography is
- The major abdominal organs
- The four abdominal quadrants
- Basic ultrasound physics
- The role of the sonographer
- Why patient preparation is important

Requirements

- Minimum: 1 paragraph
 - Maximum: 500 words
 - Write in your own words
 - Use complete sentences
-

Assignment 4

Lesson 1 Chapter Examination

Choose the best answer.

1.

Diagnostic abdominal sonography uses:

- A. X-rays
- B. Magnetic fields

C. High-frequency sound waves

D. Radiation

2.

Which organ is the largest solid organ?

A. Kidney

B. Pancreas

C. Liver

D. Spleen

3.

The gallbladder stores:

A. Blood

B. Urine

C. Bile

D. Insulin

4.

Which organ produces insulin?

A. Liver

B. Gallbladder

C. Pancreas

D. Kidney

5.

The spleen primarily functions in:

- A. Digestion
 - B. Immune function
 - C. Respiration
 - D. Reproduction
-

6.

Which organ filters waste from the blood?

- A. Pancreas
 - B. Kidneys
 - C. Gallbladder
 - D. Spleen
-

7.

RUQ stands for:

- A. Right Upper Quadrant
 - B. Right Under Quadrant
 - C. Regional Upper Quadrant
 - D. Renal Upper Quadrant
-

8.

The IVC returns blood to the:

- A. Liver
 - B. Lungs
 - C. Heart
 - D. Kidneys
-

9.

The abdominal aorta carries:

- A. Deoxygenated blood
 - B. Oxygenated blood
 - C. Lymphatic fluid
 - D. Bile
-

10.

The primary abdominal transducer is:

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

11.

Typical abdominal frequencies are:

- A. 10–15 MHz

- B. 2–5 MHz
 - C. 20–30 MHz
 - D. 15–20 MHz
-

12.

Gain controls:

- A. Image depth
 - B. Image brightness
 - C. Doppler flow
 - D. Frequency
-

13.

Fluid appears:

- A. Hyperechoic
 - B. Anechoic
 - C. Isoechoic
 - D. Echogenic
-

14.

Patients should usually fast:

- A. 30 minutes
- B. 2 hours
- C. 6–8 hours

D. 24 hours

15.

ALARA is a principle related to:

- A. Billing
 - B. Radiation safety
 - C. Ultrasound safety
 - D. Documentation
-

16.

The sonographer is responsible for:

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

17.

The physician is responsible for:

- A. Image acquisition
 - B. Final diagnosis
 - C. Scheduling exams
 - D. Machine maintenance
-

18.

Ultrasound images are produced from returning:

- A. X-rays
 - B. Echoes
 - C. Light waves
 - D. Magnets
-

19.

Proper patient preparation improves:

- A. Billing
 - B. Image quality
 - C. Staffing
 - D. Scheduling
-

20.

This lesson primarily focused on:

- A. Cardiac imaging
- B. Abdominal scanning fundamentals
- C. Obstetrics
- D. Musculoskeletal imaging