



14

Blood Vessels

LEARNING OBJECTIVES

After studying Chapter 14 in the textbook and completing this section of the workbook, students should be able to:

1. Describe anatomy and physiology of the blood vessels.
2. Identify age and condition variations in the blood vessels.
3. Describe interview questions pertinent to blood vessels examination.
4. Discuss inspection, palpation, percussion, and auscultation techniques for examination of the blood vessels.
5. Describe age-specific and/or condition-specific variations in examination findings of the blood vessels.
6. Identify examination findings associated with various conditions of the blood vessels.

TEXTBOOK REVIEW

Chapter 14 Blood Vessels (pages 462–495)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. The carotid artery is considered the most suitable artery for evaluation of cardiac function because it:
 - a. is the largest artery in the peripheral vascular system.
 - b. is the most pliable artery in the peripheral vascular system.
 - c. is the most accessible artery close to the heart.
 - d. has the thickest layer of smooth muscle within the vessel walls.
2. The purpose of the great vessels is to:
 - a. provide a reservoir for blood volume to be used in times of stress.
 - b. circulate the blood to and from the body and the lungs.
 - c. quickly and efficiently move blood in and out of the heart.
 - d. send blood to the lungs for large-scale reoxygenation.

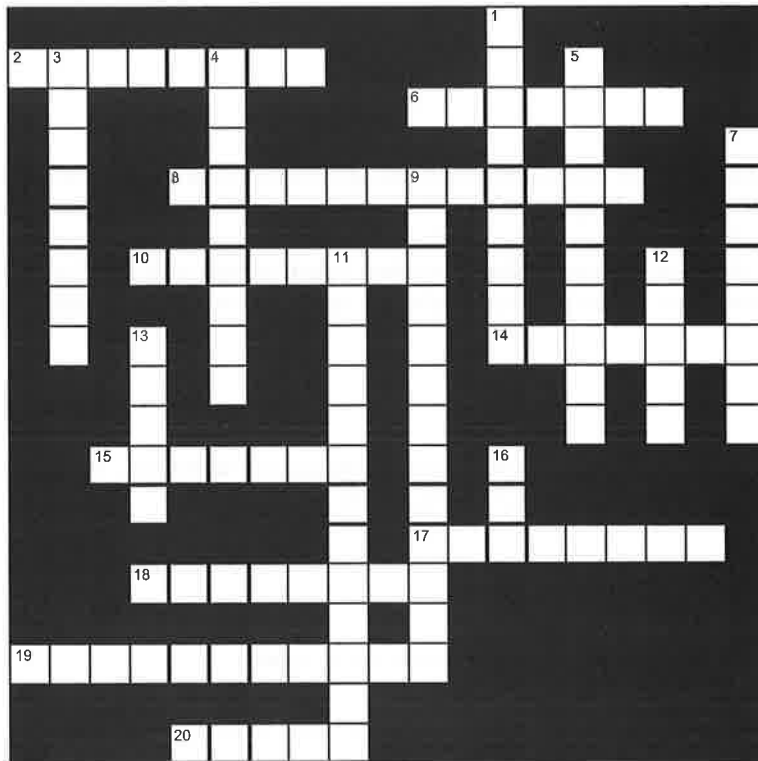
3. The cardiac output is determined by:
 - a. multiplying the stroke volume by the heart rate.
 - b. subtracting the heart rate from the blood pressure.
 - c. dividing the heart rate by the peripheral vascular resistance.
 - d. adding the mean arterial pressure from the stroke volume.
4. Pregnant women may experience palmar erythema and spider telangiectasis as a result of:
 - a. peripheral vasodilation with decreased vascular resistance.
 - b. peripheral vasoconstriction.
 - c. increased peripheral resistance.
 - d. peripheral vascular resistance with diminished cardiac output.
5. The examiner suspects a patient has deep vein thrombosis. The examiner dorsiflexes the patient's foot, to which the patient reports calf pain. This finding is referred to as a positive:
 - a. Allis' sign.
 - b. Chadwick's sign.
 - c. Homan's sign.
 - d. Kehr's sign.
6. Dilation and tortuosity of the aorta and carotid arteries in elderly patients may be caused by:
 - a. calcification of the walls of the arteries.
 - b. cholesterol deposits on the walls of the arteries.
 - c. postural hypotension.
 - d. increased peripheral vascular resistance.
7. Atherosclerosis, anemia, anxiety, and exercise are associated most with which type of arterial pulse?
 - a. alternating pulse
 - b. bounding pulse
 - c. labile pulse
 - d. paradoxical pulse
8. Which word best describes a 3+ amplitude pulse?
 - a. diminished
 - b. normal
 - c. full
 - d. bounding
9. When evaluating a bruit, which of the following principles is true?
 - a. Complete obstruction results in a muffled sound.
 - b. Increasing obstruction produces lower pitches.
 - c. Mild obstruction produces a short, localized sound.
 - d. Sounds due to vigorous left ventricular ejection are more common in adults than children.
10. An arterial aneurysm is most commonly detected by:
 - a. palpating the dilation of the artery.
 - b. auscultating a bruit over the aneurysm.
 - c. percussing a thrill over the aneurysm.
 - d. observing redness and swelling over the aneurysm.
11. Claudication is:
 - a. tissue necrosis due to venous insufficiency.
 - b. pain that results from muscle ischemia.
 - c. characterized by sharp, tingling pain.
 - d. occurs after exercise and during sleep.

12. Korotkoff's sounds:
 - a. are best heard with the diaphragm of the stethoscope.
 - b. begin with the end of diastole and end at the beginning of systole.
 - c. are produced by turbulence of blood flow in an artery.
 - d. occur within the auscultatory gap.
13. To determine pulse pressure the examiner would correctly do which of the following?
 - a. add the systolic and diastolic readings
 - b. palpate the radial pulse while occluding circulation with the blood pressure cuff
 - c. subtract the diastolic from the systolic readings
 - d. apply manual pressure on the brachial artery while auscultating the Korotkoff's sounds
14. Reliable indicators of hypertension are:
 - a. numerous measurements taken over a period of time.
 - b. any readings of blood pressure where the systolic pressure exceeds 120 mm Hg.
 - c. sitting, standing, and supine readings of blood pressure.
 - d. findings of diastolic blood pressure in excess of 80 mm Hg.
15. Postural hypotension should be evaluated in which of the following patients?
 - a. an elderly woman taking antihypertensive medication
 - b. a pregnant woman with increased plasma volume
 - c. all children under the age of 6 years
 - d. a middle-aged male complaining of sudden onset of chest pain
16. In determining the jugular venous pressure the examiner would correctly do which of the following?
 - a. apply manual pressure on the carotid artery while the patient forcefully exhales
 - b. examine neck veins while occluding the brachial artery with the blood pressure cuff
 - c. use light to supply tangential illumination across the neck
 - d. have the patient lean forward from the waist and take a deep breath
17. Varicose veins are characterized by:
 - a. dilation and tortuosity when the extremities are dependant.
 - b. increased rate of blood flow to extremities.
 - c. decreased intravenous pressure.
 - d. edema resulting from obstruction to a distal vein.
18. A condition that results in progressive ischemia caused by insufficient perfusion is:
 - a. Raynaud's phenomenon.
 - b. peripheral atherosclerotic disease.
 - c. venous thrombosis.
 - d. arterial aneurysm.
19. In which group is a jugular venous hum an expected examination finding?
 - a. older adults
 - b. pregnant women
 - c. Native Americans
 - d. children
20. The patient tells the examiner, "My left leg has been hurting a lot lately, especially when I move my foot up and down. It also seems more swollen then the other leg." Based on the symptoms, the examiner should suspect:
 - a. hypertension.
 - b. venous stenosis.
 - c. venous thrombosis.
 - d. arterial insufficiency.

21. The examiner notes a prominent jugular vein with significant pulsations. These findings are consistent with:
 - a. right-sided heart failure.
 - b. hypertension.
 - c. cardiac ischemia.
 - d. left ventricular hypertrophy.
22. Which test is correctly used to evaluate venous incompetence when varicosities are present?
 - a. Rinne
 - b. Perthes
 - c. Romberg
 - d. Trendelenburg
23. The most common cause of venous thrombosis in children is:
 - a. congenital venous incompetence.
 - b. atherosclerosis of deep veins.
 - c. arteriovenous malformation.
 - d. placement of venous access devices.
24. Hypertension in children is most often the result of:
 - a. Addison's disease.
 - b. renal disease.
 - c. stress and anxiety.
 - d. side effects of prescription medications.
25. Which of the following distinguishes musculoskeletal pain from vascular insufficiency?
 - a. onset during activity
 - b. increases with intensity and duration of activity
 - c. may occur several hours after activity
 - d. quickly relieved by rest

Terminology Review

Crossword Puzzle



Across

2. Type of veins characterized by dilation and tortuosity
6. Test used to evaluate patency of deep veins
8. Pain resulting from muscle ischemia
10. Type of hypotension which occurs when patient stands up relatively suddenly
14. Type of pathologic communication between an artery and a vein
15. Type of edema characterized by depression that does not rapidly refill and resume original contour
17. Arteritis characterized by flu-like symptoms
18. Disease typified by systemic vasculitis, strawberry tongue, and edema of the hands and feet
19. Congenital aortic stenosis
20. Sign indicating thrombosis in lower extremity

Down

1. Sounds resulting from turbulence of blood flow in an artery
3. Localized dilation of an artery caused by weakness in the vessel wall
4. Condition characterized by pain, pallor, and pulselessness
5. Clotting within a blood vessel which may cause infarction of tissues supplied by the vessel
7. Effect on blood pressure of decreased elasticity of the blood vessels in the elderly
9. Common cause of arterial dilation and tortuosity in the elderly
11. Backflow of blood as a result of incompetent valves
12. Technique used to estimate blood pressure on a child
13. Harsh or musical intermittent auscultatory sound, especially an abnormal one
16. Venous phenomenon common in children and without pathologic significance

CASE STUDY

Felice is a 32-year-old woman complaining of pain in her fingers, with more discomfort in the dominant right hand. Listed below are initial data collected during an interview and examination.

Interview Data

Felice began to notice changes in her hands about 3 months ago when she started a new job where she spends several hours a day at a computer keyboard. The pain has steadily increased since then and she is alarmed about the development of a dark spot on the tip of her fifth finger of her right hand. She attends aerobic classes weekly but is not able to keep up with the class due to shortness of breath. She has smoked a pack of cigarettes daily for the last 10 years. She has a moderate alcohol intake of two to three glasses of wine per week. She is taking no medications at this time.

Examination Data

General Survey: Alert, cooperative, well-groomed female who appears stated age. Shortness of breath noted upon reaching the examination room, but abated after one minute of rest.

Vital signs: Temperature 98.8° F (37.1° C). Pulse 100 on arrival to room; 76 after five minutes. BP 126/82 in both arms.

Pulses: All pulses palpable 2+. Fingers on both hands are cool to touch.

Lower extremities: Skin warm and dry, free of cyanosis or erythema. Hair distribution is even. No edema noted. No lesions present.

Upper extremities: Fingers cool, capillary refill sluggish. Noted dark lesion on tip of right fifth finger 4 mm diameter. Some reduced range of motion noted in both hands. The skin over the hands appears tight and probably contributed to the reduced range of motion.

Neck: Supple. No neck vein distention noted.

1. What data deviate from normal findings, suggesting a need for further investigation?

2. What additional questions could the examiner ask to clarify symptoms?



15

Breasts and Axillae

LEARNING OBJECTIVES

After studying Chapter 14 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the breasts and axillae.
2. Discuss examination techniques for the breasts and axillae.
3. Identify normal age and condition variations to the breasts and axillae.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 15 Breasts and Axillae (pages 496–524)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. A patient complains of a red rash on her breast. Which finding helps an examiner differentiate Paget's disease from eczema? The lesion is:
 - a. unilateral.
 - b. red.
 - c. located on the nipple.
 - d. raised and fluid-filled.

2. Yvonne had a mastectomy to the right breast 2 years ago. Which true statement assists the examiner with breast examination of this patient?
 - a. Swelling, thickening, and small lumps around the mastectomy site are normal.
 - b. The mastectomy site should be inspected but not palpated because of pain at the site.
 - c. If malignancy recurs, it may be at the scar site.
 - d. There is no need to examine the mastectomy site.
3. A woman in her third trimester of pregnancy asks the examiner about the drainage from her nipples. Her nipples are symmetric without redness. Which statement is true?
 - a. Colostrum secretion is normal in the last trimester.
 - b. Cultures should be taken to rule out an infection.
 - c. Drainage from the nipple is an indication of a malignancy.
 - d. The drainage is a sign of witch's milk.
4. While palpating the axilla, it is best to place the patient in a:
 - a. sitting position with hands over head.
 - b. sitting position with arms at sides.
 - c. supine position with arms on hips.
 - d. lateral position with arms at sides.
5. A 58-year-old woman asks the examiner how often a mammogram is recommended for her. The best response by the examiner is:
 - a. "every 1 to 2 years if you have no symptoms."
 - b. "every 3 years."
 - c. "every 5 years if you have no symptoms."
 - d. "every 3 years if you have a family history of cancer."
6. A supernumerary nipple is found on a Caucasian newborn infant girl. Which of the following may accompany this finding?
 - a. increased risk for breast cancer as an adult
 - b. increased lactation volume as an adult
 - c. congenital renal or cardiac anomalies
 - d. mental retardation
7. A patient reports that she is concerned about the changes in her breasts that accompany her menstrual cycle. What should the examiner tell her about these changes?
 - a. These changes are most likely to occur prior to and after the menstrual flow.
 - b. These changes are alarming and might signal the development of a malignancy.
 - c. These changes are a common response to hormonal changes during the menstrual cycle.
 - d. Changes are most noticeable during the week after menstrual flow.
8. Which of the following is the correct position in which to place the patient for breast palpation?
 - a. supine with arms at side; pillow under neck
 - b. supine with arm over head and small pillow under shoulder of side being assessed
 - c. left lateral position with arm bent backward
 - d. sitting slightly forward with breasts hanging away from chest; hands on hips
9. Which statement made by a 37-year-old woman would make the examiner suspect fibrocystic disease?
 - a. "I have a lump in my breast that is not tender."
 - b. "My right breast is larger than the left breast."
 - c. "My nipples are darker than before my baby was born."
 - d. "I feel a lump before my period."

10. A patient, 3 weeks postpartum, tells the examiner that she is breast-feeding, but might stop because her nipples are sore. The examiner observes dry and cracked nipples. Which of the following questions would be helpful in gaining information relevant to treating the problem?
 - a. "Do you pump your breasts?"
 - b. "How do you clean your breasts?"
 - c. "Have you been able to bond with your infant?"
 - d. "What medications have you been taking?"
11. In an older male, gynecomastia may be secondary to:
 - a. a decrease in physical activity.
 - b. increased lactiferous duct glands.
 - c. lymphatic engorgement.
 - d. a decrease in testosterone.
12. Which of the following questions asked by the examiner will best validate the patient's understanding of breast self-examination?
 - a. "Do you do breast examinations on yourself?"
 - b. "How often do you examine your breasts?"
 - c. "Would you show me how you examine your breasts?"
 - d. "Why is breast self-examination important to do on a regular basis?"
13. Symptoms consistent with underlying ductal malignancy include:
 - a. erythema, heat, and pain over and around one nipple.
 - b. red, scaling, crusty patch on one nipple.
 - c. bilateral inflammation, tenderness, and sticky multicolored nipple discharge.
 - d. gynecomastia and a deepening color of the nipple.
14. While examining the breast of a 52-year-old woman, the examiner notes nipple discharge. Which of the following diagnostic tests would be appropriate?
 - a. cytologic examination of the discharge
 - b. culture and sensitivity examination of the discharge
 - c. white blood cell count
 - d. estrogen level
15. While performing a breast examination on a 68-year-old female, which finding is expected? The:
 - a. breast tissue has multiple large, firm lumps in it.
 - b. breast tissue has a granular feel to it.
 - c. tail of Spence is no longer observed.
 - d. axillary lymph nodes are enlarged.

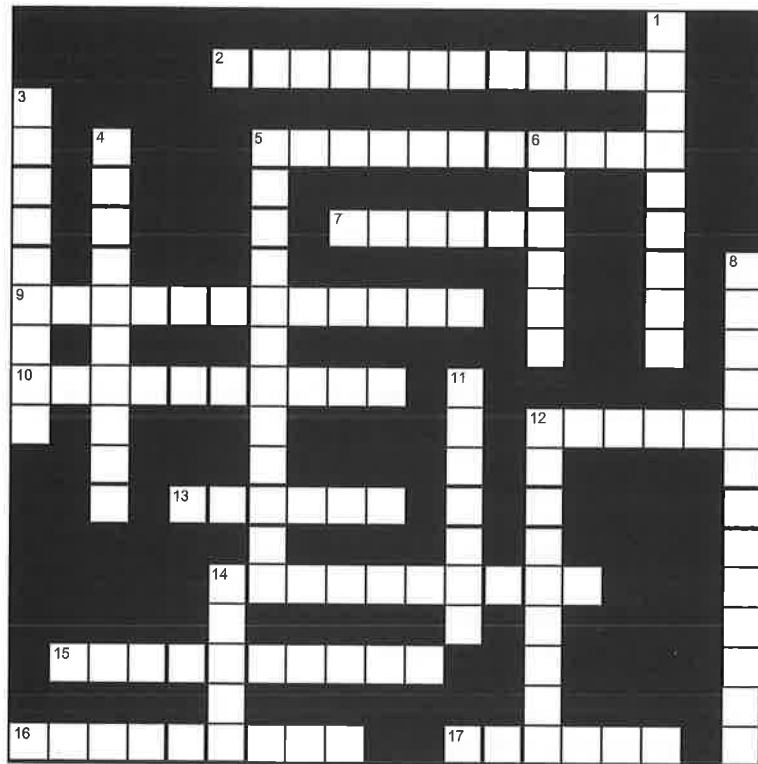
Terminology Review

Matching

Match each clinical finding to its corresponding associated factor or cause.

Clinical Finding	Associated Factor or Cause
16. _____ Galactorrhea	a. Malignant breast tumor
17. _____ Mastitis	b. Ductal enlargement
18. _____ Fibrocystic disease	c. Possible sign of breast malignancy
19. _____ Dimpling in breast	d. Administration of phenothiazines
20. _____ Nipple retraction	e. Clogged milk duct

Crossword Puzzle



Across

2. Unexpected enlargement of breast tissue
5. Disease resulting in benign breast cyst formation
7. Projection at the apex of the breast on the surface of which the lactiferous ducts open
9. Lactation not associated with child-bearing
10. Important constituent of colostrum in addition to protein and minerals
12. Staging for sexual maturity
13. Ligaments that support the breast
14. Small tumors of the subareolar ducts
15. Follicles that are tiny sebaceous glands and may appear in the areola
16. Clear or milky white fluid expressed from breast prior to milk production
17. Pigmented area surrounding the nipple

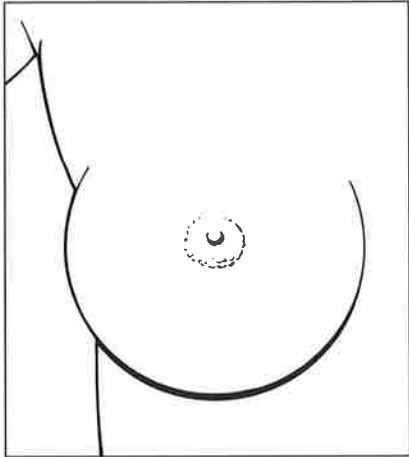
Down

1. Peau d'orange appearance indicates blocked lymph drainage in this condition
3. Common radiologic procedure for breast examination
4. Interval following termination of lactation when breasts decrease in size
5. Benign neoplasm of breast tissue
6. Area where most malignancies occur in breast tissue
8. Exceeding the normal number
11. Lymph nodes signaling lymphatic invasion of carcinoma from abdomen or thorax
12. Beginning of breast development in the female
14. Disease which is a surface manifestation of underlying ductal carcinoma

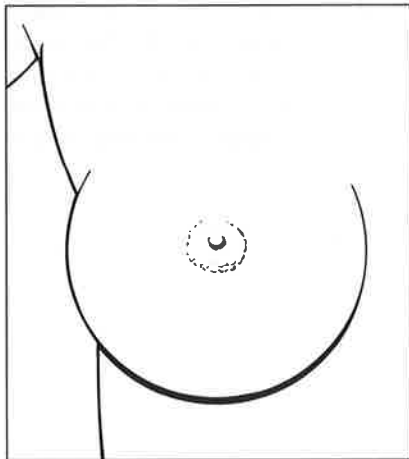
CONCEPTS APPLICATION

On the illustrations below, draw the direction of palpation the examiner would use for (a) back-and-forth technique; (b) concentric circles technique; and (c) wedge technique.

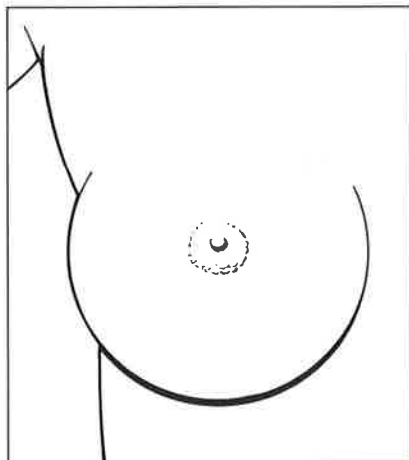
a



b



c



CASE STUDY

Julie is a 46-year-old female who comes to the clinic because she has discovered a lump in her left breast. Listed below are data collected during an interview and examination.

Interview Data

Julie tells the examiner that she first noticed the lump about 9 months ago. Because it seemed small and did not hurt, she did not feel that it was much to worry about. Recently, Julie began noticing that the lump felt bigger and decided she better have someone look at it. Julie tells the examiner, "I just know it is not cancer because I am much too young and healthy. And if it is, I am not about to let some doctor mutilate me with a knife. I'd rather die than have my breast cut off." The examiner asks her if she has noticed any redness or dimpling of the breast. Julie tells the examiner, "No, not really, but I don't pay attention to those sorts of things." Julie tells the examiner that she started having regular menstrual cycles at the age of 11 and still has not reached menopause. She has never been married and has no children.

Examination Data

General survey: Very nervous, well-nourished female. Is hesitant to expose her breast for examination.

Breast exam: Inspection reveals breasts of typical size with right and left breast symmetry. The skin of both breasts is smooth, with even pigmentation. The nipples protrude slightly with no drainage noted. The left nipple is slightly retracted. Significant dimpling noted on left breast in upper outer quadrant when arms are raised over her head. Right breast appears normal. Palpation of the left breast reveals a large hard lump in the upper outer quadrant. No lumps or masses noted in right breast. The left nipple produces a clear bloody-type discharge when squeezed; the right nipple is unremarkable.

1. What data deviate from normal findings, suggesting a need for further investigation?
2. What additional questions could the examiner ask to clarify symptoms?
3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?

CRITICAL THINKING

1. A 43-year-old female patient tells you her mother died of breast cancer and her 50-year-old sister currently has breast cancer. She is worried about developing breast cancer as well. Her gynecologic history includes menarche at age 11. She has one child, a 7-year-old son. She has no history of other pregnancies and no history of illness. List her current risk factors. Would you consider her to be at high risk for breast cancer?

2. A 23-year-old female requests information on how to perform breast self-examination. Describe essential elements you would want to include in a teaching plan.



16

Abdomen

LEARNING OBJECTIVES

After studying Chapter 16 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the abdomen.
2. Discuss examination techniques for the abdomen.
3. Identify normal age and condition variations of the abdomen.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 16 Abdomen (pages 525–583)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. Which statement made by a patient suggests that the patient has a risk for viral hepatitis A? "I:
 - a. am a health care worker."
 - b. had a blood transfusion recently."
 - c. have renal failure and have hemodialysis three times a week."
 - d. have recently been overseas."
2. The examiner observes venous return on the abdomen of the patient that moves upward from the pubis to the chest. This finding should make the examiner consider:
 - a. portal hypertension.
 - b. renal artery stenosis.
 - c. inferior vena cava obstruction.
 - d. mesentery artery hypertension.

3. Which of the following questions would help an examiner determine whether a patient has an intra-abdominal infection?
 - a. "Where is the pain?"
 - b. "Would you like something to eat?"
 - c. "What does your urine look like?"
 - d. "Is there a history of this problem in your family?"
4. Mrs. Cody is 36 weeks pregnant. She tells the examiner she feels like her stomach muscle is splitting. A light protrusion of the abdomen midline is observed. This is recognized as:
 - a. abdominal dehiscence.
 - b. swelling of the abdominal aorta.
 - c. diastasis recti.
 - d. umbilical herniation.
5. In which of the following patients would a slight pulsation in the epigastric area be considered a normal inspection finding?
 - a. a very thin patient
 - b. an obese patient
 - c. a patient with ascites
 - d. an elderly patient
6. The examiner palpates an organ in the left costal margin. Which technique should the examiner use to differentiate between an enlarged left kidney and an enlarged spleen?
 - a. auscultation, listening for renal bruit
 - b. auscultation, listening for abdominal friction rub
 - c. palpation, using indirect fist palpation to assess for tenderness
 - d. percussion, listening for dullness
7. A hiatal hernia is best described as:
 - a. a protrusion of abdominal contents through a weakening in the abdominal wall.
 - b. a protrusion of the stomach through the esophageal hiatus of the diaphragm.
 - c. an ulcer in the mucosa of the stomach that herniates into the peritoneal cavity.
 - d. a herniation of the gallbladder into the cystic duct.
8. An examiner may wish to use a bimanual technique for abdominal palpation when:
 - a. palpating superficial organs.
 - b. validating abdominal tenderness in the infant.
 - c. meeting muscle resistance while performing deep palpation.
 - d. determining the presence of excessive peritoneal fluid.
9. Fetal well-being can be assessed by fetal heart rate and:
 - a. adequate maternal weight gain.
 - b. fetal position.
 - c. measurement of abdominal girth.
 - d. kick count.
10. A history of chest pain is collected as part of an abdominal history because it may be:
 - a. associated with ulcers.
 - b. caused by esophageal herniation and edema.
 - c. perceived as esophagus and stomach pain.
 - d. related to congenital abdominal defects.

11. The examiner lightly strokes each quadrant of the abdomen with the end of a reflex hammer by stroking outwards from the navel. Which of the following describes the expected finding?
 - a. contraction of the abdominal muscle, pulling of the umbilicus toward the stroked side
 - b. contraction of the abdominal muscle, pulling of the umbilicus away from the stroked side
 - c. rippling motion of the abdomen associated with peristaltic activity
 - d. absence of abdominal movement

12. How is fundal height measured? Measure from the:
 - a. umbilicus to the top of the fundus.
 - b. perineum to the top of the fundus.
 - c. symphysis pubis to the top of the fundus.
 - d. xyphoid process to the top of the fundus.

13. You note that the midclavicular liver span of an adult male patient is 18 cm. With palpation you note that the liver is enlarged, hard, and nontender. What do these findings suggest?
 - a. diverticulitis
 - b. ulcerative colitis
 - c. hepatitis
 - d. cirrhosis

14. The examiner is unable to palpate the liver or kidney on the patient. Which of the following techniques will help assess tenderness to these organs?
 - a. direct, continuous, firm pressure over the organ for several minutes
 - b. percussion for tympany
 - c. percussion for size
 - d. indirect fist percussion

15. In which age group does abdominal palpation become easier and more accurate?
 - a. young children
 - b. adolescents
 - c. young adults
 - d. older adults

16. Which of the following techniques is used to confirm the presence of abdominal ascites?
 - a. auscultation of fluid movement within the abdominal cavity
 - b. palpation of rebound tenderness
 - c. palpation of pitting edema on the abdomen
 - d. percussion of dullness over dependent areas of the abdomen

17. A 5-week-old male infant is brought to the clinic with a 2-day history of projectile vomiting. What specific finding should the examiner assess for?
 - a. abdominal pain with palpation
 - b. palpation of small, round mass
 - c. auscultation of tinkering bowel sounds
 - d. auscultation of bruit over renal artery

18. Which of the following examination findings is indicative of peritoneal irritation or appendicitis?
 - a. palpation of rebound tenderness
 - b. percussion of shifting dullness over the abdomen
 - c. auscultation of a bruit over the abdominal aorta
 - d. percussion of dullness over the suprapubic area

19. Fetal movement (quickening) is determined through which examination technique?
 - a. auscultation—hearing the fetal movement within uterus
 - b. palpation—by placing a hand over the abdomen
 - c. deep palpation—feeling fetal movement as you push your hand against abdomen
 - d. percussion—noting changes in tone as the fetus moves in the uterus
20. Which finding on a newborn infant suggests a congenital anomaly?
 - a. The umbilical cord has one artery and one vein.
 - b. The umbilical cord is thick.
 - c. The umbilical cord is thin.
 - d. There is a small mass around the umbilicus.
21. A 32-year-old female patient tells the examiner that when she goes running, she dribbles urine. Which type of problem should the examiner consider?
 - a. hydronephrosis
 - b. renal abscess
 - c. stress incontinence
 - d. overflow incontinence
22. A 61-year-old man has a presenting complaint of frequent constipation. He tells the examiner that there has been a change in his bowel movement habits—he gets constipated easily, the stool is very “skinny-looking,” and it is a different color than usual. He denies pain. What do these symptoms suggest?
 - a. diverticulitis
 - b. hepatitis B
 - c. colon or rectal cancer
 - d. pancreatitis
23. The functional ability of the GI tract most severely affected by aging is:
 - a. motility.
 - b. metabolism.
 - c. digestion.
 - d. catabolism.
24. What is the correct name of the rule that states that the farther away from the navel abdominal pain occurs, the more likely it is to be of physical importance?
 - a. Reglan rule
 - b. Appley rule
 - c. Applegate rule
 - d. Romberg rule
25. Which of the following signs is an absence of bowel sounds in the right lower quadrant which indicates the possibility of intussusception?
 - a. Grey Turner
 - b. Aaron
 - c. Dance
 - d. Markle

Terminology Review

Matching

Match each clinical finding to its corresponding abdominal condition.

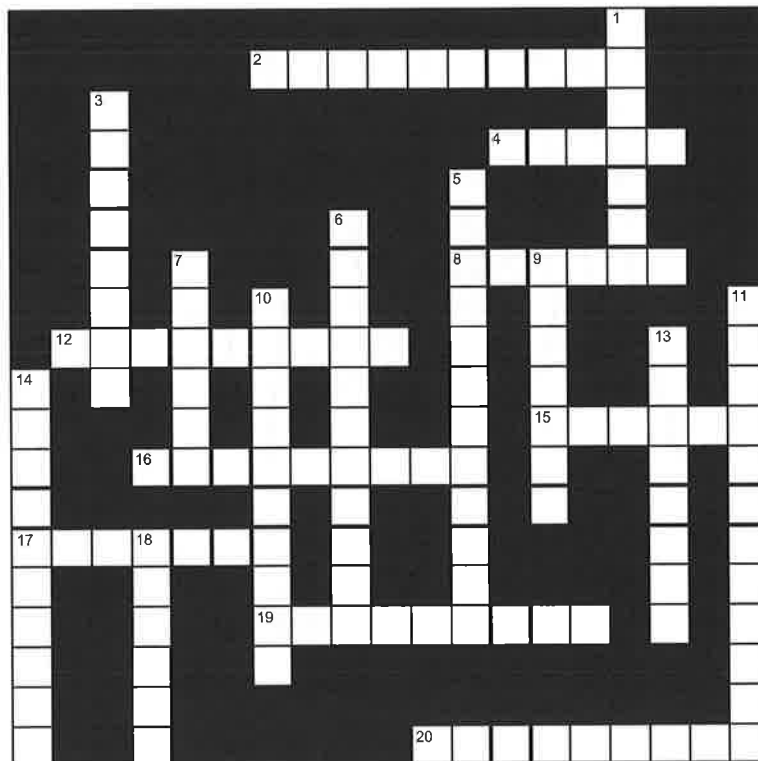
Clinical Finding

- 26. _____ Knifelike pain
- 27. _____ Dark yellow urine
- 28. _____ Pain with gradual onset
- 29. _____ Colic pain
- 30. _____ Bruit
- 31. _____ Burning pain

Abdominal Condition

- a. Intra-abdominal infectious process
- b. Ulcer
- c. Liver/biliary disease
- d. Pancreatitis
- e. Renal stone
- f. Aortic aneurysm

Crossword Puzzle



Across

- 2. Excessive quantity of amniotic fluid
- 4. Spasmodic pains in the abdomen
- 8. Enzyme that acts on emulsified fats
- 12. Destruction of liver parenchyma
- 15. Backflow caused by relaxation or incompetence of lower esophagus
- 16. Sound obtained on percussing a part that can vibrate freely
- 17. Low-pitched, resonant, drumlike note obtained by percussing the surface of a large, air-containing space
- 19. Fan-shaped fold of peritoneum that anchors small intestine to abdominal wall
- 20. Inflammatory process of liver, usually caused by viral infection

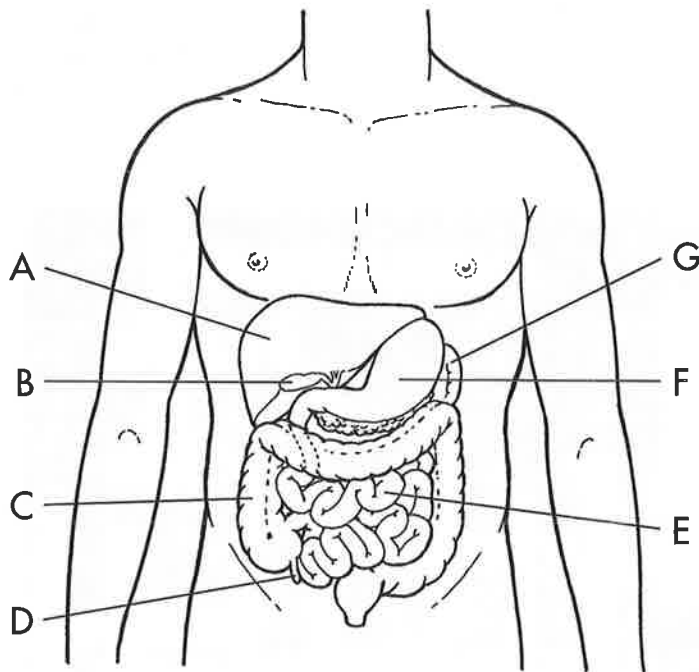
Down

- 1. Accumulation of serous fluid in the peritoneal cavity
- 3. Abdomen that suggests diaphragmatic hernia in the newborn
- 5. Palpation technique used to assess a floating mass
- 6. Muscular contractions that move products of digestion through the alimentary canal
- 7. Commonly known as "stretch marks"
- 9. Distal section of the stomach
- 10. Rumbling or gurgling noises produced by movement of gas in the alimentary canal
- 11. Uterine contractions that may begin in the first trimester
- 13. Twisting of the intestine resulting in an obstruction
- 14. Serous membrane lining the abdominal cavity
- 18. Enzyme that acts to digest proteins

Anatomy Review

Activity 1

On the illustration below, identify the structures of the abdomen by writing the correct term in the corresponding lettered answer space. Use each term once.



appendix
colon
gallbladder
liver

pancreas
small intestine
spleen
stomach

- a. _____
- b. _____
- c. _____
- d. _____

- e. _____
- f. _____
- g. _____
- h. _____

Activity 2

Consider the two recognized divisions of the abdomen: four quadrants of the abdomen and nine regions of the abdomen, found on page XXX of the textbook. Referring to the illustration in Activity 1, identify on the chart below the quadrant and the region where each of the listed abdominal structures are located. (Some structures are found in more than one quadrant or region.) The first one has been done for you.

<i>Structure</i>	<i>Quadrant</i>	<i>Region</i>
Appendix	right lower quadrant	right inguinal
Colon		
Gallbladder		
Liver		
Pancreas		
Small intestine		
Spleen		
Stomach		

CONCEPTS APPLICATION

Complete the table below to compare and contrast types of pain, abdominal signs, and associated symptoms or findings of the various conditions.

<i>Condition</i>	<i>Type of Pain</i>	<i>Abdominal Signs or Findings</i>	<i>Associated Symptoms</i>
Peritonitis	Sudden or gradual onset of generalized or localized pain described as dull or severe; increased pain with deep inspiration		
		+ Murphy sign	
Ectopic pregnancy			Tender cervix, discharge, dyspareunia
	Sudden and dramatic LUQ, umbilical, or epigastric pain that may be referred to L shoulder		Fever, epigastric tenderness, vomiting
		+ Kehr sign	Fever, hematuria

CASE STUDY

Katie is an 18-year-old female complaining of abdominal pain. Listed below are data collected by the examiner during an interview and examination.

Interview Data

Katie tells the examiner the pain started yesterday evening and has gotten progressively worse. She describes the pain as “really bad.” The pain is constant and located in her right lower abdomen, toward her umbilicus. She says that her pain feels a little better if she stays curled up and does not move. She tells the examiner that she is in good health and that she has never had a problem with her stomach. Katie indicates that normally she has a good appetite and can eat anything . . . except for now. She says she ate breakfast and lunch yesterday, but by dinnertime she was nauseated and had no appetite. She has not eaten anything since. She has had no recent weight changes, but she would like to weigh about 5 pounds less than she currently does. Katie does not smoke or drink alcoholic beverages, and she takes no medication. She denies discomfort or problems with urination, describing her urine as “usual-looking.”

Examination Data

General survey: Alert and anxious female in moderate distress lying in a fetal position on the examination table, with her eyes closed. Appears well-nourished but not obese. Her skin is hot.

Abdominal inspection: Abdomen is flat and symmetric. No lesions or scars noted. No surface movements are seen except for breathing.

Abdominal auscultation: Bowel sounds absent.

Abdominal percussion: Tympany noted over most of abdominal surface; dullness over liver. Midclavicular liver span is 4 inches.

Light abdominal palpation: Demonstrates pain and guarding in right lower quadrant. Unable to palpate deep structures because of excessive abdominal discomfort. Demonstrates positive rebound tenderness in right lower quadrant.

1. What data deviate from normal findings, suggesting a need for further investigation?

2. What additional questions could the examiner ask to clarify symptoms?

3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?

CRITICAL THINKING

1. As you auscultate the abdomen, you should listen not only for bowel sounds, but vascular sounds and a friction rub as well. List specifically what you are listening to and what abnormal findings may indicate.
2. Mr. Cane is a 46-year-old male with liver cirrhosis. You are preparing to check for ascites using a fluid wave technique. How is this particular procedure done, and what is a positive finding?
3. Cindy is a 24-year-old female who is 7 months pregnant. Describe expected findings during an abdominal examination that are unique to pregnancy.



17

Female Genitalia

LEARNING OBJECTIVES

After studying Chapter 17 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the female genitalia.
2. Discuss examination techniques for the female genitalia.
3. Identify normal age and condition variations of the female genitalia.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 17 Female Genitalia (pages 584–647)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. Which finding is suggestive of pelvic inflammatory disease?
 - a. enlargement of ovaries
 - b. everted cervix
 - c. pain resulting from movement of cervix
 - d. unilateral labial swelling, redness, and tenderness
2. Which finding would be of concern during an examination of an elderly female patient?
 - a. palpable ovaries
 - b. small and pale cervix
 - c. constriction of the vaginal introitus
 - d. absence of vaginal rugation

3. While palpating the introitus of the vagina, the patient jumps and complains of severe tenderness. A mass is palpated that is warm to touch. Which of the following problems are these clinical findings consistent with?
 - a. cancer of the cervix
 - b. inflammation of the Bartholin's glands
 - c. a cystocele
 - d. acute genital wart infection
4. Which finding may be indicative of a pelvic mass? The cervix is:
 - a. pale in color.
 - b. deviating to the right.
 - c. protruding 2.5 cm into the vagina.
 - d. pointing anteriorly.
5. The vagina, uterus, fallopian tubes, and ovaries are supported by four ligaments. Which of the following is a normal examination finding that evaluates this support? The:
 - a. uterus can be moved back and forth with manipulation.
 - b. patient is able to tolerate a wide-blade speculum during examination.
 - c. uterus and ovaries are easily assessed with bimanual palpation.
 - d. vagina and uterus are fixed and do not move with manipulation.
6. Which information is accurate and appropriate for an examiner to share with the patient following a Pap smear?
 - a. "You may have heavier bleeding with your next menstrual period."
 - b. "You may experience abdominal cramping for the next couple of days."
 - c. "You will feel nauseated for the rest of the day."
 - d. "You may experience mild bleeding or spotting over the next couple of hours."
7. A patient complains of pain, dysmenorrhea, and heavy prolonged menstrual flow. Tender nodules are palpable along the uterosacral ligament. The symptoms and findings suggest:
 - a. pelvic inflammatory disease.
 - b. endometriosis.
 - c. ectopic pregnancy.
 - d. ovarian cancer.
8. An examiner plans to collect samples for cytologic studies during a vaginal examination. Prior to the examination, the examiner should lubricate the speculum with:
 - a. a water-soluble lubricant.
 - b. topical anesthetizing ointment.
 - c. warm water.
 - d. vaginal secretions.
9. Symptoms associated with PMS are caused by:
 - a. ovulation.
 - b. thickening of the uterine lining.
 - c. elevations in body temperature.
 - d. fluctuations in hormone levels.
10. When examining a woman who has had a hysterectomy, the examiner should:
 - a. delete the bimanual and palpation maneuvers.
 - b. obtain a Pap smear from the suture line.
 - c. omit cultures and specimens from the vagina.
 - d. palpate internal areas before inserting the speculum.

11. A patient complains of urinary incontinence when she is active. Which associated finding might explain this problem?
 - a. hernial protrusion in the posterior wall of the vagina
 - b. hernial protrusion through the anterior wall of the vagina
 - c. symptoms associated with PMS
 - d. enlargement and protrusion of the cervix into the vaginal vault
12. Which finding suggests an infection with a sexually transmitted disease?
 - a. ulcers and vesicles on the vulva
 - b. atrophy of labia minora
 - c. dilation of the urethral orifice
 - d. bluish color to the cervix
13. The examiner observes a slit-shaped cervical os in a nulliparous woman. Which of the following data in her history explains this finding? The patient:
 - a. had early onset of menarche.
 - b. has had multiple sex partners.
 - c. has had infection with the human papilloma virus (HPV).
 - d. had an abortion as a teenager.
14. A prominent labia minora in a newborn:
 - a. indicates a maternal infection.
 - b. suggests ambiguous genitalia.
 - c. is consistent with prematurity.
 - d. is a normal finding.
15. The mother of a 6-year-old girl expresses concern that her daughter seems to be experiencing vaginal bleeding. Which statement regarding vaginal bleeding in children is true?
 - a. Vaginal bleeding in children is always a sign of sexual abuse.
 - b. Vaginal bleeding in children is always clinically important.
 - c. Vaginal bleeding in children is most commonly caused by carcinoma of the cervix.
 - d. Occasional vaginal bleeding in the child is considered a benign finding.
16. Softness of the cervix is an expected finding for:
 - a. an adolescent.
 - b. a pregnant woman.
 - c. a nonpregnant woman.
 - d. an older adult.
17. In what way is the pelvic outlet estimated on a pregnant patient?
 - a. Insert a speculum into the patient's vagina and open as widely as possible. Measure the distance between the two blades.
 - b. Insert two fingers into the vagina until fingers touch the cervix. Measure the distance to the cervix.
 - c. Place the palm of the hand over the perineum, spread fingers to the width of the ischial tuberosities, and measure.
 - d. Use a Thom pelvimeter to measure the bi-ischial diameter.
18. A cauliflower-like mass found on the labia of a female patient is most likely caused by:
 - a. primary syphilis.
 - b. condyloma latum.
 - c. condyloma acuminatum.
 - d. venereal herpes.

19. A sexually active, single, 22-year-old patient complains of a "gross" vaginal discharge. Which of the following questions helps the examiner understand this symptom?
 - a. "Do you use condoms?"
 - b. "What type of oral contraceptives do you take?"
 - c. "At what age did you start menstruating?"
 - d. "Do you have a family history of ovarian or breast cancer?"

20. A 62-year-old female patient went through menopause about 14 years ago. Which statement made by this patient indicates a need for further follow-up?
 - a. "I have not been sexually active for about 4 years."
 - b. "My pubic hair has become very thin."
 - c. "I have small amounts of vaginal bleeding a couple of times a week."
 - d. "I have been taking extra calcium since I reached menopause."

Terminology Review

Matching

Match each type of malignancy to its corresponding risk factors. Some risk factors have more than one answer.

Risk Factor	Malignancy
21. _____ History of breast cancer	O: ovarian cancer
22. _____ Smoking	C: cervical cancer
23. _____ Infertility or nulliparity	E: endometrial cancer
24. _____ High socioeconomic status	
25. _____ Multiple pregnancies	
26. _____ Age 46	
27. _____ Multiple sex partners	
28. _____ Early menarche	
29. _____ Obesity	
30. _____ Infection with human papilloma virus	

Match each diagnostic lab test to the type of instrument used to collect the specimen.

Diagnostic Test	Instrument
31. _____ Gonococcal culture	a. Dacron swab
32. _____ Endocervical cells	b. Wet mount with KOH
33. _____ DNA probe for chlamydia and gonorrhea	c. Spatula
34. _____ <i>Trichomonas vaginalis</i>	d. Sterile cotton swab
35. _____ Both ectocervical and endocervical cells	e. Cytobrush
36. _____ Candidiasis	f. Wet mount with NaCl
37. _____ Ectocervical cells	g. Cervix brush

CONCEPTS APPLICATION

Compare and contrast various alternative positions for pelvic examination with the traditional lithotomy pelvic examination position by describing each position below and listing advantages or disadvantages of each.

<i>Position</i>	<i>Description</i>	<i>Advantages/Disadvantages</i>
Knee-chest		
Diamond-shape		
Obstetric stirrups		
M-Shape		
V-Shape		

CASE STUDY

Melinda is a 33-year-old female who presents to the urgent care center. Listed below are data collected by the examiner during the interview and examination.

Interview Data

Melinda tells the examiner, "I have a really bad pain in front of my butt. It hurts so much that I can't even wipe with a tissue after I go to the bathroom." Melinda indicates that the pain started two days ago and is much worse now. When asked about her sexual activity, she says, "I have a guy that I'm with, but it's not exclusive or anything. We see other people and try not to be real serious."

Examination Data

External: Typical hair distribution; urethral meatus intact; no redness or discharge. Perineum intact. Extreme pain response to palpation of vaginal opening. Swelling, redness, and mass detected on right side. Foul-smelling discharge noted.

Internal: Examination deferred because of extreme pain associated with inflammation.

1. What data deviate from normal findings, suggesting a need for further investigation?
2. What additional questions could the examiner ask to clarify symptoms?
3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?

CRITICAL THINKING

1. Lillian is a 42-year-old blind patient who requests a routine examination. How should the examiner approach this patient to best meet her needs?
2. Judy is a 16-year-old girl who is in the clinic for a school sports physical. How should her health history and an examination of her genitalia differ from that of an adult?



18

Male Genitalia

LEARNING OBJECTIVES

After studying Chapter 18 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the male genitalia.
2. Discuss examination techniques for the male genitalia.
3. Identify normal age and condition variations of the male genitalia.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 18 Male Genitalia (pages 648–673)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. While examining a newborn male infant, the examiner palpates a testicle in the inguinal canal that cannot be pushed into the scrotum. This finding is consistent with:
 - a. hydrocele.
 - b. ambiguous genitalia.
 - c. direct inguinal hernia.
 - d. undescended testicle.

2. The examiner is providing a 20-year-old male with information on genital self-examination (GSE). For what reason should a man this age be taught how to do this?
 - a. Testicular cancer is the most common type of cancer in young men.
 - b. Self-examination can help determine when full development of the genitalia is completed.
 - c. Self-examination can prevent acquiring a sexually transmitted disease.
 - d. Routine examination can help detect prostate enlargement.
3. The examiner has given a 20-year-old male information regarding GSE. Which statement made by the patient indicates further teaching is necessary?
 - a. "I should perform this every month on a regular schedule."
 - b. "I should look for discharge or sores on my penis."
 - c. "I should look for a hernia while doing this."
 - d. "A good time to do this is while bathing."
4. While examining the genitalia of a 2-year-old boy, the examiner should be aware that the:
 - a. scrotum is normally edematous.
 - b. foreskin of the uncircumcised penis is not fully retractable until age 3 or 4.
 - c. testicles typically do not descend into the scrotum until age 5.
 - d. supine position is preferred for examination of children this age.
5. Which data collected from the patient history is considered a risk factor for cancer of the penis?
 - a. circumcised at birth
 - b. history of condyloma acuminatum infections
 - c. had a congenital hydrocele
 - d. history of untreated epispadias
6. In which of the following situations is transillumination of the scrotum indicated?
 - a. Presence of syphilis chancre is noted.
 - b. Indirect hernia is palpated.
 - c. The examiner suspects a mass.
 - d. The examiner palpates the testes.
7. The patient is asked to bear down while the examiner palpates the inguinal ring. The examiner feels a soft swelling sensation on the fingertip. The patient complains of pain while straining. These findings are consistent with which of the following?
 - a. indirect hernia
 - b. direct hernia
 - c. femoral hernia
 - d. rectal hernia
8. The examiner inspects the scrotum of a 43-year-old man. Which finding requires further evaluation or follow-up? The:
 - a. left testicle hangs lower than the right testicle.
 - b. scrotum is darker than the general skin color.
 - c. skin on the scrotum is shiny and smooth.
 - d. scrotum is divided into two sacs by a septum.
9. Which finding may indicate diabetes?
 - a. The vas deferens feels beaded or lumpy.
 - b. The testicle feels hard with a lump.
 - c. Sebaceous cysts are present on the scrotal skin.
 - d. The urethra has a slit-like orifice.

10. During an examination for a hernia, an adult male patient should:
 - a. be asked to stand.
 - b. be in a supine position.
 - c. sit on a table with heels together.
 - d. assume a knee-chest position on the exam table.

11. Balanitis associated with phimosis occurs only in:
 - a. newborn male infants.
 - b. diabetic men.
 - c. uncircumcised men.
 - d. men exposed to radiation.

12. Which of the following testicular characteristics are associated with syphilis or diabetic neuropathy?
 - a. asymmetry and dropping
 - b. bilateral enlargement
 - c. insensitivity to pain
 - d. migration into the abdomen

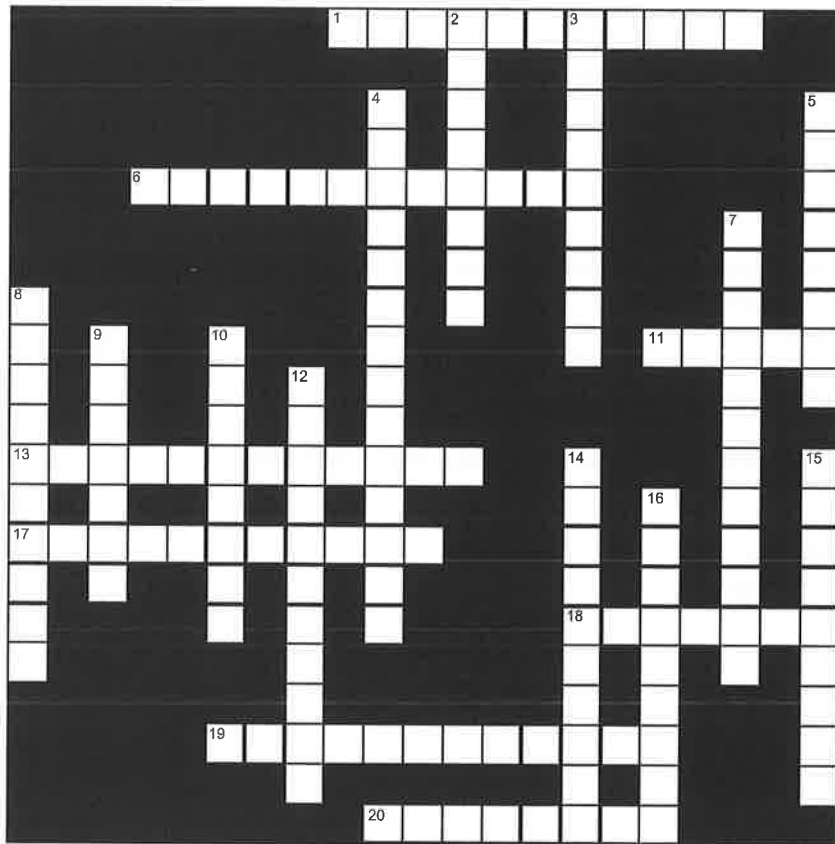
13. What type of hernia would you most likely see with a 15-year-old male?
 - a. femoral hernia
 - b. umbilical hernia
 - c. direct inguinal hernia
 - d. indirect inguinal hernia

14. Which of the following scrotal findings is expected for a full-term newborn male?
 - a. fibrosis
 - b. pendulous
 - c. smooth
 - d. without rugae

15. A 24-year-old man has scrotal pain and marked erythema. The examiner considers epididymitis. Which finding is consistent with this problem?
 - a. An uneven scrotal size and shape is observed.
 - b. Patient has anorexia and nausea.
 - c. Patient reports an acute onset of severe pain.
 - d. Urinalysis shows elevated WBCs and bacteria.

Terminology Review

Crossword Puzzle



Across

1. A defect on the ventrum of the penis so that the urethral meatus is more proximal than its normal glandular location
6. Inflammation of the epididymis
11. Conical structure at distal aspect of penis
13. Surgical removal of the prepuce
17. Reflex characterized by rising of the scrotum and testicle when the inner thigh is stroked
18. Rotation producing ischemia of testis
19. Cystic swelling on the epididymis
20. Disease characterized by a fibrous band in the corpus cavernosum

Down

2. Acute inflammation of the testis
3. Inflammatory bands that connect opposing serous surfaces
4. Undescended testes
5. Prolonged penile erection
7. Painful constriction of the glans penis by a phimotic foreskin, which has been retracted
8. Abnormal tortuosity and dilation of veins in the spermatic cord
9. Ventral curvature of the penis
10. Narrowness of the opening of the prepuce, preventing its being drawn back over the glans
12. XXY chromosomal anomaly
14. Pattern of hair growth on the male pubis and abdomen
15. Inflammation of the glans
16. Fluid accumulation in the tunica vaginalis resulting in a nontender, smooth, firm mass

Matching

Match each lesion descriptor to the corresponding sexually transmitted disease.

Description of Lesion	Sexually Transmitted Disease
16. _____ Initially a painless erosion on or near the coronal sulcus	a. Syphilitic chancre
17. _____ Painful superficial vesicles on the glans, penile shaft, or base of the penis	b. Venereal herpes
18. _____ Dome-shaped, smooth, pearly gray lesions on the glans penis	c. Genital warts
19. _____ Painless lesion with clear base and indurated borders, usually located on glans penis	d. Lymphogranuloma venereum
20. _____ Reddish lesions on prepuce, glans, and shaft; may also be present within the urethra	e. <i>Molluscum contagiosum</i>

Match each examination technique to its corresponding purpose.

Examination Technique	Purpose
21. _____ Foreskin retracted	a. Inspecting for urethral discharge
22. _____ Finger moved along vas deferens	b. Observing for hydrocele
23. _____ Glands pressed between thumb and forefinger	c. Observing for phimosis
24. _____ Mass transilluminated	d. Palpating for inguinal hernia
25. _____ Testes gently compressed	e. Palpating for tender testes

CASE STUDY

Mr. Corazza is a 43-year-old male who presents to the urgent care center. Listed below are data collected by the examiner.

Interview Data

Mr. Corazza tells the examiner, "Yesterday I noticed a mild discomfort in my groin. When I looked, I saw this area of swelling." The examiner asks about recent activity. Mr. Corazza replies, "We have been in the process of moving, and I have been picking up heavy boxes, moving furniture, and have been up and down ladders all weekend."

Examination Data

General survey: Healthy-appearing male.

Examination: Bulge noted in area of Hesselbach triangle that is painless. Inguinal area on right side with palpable mass. Pushes against side of finger on examination.

1. What data deviate from normal findings, suggesting a need for further investigation?

2. What additional questions could the examiner ask to clarify symptoms?
3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?

CRITICAL THINKING

1. A 30-year-old male requests information regarding self-examination of his genitalia. What information should the examiner share with him?
2. When the examiner attempts to examine the genitalia of a 5-year-old boy, the boy refuses to take off his pants and says, "You can't see my privates." What measures can the examiner take to facilitate this part of the exam?



19

Anus, Rectum, and Prostate

LEARNING OBJECTIVES

After studying Chapter 19 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the anus, rectum, and prostate.
2. Discuss examination techniques for the anus, rectum, and prostate.
3. Identify normal age and condition variations of the anus, rectum, and prostate.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 19 Anus, Rectum, and Prostate (pages 674–693)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. While palpating the lateral and posterior rectal walls, the examiner should expect to palpate:
 - a. smooth, even, and uninterrupted surface.
 - b. small nodules from internal hemorrhoids.
 - c. tissue folds from the valves of Houston.
 - d. bulging from the bladder wall.
2. A patient presents with a chief complaint of rectal pain. The examiner will focus the history and examination on which known fact?
 - a. Rectal pain is almost always accompanied by an infection.
 - b. Rectal pain is almost always an indication of local disease.
 - c. A complaint of rectal pain is usually associated with a serious systemic process.
 - d. One of the most common causes of rectal pain is prostatic enlargement.

3. During an examination, the examiner observes inflammation of the sacrococcygeal area. The patient complains of pain when it is palpated. Which of the following problems is *not* consistent with such a finding?
 - a. anorectal fistula
 - b. pilonidal cyst
 - c. hemorrhoids
 - d. perianal abscess
4. While examining the perineum of a 6-year-old girl, the examiner observes hemorrhoids. This finding suggests:
 - a. repeated events of sexual abuse.
 - b. the presence of chronic constipation.
 - c. a diet high in fibrous foods.
 - d. an underlying problem such as portal hypertension.
5. To examine a prostate, what surface is palpated?
 - a. anterior rectal wall surface
 - b. posterior rectal wall surface
 - c. anterior prostate surface
 - d. deep external sphincter surface
6. A patient tells the examiner she has had clay-colored stools. Stool of this color results from:
 - a. a lack of bile pigment.
 - b. excessive fiber intake.
 - c. excessive dietary beef.
 - d. insufficient fluid intake.
7. An elderly male patient is unable to assume a standing position for a routine rectal examination. What is the best alternative position?
 - a. lithotomy position
 - b. left lateral position with knees flexed
 - c. knee-chest position
 - d. prone position
8. A pregnant woman presents to the emergency department with the complaint of dark stools. She tells the examiner, "I read in a magazine that this is a sign of bleeding." Which of the following questions by the examiner is most applicable for this situation?
 - a. "Where did you read that information?"
 - b. "Have you been giving yourself enemas?"
 - c. "How much fruit and vegetable intake have you had in the last few days?"
 - d. "Are you taking prenatal vitamins?"
9. Prior to palpating the prostate, the examiner should tell the patient that he might feel the urge to do which of the following?
 - a. urinate
 - b. defecate
 - c. vomit
 - d. faint
10. Which of the following is considered a routine screening test done in conjunction with a rectal examination?
 - a. biopsy of rectal tissue to rule out precancerous cells
 - b. smear of rectal lining to rule out infectious disease
 - c. transillumination of the rectum to detect a mass
 - d. guaiac test of stool to rule out presence of blood

11. Which examination finding in the child is a clue to the diagnosis of Hirschsprung's disease?
 - a. passing of frequent, loose stools in absence of other symptoms
 - b. consistently empty rectum with a history of constipation
 - c. itching and irritation around the anus
 - d. rectal prolapse

12. In which situation would the examiner perform a rectal examination on an infant or child?
 - a. A newborn infant passes a greenish-black viscous stool 12 hours after birth.
 - b. The mother of a 3-month-old baby describes the baby's stools as "loose and golden yellow."
 - c. A stool of a 6-year-old child is guaiac-positive.
 - d. A mother tells the examiner that her 3-year-old child was sent home from day care after two episodes of diarrhea.

13. How is the anal ring assessed?
 - a. inspection of the anus
 - b. external palpation of the anus
 - c. examination of the stool
 - d. rotation of a finger within the anal sphincter

14. Which of the following best describes the feel of a normal prostate gland?
 - a. soft olive or grape
 - b. small sea sponge
 - c. Ping-Pong ball
 - d. pencil eraser

15. Anal patency is verified in a newborn infant by:
 - a. inserting a lubricated thermometer through the anus and into the rectum.
 - b. inserting the fifth digit through the anus and into the rectum.
 - c. assessing for the passage of a meconium stool in the first 24–48 hours after birth.
 - d. inspecting the anus for an anal opening.

16. Prostate enlargement is determined by the:
 - a. diameter of the rectum near the bladder.
 - b. circumference of the prostate.
 - c. estimation of the depth of the sulcus.
 - d. protrusion of the prostate into the rectum.

17. Which of the following patients has a known risk factor for colorectal cancer?
 - a. Marcus, a 21-year-old college student who is a vegetarian
 - b. Jack, a 56-year-old man who eats a diet high in beef
 - c. Susan, a 38-year-old with a 5-year history of gastric ulcers
 - d. Helen, a 22-year-old mother with multiple hemorrhoids

18. A mother tells the examiner that her 2-year-old son has an odd, bright red bulge coming out of his anus that "looks like a donut." What kind of problem does this history suggest?
 - a. pin worms
 - b. pilonidal cyst
 - c. rectal prolapse
 - d. hypertrophy of the anus

19. The examiner palpates a prostate, noting that it is hard and irregular. The median sulcus is not palpable. These findings are consistent with:
 - a. prostate cancer.
 - b. benign prostate hypertrophy.
 - c. prostatitis.
 - d. rectal mass.

20. A rectal prolapse in a young child is frequently associated with:
- rickets.
 - cystic fibrosis.
 - Crohn's disease.
 - chronic constipation or diarrhea.

Terminology Review

Matching

Match each examination finding or symptom to the corresponding problem to be considered.

Examination/Finding/Symptom	Problem
21. _____ Severe rectal pain with a fever	a. Prostatitis
22. _____ Absence of meconium stool passage in infant	b. Perianal abscess
23. _____ Feels smooth and firm with 4 cm protrusion into the rectum	c. Rectal polyp
24. _____ Elevated red granular tissue opening on perianal skin with purulent drainage	d. Benign prostatic hypertrophy
25. _____ Feels boggy, enlarged, and tender to palpation	e. Prostatic carcinoma
26. _____ Feels hard, nodular; unable to palpate sulcus	f. Imperforate anus
27. _____ Soft nodules palpated with rectal examination	g. Anorectal fistula

CONCEPTS APPLICATION

Fill in the following table by comparing the different methods for screening prostate cancer.

<i>Screening Method</i>	<i>What It Reflects</i>	<i>What Results Mean</i>	<i>When It Is Indicated</i>
DRE			
PSA			
PSA velocity			
Free PSA ratio			
Biopsy			
TRUS			

CASE STUDY

Mr. Murphy is a 66-year-old male who presents to his primary care provider complaining of a 3-month history of rectal fullness. Listed below is data collected by the examiner during an interview and examination.

Interview Data

Mr. Murphy tells the examiner he has had pain “off and on” but became concerned when he started seeing blood in his stool. The blood is described as “bright red.” Mr. Murphy also states that he has seen spots on his underwear, but he has ignored it, thinking he had hemorrhoids. When asked about changes in his diet, Mr. Murphy indicates that he really hasn’t been very hungry lately and has lost 10 pounds over the last several months.

Examination Data

General survey: Thin-appearing male. Vital signs are within normal limits.

Rectal examination: Perineal and anal inspection is unremarkable with no lesions, dimpling or changes in skin characteristics. Sphincter tone findings unremarkable. A large mass is felt with rectal palpation extending from the posterior to the left lateral rectal wall. The prostate is smooth, firm, and nontender to palpation with a 1 cm protrusion.

1. What data deviate from normal findings, suggesting a need for further investigation?
2. What additional questions could the examiner ask to clarify symptoms?
3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?



20

Musculoskeletal System

LEARNING OBJECTIVES

After studying Chapter 20 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the musculoskeletal system.
2. Discuss examination techniques for the musculoskeletal system.
3. Identify normal age and condition variations of the musculoskeletal system.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 20 Musculoskeletal System (pages 694–765)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. While examining range of motion (ROM) on a patient, the examiner should remember that:
 - a. reverse tailor position is encouraged in adults with limited ROM to the hip.
 - b. active ROM is used to assess extremities with complete paralysis.
 - c. full muscle strength can be maintained with up to 75% of ROM to the related joint.
 - d. passive ROM is normally 5 degrees greater than active ROM.
2. The spine of a newborn infant should be palpated with the examiner noting the shape of each spinal process. If a split is noted in one of the spinal processes, which problem is suspected?
 - a. bifid defect
 - b. lordosis
 - c. Down syndrome
 - d. spina bifida

3. The examiner observes a 6-month-old infant. Which of the following observations should be considered an expected finding at this age? The infant:
 - a. walks around the room holding onto objects.
 - b. feeds self with cup and spoon.
 - c. holds a rattle or spoon.
 - d. sits without support.
4. Which of the following questions asked by the examiner would be most helpful in understanding a patient complaining of acute back pain?
 - a. "What medications do you currently take?"
 - b. "Was there any activity or injury that occurred prior to the onset of the pain?"
 - c. "Were you born with any congenital deformities of the spine?"
 - d. "Have you recently lost weight?"
5. Which spinal finding would be considered normal for a 72-year-old patient?
 - a. meningocele
 - b. myelomeningocele
 - c. kyphosis
 - d. scoliosis
6. Which of the following data from a patient's history indicates an increased risk of osteomyelitis?
 - a. severe gout
 - b. rheumatoid arthritis
 - c. severe osteoporosis
 - d. open fracture of the radius
7. What degree of knee flexion is considered a normal finding?
 - a. 15
 - b. 90
 - c. 130
 - d. 160
8. Which of the following is considered a normal finding for a woman in her eighth month of pregnancy?
 - a. stronger ligaments and spinal joints
 - b. hypercalcemia
 - c. 25% loss of muscle strength
 - d. lordosis
9. Which of the following conditions would be considered rare among black women?
 - a. rheumatoid arthritis
 - b. severe osteoporosis
 - c. contractures
 - d. lordosis
10. When assessing for carpal tunnel syndrome, Tinel's sign can be performed by tapping the:
 - a. dorsal aspect of the wrist.
 - b. volar carpal ligament.
 - c. radial artery.
 - d. median nerve.
11. Which group is susceptible to subluxation of the head of the radius?
 - a. infants/toddlers
 - b. adolescents
 - c. pregnant women
 - d. older adults

12. The extension of the patient's head against the examiner's hand is a test of:
 - a. cervical spine alignment.
 - b. passive ROM.
 - c. temporalis muscle strength.
 - d. sternocleidomastoid muscle strength.

13. A patient complains of pain and a clicking noise with jaw movement. The pain extends into the face. These symptoms are suggestive of what condition?
 - a. gout in the jaw
 - b. temporomandibular joint syndrome
 - c. rheumatoid arthritis of the jaw
 - d. bursitis of the temporomandibular joint

14. "Normal" muscle strength is documented as Grade _____.
 - a. 0
 - b. 1
 - c. 5
 - d. 10

15. While measuring the circumference of extremities of a 43-year-old patient, the examiner makes comparisons of the right and left sides. What findings should the examiner expect?
 - a. Measurements between right and left sides should be identical.
 - b. Measurement differences are nearly equal.
 - c. Measurement differences are within 2 inches.
 - d. All of the muscle groups are significantly larger on the dominant side.

16. Which of the following may be an early and subtle symptom of rheumatic fever?
 - a. joint pain occurring 10-14 days after a sore throat
 - b. swelling and inflammation of joints after exercise
 - c. muscle weakness following a fever
 - d. reduced ROM in joints occurring 2 weeks after a viral infection

17. To assess muscle strength of the temporalis and masseter muscles, the examiner will ask the patient to:
 - a. push the jaw forward while the examiner applies counterforce.
 - b. attempt to open his or her mouth while the examiner applies counterforce.
 - c. clench his or her teeth while the examiner palpates the contracted muscles.
 - d. clench his or her teeth together while the examiner attempts to open the mouth with a tongue blade.

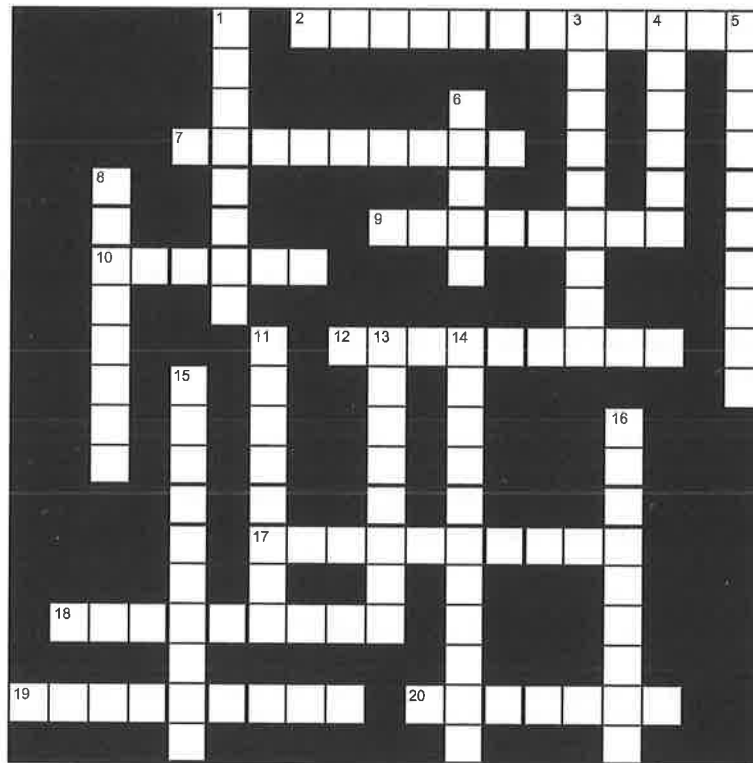
18. For which type of problem does a family history have significance?
 - a. rheumatoid arthritis
 - b. dislocation of radius
 - c. lumbosacral radiculopathy
 - d. bursitis

19. The examiner sees two 9-month-old babies on the same day. Jeremy is a black 9 1/2-month-old who pulls himself to a standing position and holds onto a chair while standing. Nathan is a white 9 1/2-month-old who sits alone on the floor using hands for support; his mother states he is not yet scooting or creeping on the floor. What conclusion is appropriate for the examiner to make?
 - a. Jeremy is advanced for his age.
 - b. Nathan may have a developmental delay.
 - c. Jeremy has superior intelligence to Nathan.
 - d. Both findings are "normal," considering that Jeremy is black and Nathan is white.

20. Which statement made by a patient helps the examiner differentiate osteoarthritis from rheumatoid arthritis? “I:
- have swelling and pain in my joints.”
 - notice a crackling sound when I move my joints.”
 - get extremely tired by mid-morning, even when I sleep well.”
 - used to play the piano when I was younger.”

Terminology Review

Crossword Puzzle



Across

- Lateral deviation of the great toe with overlapping of the second toe
- Movement of the extremities toward the body
- Crackling sound is heard in the patient's joint with movement
- Single crease extending across the entire palm, associated with Down Syndrome
- “Flat foot”
- Position of the forearm when the palm faces upward
- Movement of the sole of the foot inward at the ankle
- Flexion deformity at the distal interphalangeal joint of the foot
- Hyperextension of the metatarsophalangeal joint with flexion of the toe's proximal and distal joints

Down

- Concave curvature of the lumbar spine
- Movement of the extremities away from the body
- Sharp angular deformity associated with a collapsed vertebra from osteoporosis
- Congenital fusion of digits
- Sign in children indicating generalized muscle weakness
- High arch on the sole of the foot
- Outward curvature of the thoracic spine
- Movement of the sole of the foot outward at the ankle
- Presence of more than five digits on hand or foot
- Calibrated device designed to measure the arc or range of motion of a joint
- Rotation of the arm so that the palm faces down

Matching

Match each examination technique to the problem or condition it is used to detect. Some answers may be used more than once.

Examination Technique	Possible Problem/Condition
21. _____ Allis' sign	a. Anterior cruciate ligament injury
22. _____ Apley test	b. Effusion of fluid in the knee
23. _____ Ballottement	c. Flexion contractures in the hip
24. _____ Barlow-Ortolani maneuver	d. L1, L2, L3, L4 nerve root irritation
25. _____ Bulge sign	e. Torn meniscus in knee
26. _____ Drawer test	f. Anteroposterior instability in knee
27. _____ Femoral stretch test	g. Mediolateral instability of knee
28. _____ Lachman test	h. Hip dislocation
29. _____ McMurray test	
30. _____ Thomas test	
31. _____ Vargus/valgus stress test	

CONCEPTS APPLICATION

Activity 1

Based on the symptoms and/or examination findings provided, list the corresponding problem to consider.

<i>Symptoms/Examination Findings</i>	<i>Problem to Consider</i>
Heberden's nodes and Bouchard's nodes noted on hands	
Low back pain that radiates to the buttocks and posterior thigh, with tenderness over the spine	
Heat, redness, swelling, and tenderness to the metatarsophalangeal joint of the great toe	
Subcutaneous nodules on the forearm near the elbow	
Tenderness, swelling, and boggy sensation with palpation along the grooves of the olecranon process; increased pain with pronation and supination	

Continued next page

<i>Symptoms/Examination Findings</i>	<i>Problem to Consider</i>
A child with muscle atrophy and symptoms of progressive muscle weakness	
A child complaining of pain in the elbow and wrist; will not move his or her arm; maintains arm in a flexed and pronated position	

Activity 2

For each developmental task described in the following table, identify the expected age and indicate whether each is a fine motor task or a gross motor task.

<i>Developmental Task</i>	<i>Expected Age</i>	<i>Gross/Fine Motor</i>
Holds crayon; scribbles spontaneously		
Sits with shaky posture; uses tripod position; raises abdomen off table when prone.		
When supine, puts hands together; holds hands in front of face		
Builds a four-block tower; dumps a raisin from a bottle		
Walks alone well; sits self in chair		
Rolls from prone to side position; slight head lag when pulled to sitting position		
Hops on one foot; catches bounced ball; walks heel-to-toe		
Reaches and picks up an object; plays with toes		
Points with one finger		
Begins creeping; stands, holding on, when placed in position		

CASE STUDY

Mrs. Simmons is a 46-year-old female with rheumatoid arthritis (RA). Listed below are data collected by the examiner during an interview and examination.

Interview Data

According to the medical record, Mrs. Simmons was diagnosed with RA at the age of 30. Mrs. Simmons complains of a great deal of pain in her joints, particularly in her hands, and says she has just learned to live with the pain because it will always be there. She states that the stiffness and pain in her joints is always worst in the morning, or if she sits around too much. She denies muscle weakness other than the fact that her stiffness and soreness prevent her from doing much. Mrs. Simmons states that the RA is progressing to the point where she is having difficulty doing things requiring fine motor dexterity such as changing clothes, holding utensils to eat, and cutting up her food. She says she can still get cleaned up but had to have different faucet handles placed in her home so that she could turn the water on and off. Mrs. Simmons says she rarely goes out because she feels ugly.

Examination Data

Patient is able to stand, but standing up straight and erect is not possible. Gait is slow and purposeful, with jerky movements. Significant inflammation, swelling, and tenderness is noted with inspection and palpation at hip, knee, wrists, hands, and feet bilaterally. Subcutaneous nodules are noted at ulnar surface of elbows bilaterally.

1. What data deviate from normal findings, suggesting a need for further investigation?
2. What additional questions could the examiner ask to clarify symptoms?
3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?

CRITICAL THINKING

1. Mark is a 17-year-old who presents with pain to the ankle. He says he twisted it during his soccer game earlier in the afternoon, and now the pain seems to be getting worse. The ankle is very swollen with a bluish discoloration. How does the examiner determine whether Mark has a muscle strain, a sprain, or a fracture?

2. A 2-year-old girl with a dislocation of the radial head is brought to the clinic by her parents. What type of activities could cause such an injury, and what type of teaching should be provided to the parents?



21

Neurologic System

LEARNING OBJECTIVES

After studying Chapter 21 in the textbook and completing this section of the workbook, students should be able to:

1. Conduct a history related to the neurologic system.
2. Discuss examination techniques for the neurologic system.
3. Identify normal age and condition variations of the neurologic system.
4. Recognize findings that deviate from expected findings.
5. Relate symptoms or clinical findings to common pathologic conditions.

TEXTBOOK REVIEW

Chapter 21 Neurologic System (pages 766–816)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. Which of the following disorders is known to be hereditary?
 - a. Creutzfeldt-Jakob disease
 - b. meningitis
 - c. Huntington's chorea
 - d. seizure disorder

2. Unless a problem is suspected, which cranial nerve is not routinely tested?
 - a. I
 - b. II
 - c. V
 - d. XI

3. The patient is able to rapidly touch each finger to his thumb in rapid sequence. What does this finding mean? The patient has:
 - a. intact trochlear and abducens cranial nerves.
 - b. appropriate cerebellar function.
 - c. an intact spinal accessory nerve.
 - d. appropriate kinesthetic sensation.
4. Which question asked by the examiner may help to determine prevention strategies for seizures that a patient is experiencing?
 - a. "Where do your seizures typically begin?"
 - b. "How do you feel after the seizure?"
 - c. "What goes through your mind during the seizure?"
 - d. "Are there any factors or activities that seem to start the seizures?"
5. The patient makes the following statement: "I sometimes feel as if the whole room is spinning." What type of neurologic dysfunction should the examiner suspect?
 - a. peripheral neuropathy dysfunction
 - b. increased intracranial pressure from a brain tumor
 - c. inner ear dysfunction affecting the acoustic nerve
 - d. lesion affecting the frontal lobe
6. The examiner asks the patient to close her eyes, then places a vibrating tuning fork on the patient's ankle and asks her to indicate what is felt. What is being assessed?
 - a. peripheral nerve sensory function
 - b. cranial nerve sensory function
 - c. cortical sensory function
 - d. level of consciousness
7. Which of the following findings should an examiner consider a normal finding if associated with pregnancy?
 - a. decreased gag reflex
 - b. mild seizures
 - c. change in balance
 - d. 4+ deep tendon reflexes
8. Sensory neurologic testing is not usually done with children until they are:
 - a. preschool age.
 - b. kindergarten age.
 - c. middle school age.
 - d. high school age.
9. Jack is a 52-year-old obese man with a history of poorly controlled diabetes. He also smokes. Based on this data, the examiner should recognize that Jack has several risk factors for:
 - a. seizures.
 - b. cerebral vascular accident.
 - c. multiple sclerosis.
 - d. Guillain-Barré syndrome.

10. Which of the following assessment findings should not be surprising to an examiner given Jack's history as described in question 9?
 - a. inability to discern superficial touch or two-point discrimination on the legs
 - b. reduced muscle tone on left side of face
 - c. asymmetry of the face when asked to smile and puff out his cheeks
 - d. slow and uncoordinated movement with finger-nose test
11. A woman complains of weakness in the lower extremities. She is 2 days postpartum. Which of the following problems should the examiner consider?
 - a. depression
 - b. obstetric palsy
 - c. encephalitis
 - d. postpartum stroke
12. The examiner is assessing deep tendon reflex response on a 12-year-old boy. The response is an expected reflex response. Which of the following scores should be documented?
 - a. 1+
 - b. 2+
 - c. 3+
 - d. 4+
13. An older patient tells the examiner, "I have a hard time finding the right words when I am talking." This symptom may be:
 - a. a precursor to a seizure disorder.
 - b. an early symptom of Parkinson's disease.
 - c. an indication of a dysfunction of the temporal lobe.
 - d. associated with a problem of the vestibular apparatus.
14. What response should occur when a patient's field of gaze moves from a distant object to one close to his or her face?
 - a. rapid eye movement
 - b. ptosis of the eye
 - c. constriction of the pupil
 - d. dilation of the iris
15. How can an examiner best gain the cooperation of a child to perform a neurologic examination?
 - a. Ask a parent to perform the exam while the examiner observes the response.
 - b. Ask the mother or father to step out of the room.
 - c. Promise the child a toy or treat if they do what you ask.
 - d. Make various aspects of the neurologic examination a game.
16. Which of the following infant reflex responses is considered normal?
 - a. A 13-month-old baby's toes fan in response to stroking the lateral surface of the infant's sole.
 - b. An 8-month-old infant demonstrates a positive Moro reflex when startled.
 - c. A 3-month-old infant's fingers fan when the examiner's finger is placed in the infant's hand.
 - d. A 2-month-old infant's legs flex up against the body when the infant is held in an upright position, and the dorsal side of the foot touches the table.

17. The examiner is conducting an interview with the mother of an infant as part of the neurologic system examination. Which of the following responses made by the mother may indicate a need for further evaluation?
 - a. "My baby sometimes falls asleep when I am feeding her."
 - b. "My baby seems to jump when there is a loud noise in the room."
 - c. "I drank a glass of wine about once a week while I was pregnant."
 - d. "I had problems with hypertension the entire time I was pregnant."

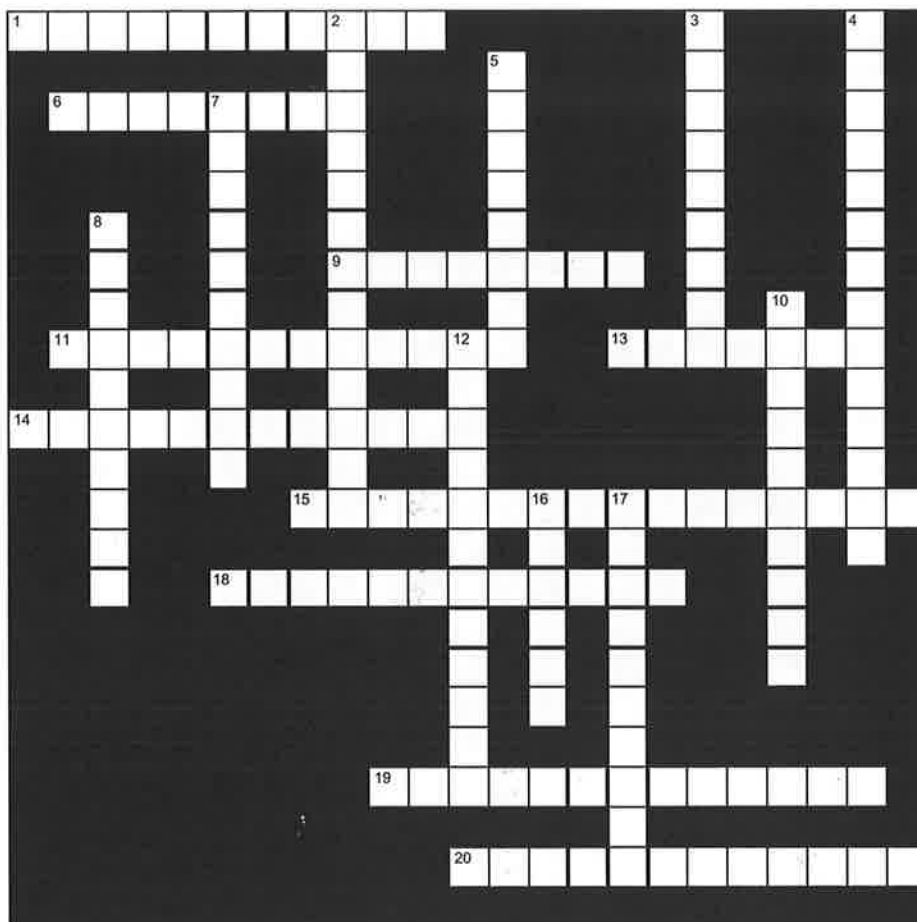
18. A patient demonstrates impaired pain sensation. Which additional test is appropriate to further evaluate this finding?
 - a. heat and cold sensation
 - b. ultrasonic perception
 - c. deep tendon reflex
 - d. transillumination of the involved area

19. The examiner squeezes the patient's bicep muscle as part of an examination. Which of the following responses verbalized by the patient is considered normal?
 - a. "That makes my arm tingle."
 - b. "That makes a burning sensation go up my arm."
 - c. "That is uncomfortable."
 - d. "My arm is twitching."

20. Which of the following findings is associated with an increased risk of skin breakdown and injury?
 - a. inability to feel pressure applied by a monofilament
 - b. inability to identify a familiar object by touch
 - c. inability to identify a letter drawn in the palm of the hand
 - d. 3+ deep tendon reflexes

Terminology Review

Crossword Puzzle



Across

- 1. Contains the motor cortex; associated with voluntary skeletal movement
- 6. Behavior used to limit pain, as limping reduces the time of weight bearing on an affected leg
- 9. Conveys sensory impulses to and from the cerebrum and integrates the impulses between the motor cortex and the cerebrum
- 11. Responsible for perception and interpretation of sounds, taste, smell, and balance
- 13. Patient standing with eyes closed is unable to maintain balance when pushed slightly
- 14. Ability to identify an object by touch
- 15. Acts as the respiratory center and relay center for major ascending and descending spinal tracts
- 18. Maintains temperature control, water metabolism, and neuro-endocrine activity
- 19. Tactual ability to recognize writing on the skin
- 20. Mediates primitive behaviors that determine survival

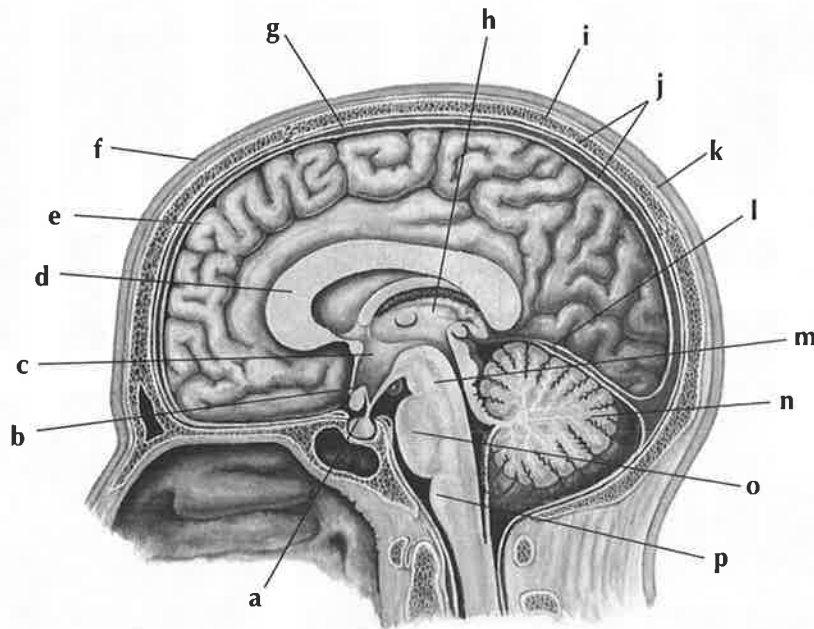
Down

- 2. Contains the primary visual center and interpretation of visual data
- 3. Acts as the pathway between the cerebral cortex and spinal cord
- 4. Stiff neck; associated with meningitis
- 5. Unexpected gait pattern manifested by an excessive lift of the hip and knee and an inability to walk on the heels
- 7. Absence of deep tendon reflexes may be an indication of this type of neuron disorder or of peripheral neuropathy
- 8. Works with the motor cortex of the cerebrum; involved in voluntary movement; processes information from eyes, ears, and touch
- 10. Attempt to straighten a leg of a supine patient with leg flexion at the knee and hip
- 12. Pathway and processing station between the cerebral motor cortex and the upper brain stem
- 16. Inability to coordinate muscle activity during voluntary movement
- 17. Sign characterized by involuntary flexion of the hips and knees when the neck is flexed

Anatomy Review

Activity 1

On the following illustration, identify the structures of the skull and brain by writing the correct term in the corresponding lettered answer space.



cerebellum
 cerebrum
 corpus callosum
 dura mater (two layers)
 galea aponeurotica
 hypothalamus
 medulla oblongata
 midbrain

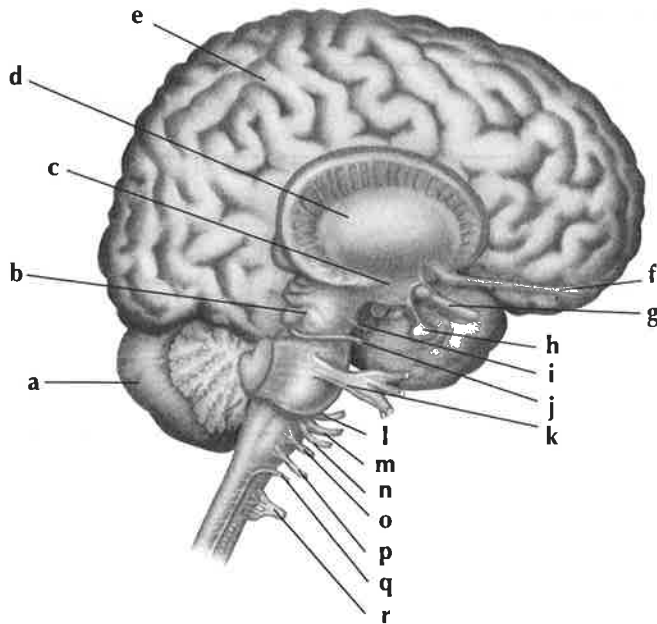
optic chiasma
 pituitary gland
 pons
 skin
 skull
 superior sagittal sinus
 tentorium cerebelli
 thalamus

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____
- g. _____
- h. _____

- i. _____
- j. _____
- k. _____
- l. _____
- m. _____
- n. _____
- o. _____
- p. _____

Activity 2

On the following illustration, identify the structures of the skull and brain by writing the correct term in the corresponding lettered answer space.



- abducens (VI)
- acoustic (VIII)
- cerebellum
- cerebral peduncle
- cerebrum
- facial (VII)
- glossopharyngeal (IX)
- hypoglossal (XII)
- hypothalamus

- oculomotor (III)
- olfactory (I)
- optic (II)
- pituitary gland
- spinal accessory (XI)
- thalamus
- trigeminal (IV)
- trochlear (IV)
- vagus (X)

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____
- g. _____
- h. _____
- i. _____

- j. _____
- k. _____
- l. _____
- m. _____
- n. _____
- o. _____
- p. _____
- q. _____
- r. _____

CONCEPTS APPLICATION

Activity 1

Complete the following table by writing in the cranial nerve(s) tested by each examination procedure. More than one cranial nerve may be tested with each procedure.

<i>Examination Procedure</i>	<i>Cranial Nerve Tested</i>
Whisper test	
Patient sticking out tongue and moving it from side to side	
Taste test with sugar, salt, and lemon	
Visual acuity	
Patient puffing out cheeks and showing teeth	
Patient shrugging shoulders against examiner's hands	
Smell test with coffee, orange, and cloves	
Eyes constricting and dilating in response to light	
Patient clenching teeth (temporal muscles contracted)	

Activity 2

In the table below, write the name of the reflex based on the observed response; then indicate whether this is expected or unexpected, based on the age of the infant and/or the nature of the response.

<i>Age of Infant</i>	<i>Observed Response</i>	<i>Name of Reflex</i>	<i>Expected/Unexpected</i>
8 months	The infant abducts and extends arms and legs in response to sudden movement of head and trunk backward. The arms then adduct in an embracing motion followed by relaxation.		
2 months	The infant demonstrates a strong grasp of the examiner's finger when it is placed in the infant's palm.		
4 months	When held in an upright position with soles of the feet touching the surface of a table, the infant flexes legs upward in a curled position and holds them there.		
6 months	In a suspended head-first prone position, the infant extends arms and legs.		

CASE STUDY

Melvin Thomas is a 64-year-old male admitted to the hospital with a diagnosis of acute cerebral vascular accident (CVA). Listed below are data collected by the examiner during an interview and examination.

Interview Data

Mr. Thomas's wife tells the examiner that her husband was fine until this morning when he suddenly had a headache, fell to the floor, and could not get up. Mrs. Thomas adds that when she tried to get her husband to speak, he made only mumbling noises, and she could not understand him.

Examination Data

Mental status: Awake, alert male. Unable to talk, but able to follow commands. Very distraught over this incident. Patient cries and avoids eye contact with the wife and examiner.

Neurologic examination: Cranial nerves I, II, III, IV, V, VI, VIII all intact. Patient has asymmetry and unequal movements of face, with a drooping of the left side of face. Has asymmetry of shoulder shrug, with deficiency noted on left side. Patient has left-sided paralysis. Demonstrates expected muscle tone and sensation on right side. Unable to assess balance. Unable to get up or move around in bed unassisted at this time.

1. What data deviate from normal findings, suggesting a need for further investigation?
2. What additional questions could the examiner ask to clarify symptoms?
3. What additional physical examination, if any, should the examiner complete?
4. What primary problems does the patient have?

CRITICAL THINKING

1. Kevin, an ambitious novice examiner, uses an unfolded paper clip to test peripheral two-point discrimination. He adjusts the paper clip so that the points are 1 inch apart. With this instrument, he tests the patient's palm, toe, back, upper arm, and upper leg, and he notes that the patient fails to discriminate between one and two points in each of these areas. Kevin concludes that the patient has some sort of peripheral sensory deficit. What is incorrect in Kevin's methods and/or conclusion?
2. The CT scan of a patient demonstrates an infarction of the frontal lobe toward the left side. What brain functions occur in the frontal lobe? What type of symptoms would you anticipate this patient to have?



22

Putting It All Together

LEARNING OBJECTIVES

After studying Chapter 22 in the textbook and completing this section of the workbook, students should be able to:

1. Discuss the process of completing the history and physical examination.
2. Describe patient reliability and factors that may affect accuracy of data collected.
3. Describe general examination sequence.
4. Identify techniques useful for evaluation of infants and young children.
5. Discuss the functional assessment.

TEXTBOOK REVIEW

Chapter 22 Putting It All Together (pages 817–846)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. When performing a physical examination, you should consider the examination to begin:
 - a. as soon as you meet the patient.
 - b. after the vital signs are taken.
 - c. after you explain to the patient everything you are going to do.
 - d. after the patient has put on an exam gown.
2. The examiner may decide to omit various aspects of an examination. Which of the following best explains how that decision is made?
 - a. The patient is feeling ill.
 - b. The patient already knows what is wrong, and a diagnosis can be based on the history.
 - c. Certain examination steps will provide data of limited value.
 - d. Anxiety is observed by the examiner.

3. In what way can the patient's modesty be maintained while an examination is being conducted? The examiner should:
 - a. turn his or her back while the patient undresses.
 - b. keep the patient covered as much as possible during the examination.
 - c. avoid touching the patient during the examination except when absolutely necessary.
 - d. not require the patient to disrobe for the examination.
4. Which examination approach is suggested for a 14-month-old baby? The baby should be:
 - a. completely undressed and lying down on an examination table.
 - b. fully clothed and placed on the floor with toys; the examiner should conduct the examination while the child plays.
 - c. completely undressed and held by the examiner.
 - d. wearing only a diaper and sitting on his or her parent's lap.
5. Which examination technique is not generally included in the examination of a newborn infant?
 - a. percussion of the chest
 - b. palpation of the abdomen
 - c. auscultation of the lungs
 - d. inspection of the mouth and palate
6. Which of the following assists the examiner in determining the gestational age of a newborn infant?
 - a. measurement of the head circumference
 - b. percussion to determine liver size
 - c. inspection of hair distribution of the scalp
 - d. inspection of the sole of the foot
7. A patient complains of a sore throat. Which aspect of the examination could be eliminated?
 - a. vital signs
 - b. palpation of lymph nodes
 - c. deep tendon reflexes
 - d. auscultation of the heart and lungs
8. All of the following can be assessed initially during the general inspection *except*:
 - a. mobility.
 - b. nutritional status.
 - c. urinary function.
 - d. skin color.
9. What technique will most likely facilitate the examination of a small frightened girl?
 - a. Promise the child you won't hurt her.
 - b. Tell the child a story in order to distract her.
 - c. Use restraints to hold the child, but tell her you are playing a game with her.
 - d. Tell the child you will give her a toy or treat if she does not cry.
10. Which of the following aspects of examination is most relevant to the evaluation of an older adult?
 - a. functional assessment
 - b. physical measurements
 - c. developmental scoring
 - d. vital signs, including peripheral pulse examination
11. For a routine physical examination, all of the following equipment is necessary *except*:
 - a. pen light.
 - b. measuring tape.
 - c. examination gloves.
 - d. monofilament.

12. Which of the following best describes how the collection of a history should be done? It:
- is always done at the very beginning of an examination to help you identify problems.
 - is done at the end of the physical examination after you have identified problems.
 - may be done before, during, and after the examination.
 - is done only if it is relevant to the situation.

Terminology Review

Matching

Mr. Walker is a 62-year-old man requiring a routine physical examination. Below is a list of some of the procedures that will be performed during the examination, as well as some of the equipment that will be needed. Match the type of equipment needed to the corresponding examination procedure. Answers may be used more than once; some procedures require more than one answer.

Examination Procedure

- Red reflex
- Lung sounds
- Jugular venous pulsations
- Symmetry of muscle groups
- Gag reflex
- Thyroid
- Rectal and prostate exam
- Tympanic membrane
- Visual acuity
- Rinne and Weber tests
- Liver span
- Lymph nodes
- Heart murmurs
- Deep tendon reflex
- Romberg test
- Retinal examination
- Bowel sounds
- Tactile fremitus

Equipment Needed

- Eye chart (Snellen)
- Gloves
- Lubricant
- Marking pen
- Measuring tape
- Ophthalmoscope
- Otoscope
- Penlight
- Percussion hammer
- Stethoscope
- Tongue blade
- Tuning fork
- No equipment needed

CONCEPTS APPLICATION

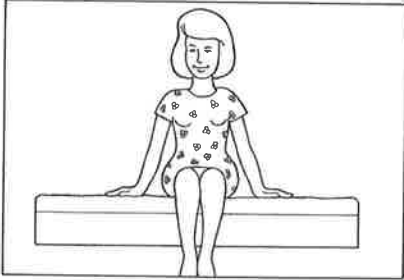
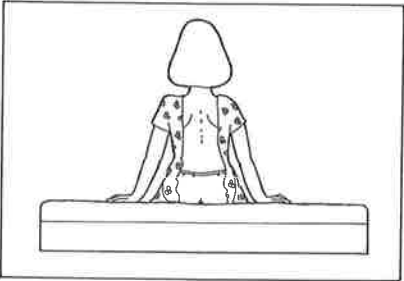
Activity 1

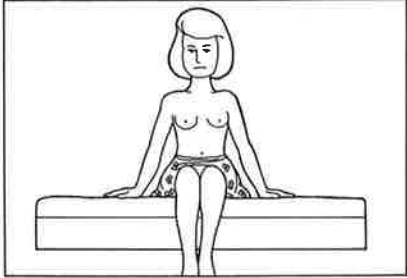
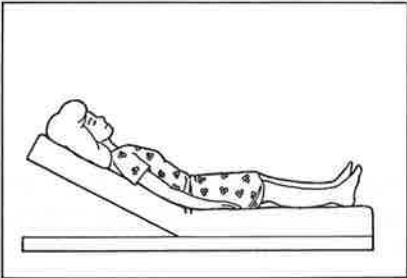
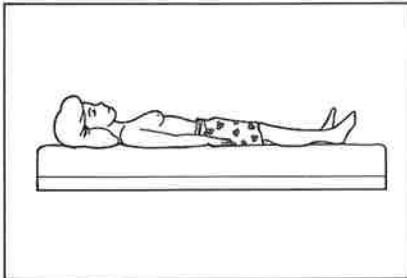
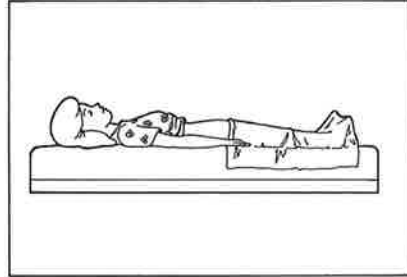
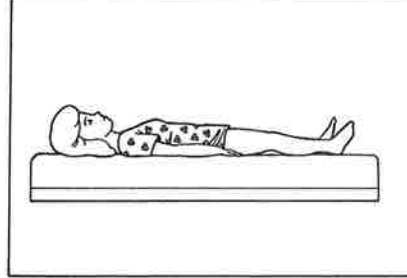
Complete the following table by listing the body systems examined in each of the examination areas provided in the left column. Select the appropriate body systems from those provided in the box. You will use some systems more than once.

<i>Examination Area</i>	<i>Body Systems Examined</i>
Upper extremities	
Anterior chest	
Abdomen	
Head and neck	

Activity 2

Next to each patient position, list the procedures that should be included during an examination in that position. This information is provided in your textbook, but try to complete this activity as much as possible based on your memory of what you have learned.

<i>Position</i>	<i>Examination Procedures to Be Included</i>
	
	

<i>Position</i>	<i>Examination Procedures to Be Included</i>
	
	
	
	
	



23

Taking the Next Steps: Critical Thinking

LEARNING OBJECTIVES

After studying Chapter 23 in the textbook and completing this section of the workbook, students should be able to:

1. Discuss the process of data analysis.
2. Describe barriers to critical thinking in reaching diagnostic conclusions.
3. Identify terms associated with data analysis and problem identification.
4. Discuss the role of additional testing in the clinical examination process.
5. Describe what is meant by *patient management plan*, and explain where it fits with critical thinking and clinical examination.

TEXTBOOK REVIEW

Chapter 23 Taking the Next Steps: Critical Thinking (pages 847-854)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. Unless a life-threatening situation exists, the best guide to determining the priority for the patient's condition should be based on:
 - a. intuition.
 - b. probability and utility.
 - c. the use of algorithms.
 - d. the examiner's initial favorite hypothesis.

2. When determining a need for additional examination, testing, or procedures, one should consider that they should be done:
 - a. to obtain as much data as possible.
 - b. to attempt to get data that might be associated with multiple problems.
 - c. only when it is absolutely necessary.
 - d. if they relate to the examiner's hypothesis.
3. After an examiner has identified and confirmed a problem, the next step is to:
 - a. assess the data collected.
 - b. formulate a clinical opinion.
 - c. conduct further assessment.
 - d. determine the management plan.
4. The use of a computer could potentially be detrimental to the examiner because:
 - a. it may become a substitute for critical thinking.
 - b. computer dysfunction makes it unreliable.
 - c. the computer is limited in the amount of data it can interpret.
 - d. the level of skill needed to run a diagnostic computer program is beyond the computer skills of most examiners.
5. In order to identify problems based on clinical examination, it is helpful to organize the data:
 - a. by dividing data into normal and abnormal findings.
 - b. by body systems.
 - c. by chief complaints.
 - d. in the order the data was collected.
6. Each of the following could become a barrier to the critical thinking process *except* for the examiner's:
 - a. feelings.
 - b. attitudes.
 - c. values.
 - d. objectivity.
7. Which statement best characterizes a belief that supports a sound decision-making process?
 - a. The underlying problem is always related to the chief complaint.
 - b. Rare problems tend to have unusual presentations.
 - c. Common problems occur commonly, whereas rare ones occur rarely.
 - d. A diagnosis should be made quickly to enhance patient confidence.
8. Lab tests should be used to:
 - a. confirm a presumed diagnosis.
 - b. develop a list of potential problems.
 - c. rule out all possible causes of symptoms and clinical findings.
 - d. assist the examiner only when the data does not point to a specific problem.

Terminology Review

Matching

Match each example with the correct term in the right column. Use each choice only once.

Example	Term
9. _____ The examiner notes a positive Homan’s sign in the absence of thrombophlebitis.	a. Bayes’ formula
10. _____ Based on observations made, the examiner correctly concludes that a patient does not have renal disease.	b. false negative
11. _____ The patient does not demonstrate tenderness at McBurney’s point, and does not have appendicitis.	c. false positive
12. _____ A numeric value is assigned, predicting the probability that a patient with negative findings does not have a given illness or condition.	d. negative predictive value
13. _____ A diagnosis of hepatitis B is made on a patient based on his symptoms and the population of IV drug abusers of which he is part.	e. positive predictive value
14. _____ The examiner correctly concludes that a patient has chronic hypoxia based on the patient’s presentation.	f. sensitivity
15. _____ A patient with cholecystitis has a positive Murphy’s sign.	g. specificity
16. _____ The examiner notes normal findings on a patient with cancer of the prostate.	h. true positive
17. _____ With acute myocardial infarction, 90% of patients demonstrate diaphoresis.	i. true negative

CONCEPTS APPLICATION

Activity 1

Complete the following table by listing the body systems that might be involved with each of the symptoms described. Choose body systems from those listed in the box. All symptoms have more than one possible body system involvement; answers can be used more than once.

Body Systems							
auditory	cardiovascular	gastrointestinal	integumentary	musculoskeletal	neurologic	respiratory	visual

<i>Symptoms</i>	<i>Body Systems That Might Be Involved</i>
Chest pain	
Headaches	
Abdominal pain	
Pain in the legs	

Activity 2

Complete the following table by listing possible problems associated with the examination data provided.

<i>Examination Data</i>	<i>Possible Problems</i>
54-year-old female with jaundice, abdominal pain, nausea, weight loss. Has pain to abdominal palpation; positive bowel sounds. Liver slightly enlarged; admits to alcohol use.	
66-year-old male with chief complaint of breathing difficulty. Has increased respiratory rate, low-grade fever, rales, productive cough; increased tactile fremitus bilaterally.	
13-week-old infant girl with fever, irritability, poor eating. Infant is dehydrated and has a temperature of 103.7° F; abdomen soft.	
19-year-old female college student with chief complaint of pain when urinating. Describes frequency and urgency. Patient has temperature of 100.4° F; Has constant pain in pelvic area; positive pain with fist percussion over left flank.	



24

Recording Information

LEARNING OBJECTIVES

After studying Chapter 24 in the textbook and completing this section of the workbook, students should be able to:

1. Describe reasons for maintaining clear and accurate records.
2. Discuss various components of the POMR.
3. Organize data in appropriate system sections of the history.
4. Delineate methods for documenting the location and description of findings.

TEXTBOOK REVIEW

Chapter 24 Recording Information (pages 855-884)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. Which of the following examples illustrates a vague or nondescriptive term? "Skin:
 - a. color is normal."
 - b. turgor is elastic."
 - c. is thin and smooth."
 - d. is warm and dry."
2. How are "normal findings" best documented?
 - a. Write *normal* or *within normal limits* on the documentation form.
 - b. Write *NA* (not applicable) on the documentation sheet.
 - c. Because documentation focuses on abnormal findings, do not write anything down for normal findings.
 - d. Document what was actually assessed in specific terms.

3. One way that a health history for an infant differs from that of an adult is the inclusion of:
 - a. nutritional history.
 - b. chief complaint.
 - c. prenatal information.
 - d. personal social information.

4. If a mistake is made in the patient record, it is suggested that a line be drawn through it so that it is still legible. The basis for this action is related to the fact that:
 - a. no errors are allowed.
 - b. the chart is a legal document.
 - c. a pen is messy when used to obliterate writing.
 - d. others may want to read what your first impressions were.

5. Which of the following issues has most recently challenged the health care system regarding privacy of patient records?
 - a. inclusion of sensitive details regarding family and social data
 - b. access to the record by multiple health care professionals
 - c. students in the health care delivery area who do not appropriately handle patient confidentiality
 - d. computer-based health data systems

6. A 4-year-old girl has fallen against a coffee table and has knocked out all of her incisors. How is this best documented by the examiner?
 - a. Teeth missing: 11, 21, 31, 41
 - b. Teeth missing: 51, 61, 71, 81
 - c. No teeth: 11, 12, 13, 14
 - d. "Knocked out all the incisors"

7. Which of the following statements is true regarding use of abbreviations?
 - a. Use of any abbreviations is fine as long as you can interpret them.
 - b. Abbreviations should be used as much as possible to reduce time and space needed for documentation.
 - c. Abbreviations should be avoided because they are not considered acceptable.
 - d. Use only universally accepted abbreviations for documentation.

8. The examiner can substantially reduce the possibility of legal problems by:
 - a. maintaining clear medical records.
 - b. using SOAP format to document all entries.
 - c. using a POMR.
 - d. drawing genograms in the patient record.

9. Which of the following information belongs in a family history?
 - a. chronic illness
 - b. current problems
 - c. hereditary diseases
 - d. personal data

10. A drawing in the medical record may be used to document:
 - a. pulse amplitude.
 - b. location of lesions.
 - c. location of mass.
 - d. all of the above.

Terminology Review

Fill in the blanks in the following statements, selecting appropriate terms from the word choice box.

Word Choice Box		
Uniform Dental Recording System	subjective	SOAP
illustration	POMR	chief complaint
objective	health history	incremental grading
physical examination		

11. _____ data is collected during the history and is based on patient reports.
12. A brief description of the patient's main reason for seeking health care is referred to as the _____.
13. _____ is a format used to document health history notes.
14. The use of stick people to document findings is an example of using a(n) _____.
15. The _____ is a system used to document location of teeth.
16. _____ data is collected while conducting the physical examination.
17. _____ is the use of recorded numbers to represent findings by variable degrees.
18. The _____ is a widely accepted medical record format.
19. The _____ is the part of the record where information from a patient interview is recorded.
20. Clinical findings are recorded during the _____.

CONCEPTS APPLICATION

Develop a problem list for Mrs. Olivas based on the following information:

Mrs. Olivas comes to the clinic complaining of back pain. She indicates this pain started in June 1998, while moving some rocks in her garden. Other pertinent aspects of her history include insulin-dependent diabetes mellitus (IDDM) since 1977, which she says she has never really had under control, and cholecystitis for which she had a cholecystectomy in May 1997. Mrs. Olivas has a family history of atherosclerotic heart disease (ASHD) and chronic renal failure (CRF).

<i>Problem #</i>	<i>Onset</i>	<i>Problem</i>	<i>Date Resolved</i>

CASE STUDY

Jean is a 37-year-old female who has been interviewed for a health history. Her family history is given in the following paragraph. In the space below, draw a genogram for Jean's family history using the information provided.

Jean is married. Her husband is 43. The couple have a 12-year-old son, an 11-year-old daughter, and a 10-year-old son, all in good health. Jean has a 42-year-old brother and three sisters aged 40, 36, and 32. All of her siblings are in good health. Both of Jean's parents are alive. Her 70-year-old father has mild emphysema and is an only child. Her mother is 66 and has hypertension. Jean's mother has three siblings; the oldest (Jean's uncle) is 74 and suffers from glaucoma. Another brother is 72 and is in good health. A sister is 69 and has osteoarthritis. All of Jean's grandparents are deceased. Her paternal grandfather died at the age of 89 of prostate cancer. Her paternal grandmother died of congestive heart failure at the age of 91. Jean's maternal grandfather died at the age of 86 of prostate cancer, and her maternal grandmother died of "old age" at the age of 96.

CRITICAL THINKING

1. The onset of a “new” symptom should be thoroughly documented. Describe what the mnemonic “OLDCARTS” refers to regarding documentation of a symptom.

O:

L:

D:

C:

A:

R:

T:

S:

2. While examining a patient, you note a mass. What characteristics should be described when documenting any organ, mass, or lesion?



25

Emergency or Life-Threatening Situations

LEARNING OBJECTIVES

After studying Chapter 25 in the textbook and completing this section of the workbook, students should be able to:

1. Compare and contrast primary and secondary assessment.
2. Describe findings considered significant in the secondary assessment.
3. Describe how pediatric emergency assessment differs from adult emergency assessment.
4. Identify pediatric findings considered to be of concern or ominous.
5. Discuss the impact of advance directives on providing immediate care.

TEXTBOOK REVIEW

Chapter 25 Emergency or Life-Threatening Situations (pages 885-903)

CONTENT REVIEW QUESTIONS

Multiple Choice

Circle the correct answer for each of the following questions.

1. Approximately how long should an examiner take to conduct a primary assessment of the stable patient?
 - a. 30 seconds
 - b. 60 seconds
 - c. 2 minutes
 - d. 5 minutes
2. After the initial primary assessment is conducted, how often should it be repeated?
 - a. every 30 seconds
 - b. every 2 minutes
 - c. every 5 minutes
 - d. every time the patient's condition changes

3. Which finding is consistent with abdominal hemorrhage?
 - a. increased bowel sounds
 - b. distention and pain
 - c. hyperresonance with percussion
 - d. auscultation of mesentery artery
4. Which of the following findings suggests a serious problem in a 3-year-old child who has fallen from a tree?
 - a. respiratory rate of 38
 - b. pulse rate of 164
 - c. lethargy
 - d. crying
5. Mike complains of severe rib pain. His coworkers state he was hurt on the job when a large pipe struck him across the chest. Given this history, which type of problem should be considered during the secondary assessment?
 - a. flail chest
 - b. rebound tenderness
 - c. pulmonary embolus
 - d. pupillary constriction
6. A patient from a motor vehicle accident presents with a suspected neck injury. Which of the following actions by the examiner is clearly *not* appropriate?
 - a. assessing peripheral pulses
 - b. providing airway support
 - c. logrolling the patient to assess his back
 - d. hyperextending the neck to establish an airway
7. With which of the following clinical problems would crepitation be an expected finding?
 - a. myocardial infarction
 - b. cardiovascular accident
 - c. blunt abdominal trauma
 - d. pneumothorax
8. During the primary assessment, the examiner asks the patient, "Can you tell me who you are?" This question assesses:
 - a. airway and orientation.
 - b. exposure and circulation.
 - c. breathing and circulation.
 - d. disability and exposure.
9. Which of the following findings suggests poor peripheral perfusion?
 - a. rapid heart rate
 - b. dorsalis pedis pulse with 3+ amplitude
 - c. capillary refill > 2 seconds
 - d. radial pulse palpable
10. A child is struck by a car while riding his bike. Upon arrival at the hospital, the child is not breathing. Which of the following best describes the appropriate actions of an examiner?
 - a. Conduct a primary and secondary assessment before deciding what care to provide.
 - b. Conduct a primary assessment; before starting a secondary assessment, support breathing.
 - c. Stop the primary assessment as soon as the apnea is recognized in order to perform interventions to stabilize the breathing.
 - d. Appropriate action depends on the degree of cyanosis observed by the examiner.

11. A patient displays Cushing's triad (a drop in pulse rate, rise in blood pressure, and widened pulse pressure). With which type of life-threatening condition are such clinical findings associated?
 - a. myocardial infarction
 - b. ruptured cerebral aneurysm
 - c. status asthmaticus
 - d. status epilepticus

12. An examiner suspects that a patient has a cervical spine injury. The examiner can rule out this possibility by:
 - a. examining peripheral motor and sensation.
 - b. assessing level of consciousness.
 - c. assessing for pain and deformity.
 - d. acquiring x-rays of all cervical vertebrae.

13. During primary assessment, the examiner notes dampness inside a trauma victim's dark-colored coat. Which of the following is most important for the examiner to determine as the cause of this dampness?
 - a. severe sweating
 - b. urine
 - c. IV fluids
 - d. blood

14. A patient presents with a complaint of a sudden flashes of light in the field of vision. What other symptom commonly accompanies this primary symptom?
 - a. severe nausea and vomiting
 - b. partial loss of vision
 - c. severe pain to the eye
 - d. intense dizziness

15. A man is shot and critically wounded in a domestic dispute. From a legal standpoint, the health care providers must:
 - a. obtain written consent from the patient prior to providing care.
 - b. call the police prior to providing care.
 - c. save all items from the patient for law enforcement personnel while providing care.
 - d. determine whether the man has advance directives prior to providing care.

Terminology Review

Matching

Match the clinical sign to the condition(s) with which it is likely to be associated. Answers may be used more than once; some conditions have more than one answer.

Condition	Clinical Sign
16. _____ Ectopic pregnancy	a. Battle's sign
17. _____ Pneumothorax	b. Cullen's sign
18. _____ Basilar skull fracture	c. Grey-Turner's sign
19. _____ Retroperitoneal hematoma	d. Hamman's crunch
20. _____ Facial fracture	e. Kehr's sign
21. _____ Blunt injury to abdomen	f. Raccoon eyes

CONCEPTS APPLICATION

Activity 1

Indicate whether the action described would be part of a primary or secondary assessment in a patient with a life-threatening condition.

1. _____ Removing clothing from a patient with an abdominal gunshot wound
 2. _____ Performing a Glasgow Coma Scale
 3. _____ Taking a history of injury
 4. _____ Stabilizing the cervical spine
 5. _____ Auscultating the heart
 6. _____ Taking vital signs
 7. _____ Managing a large, pulsating, bleeding wound
 8. _____ Assessing for presence of breathing
 9. _____ Assessing the abdomen for internal bleeding
 10. _____ Conducting diagnostic tests
 11. _____ Assessing peripheral pulses
-

CASE STUDY

Mark O'Neil is a 19-year-old male rushed to the emergency room by his roommate.

Primary Assessment

Upon arrival, Mark is extremely anxious with profound dyspnea. He states, "Please help me. I can't breathe enough air—something is wrong with me! My chest hurts all over, and I can't breathe!" The examiner notes a large, muscular, healthy-appearing male in acute respiratory distress. Nasal flaring is noted with cyanosis around the lips. Overall impression is that of hypoxia.

1. Based on this information, list your primary assessment findings:

A:

B:

C:

D:

E:

2. What type of treatment should be initiated immediately during the primary assessment?
3. What is the first thing that should be assessed at the onset of the secondary assessment?

Secondary Assessment: Subjective Data

Mark's roommate tells you that Mark is very athletic and very healthy. "He plays college football and had surgery on his knee two weeks ago because of an injury this past season. This evening he was fine—we were watching TV. Then when he got up to go into the kitchen, he called for help and told me to get him to the hospital now! All that happened about 20 minutes ago." The roommate states, "Mark does not use any drugs. He drinks beer and stuff, but nothing tonight."

Secondary Assessment: Objective Data

Vital signs: Pulse 142. Respiratory rate 40. Blood pressure 138/84. Temperature 99.1° F.

Skin color: Generally pale with cyanosis around lips and in nail beds.

Head/Neck: Pupils reactive to light. Oral cavity WNL.

Chest: Breath sounds auscultated in all lung fields. Has productive cough with bloody sputum. Heart sounds WNL.

Abdomen: Bowel sounds present. No pain; soft, nondistended.

Extremities: Pulses palpable in all extremities; no swelling.

Neurologic: Awake, but not following all commands; extremely anxious.

Arterial blood gas: pH 7.31; O₂ 63; PCO₂ 69 (respiratory acidosis).

4. What data deviate from normal?

5. What additional secondary assessment would you plan to conduct?

6. Based on the information presented, what problems do you think this patient might be experiencing?

CRITICAL THINKING

1. You are examining a 2-year-old boy with a fever. During your assessment, you note that the child has dry mucous membranes and tenting of skin, although his skin color is pink. His breathing is rapid but unlabored. He wants to be held by his mother and cries off and on in a whimpering fashion. The child avoids eye contact with you; he has a dull affect and fails to smile. Based on the Yale Observation Scales for Children, what score would you give this child? What does this score reflect?

2. Mrs. Martin and her 3-year-old daughter Amanda are brought to the hospital for emergency care after being burned in a house fire.
 - a. In addition to the burns, what types of problems should the examiner rule out on both of these patients?

 - b. What anatomical differences between Amanda and her mother will affect how they are examined?