

Chapter 1

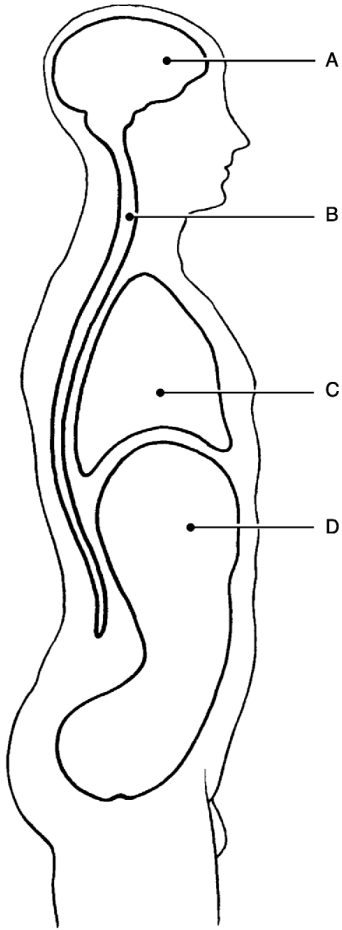


Figure 1.1

Using Figure 1.1, match the following cavities:

1) Thoracic cavity.

Answer: C

2) Cranial cavity.

Answer: A

3) Abdominal cavity.

Answer: D

4) Vertebral cavity.

Answer: B

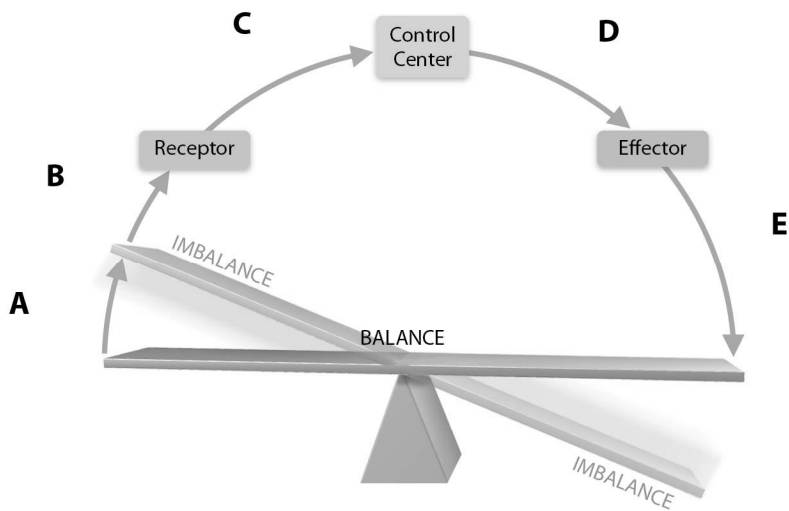


Figure 1.2

Using Figure 1.2, match the following regions:

- 5) Input.
Answer: C
- 6) Receptor.
Answer: B
- 7) Output.
Answer: D
- 8) Stimulus.
Answer: A
- 9) Response.
Answer: E

Match the following systems to their functions:

- 10) Directly causes mechanical motion.
Answer: A
- A) Muscular

11) Responds to environmental changes by transmitting electrical impulses.

Answer: C

A) Integumentary

B) Skeletal

12) Provides support and levers for muscles to pull

Answer: B

C) Nervous

13) Protects underlying organs from environmental damage and synthesizes vitamin D.

Answer: A

Match the following systems to their functions:

14) Controls the body with chemical molecules called hormones.

Answer: B

A) Lymphatic

B) Endocrine

15) Delivers oxygen and nutrients to the tissues.

Answer: D

C) Immune

D) Cardiovascular

16) Produces antibodies that attach to foreign substances.

Answer: C

17) Removes and filters excess fluid from tissues.

Answer: A

Match the following examples of feedback mechanisms:

18) Used for changes in blood glucose levels

Answer: B

A) Positive feedback

B) Negative feedback

19) Used for changes in blood pressure

Answer: B

20) Used for blood clotting

Answer: A

21) Used for childbirth

Answer: A

Match the following systems and organs:

22) Arteries, veins, heart.

Answer: C

23) Trachea, bronchi, alveoli.

Answer: E

24) Adrenal glands, pancreas, pituitary.

Answer: D

25) Esophagus, large intestine, rectum.

Answer: A

26) Kidneys, bladder, ureters.

Answer: B

A) Digestive

B) Urinary

C) Cardiovascular

D) Endocrine

E) Respiratory

Match the following cavities and organs:

27) Stomach.

Answer: B

28) Heart.

Answer: A

29) Uterus.

Answer: B

30) Brain.

Answer: C

31) Lungs.

Answer: A

A) Thoracic

B) Abdominopelvic

C) Crania

Match the following regional terms and common terms:

32) Arm.

Answer: A

33) Buttock

Answer: B

A) Brachial

B) Gluteal

- 34) Head
Answer: A
- 35) Knee (anterior aspect)
Answer: C
- 36) Chest.
Answer: B

- A) Cephalic
- B) Thoracic
- C) Patellar

Match the regional/directional terms and examples:

- 37) The bridge of the nose is _____ to the left eye.
Answer: E
- 38) The upper arm is _____ to the forearm.
Answer: A
- 39) The lungs are _____ to the heart.
Answer: D
- 40) The fingers are _____ to the wrist.
Answer: C
- 41) The stomach is _____ to the spine.
Answer: B

- A) Proximal
- B) Anterior
- C) Distal
- D) Lateral
- E) Medial

- 42) Positive feedback mechanisms tend to enhance the original stimulus so that the response is accelerated.
Answer: ☒ True ☐ False
- 43) Imaging is useful in discovering obstructed blood supplies in organs and tissues.
Answer: ☒ True ☐ False
- 44) The anatomical position means the body is standing at attention with the palms facing forward and the thumbs pointing away from the body.
Answer: ☒ True ☐ False
- 45) The elbow is proximal to the shoulder.
Answer: True ☒ False
- 46) The part of the serous membrane that lines the peritoneal cavity wall is called visceral peritoneum.
Answer: True ☒ False
- 47) A major function of serous membranes is to decrease friction.
Answer: ☒ True ☐ False

48) The right hypochondriac region contains the majority of the stomach.

Answer: True ☒ False

49) Lungs carry out an excretory function.

Answer: ☒ True False

50) Embryology concerns the structural changes that occur in an individual from conception through old age.

Answer: True ☒ False

51) A tissue consists of groups of similar cells that have a common function.

Answer: ☒ True False

52) It is important for any organism to maintain its boundaries, so that its internal environment remains distinct from the external environment surrounding it.

Answer: ☒ True False

53) Without some sort of negative feedback mechanism, it would be impossible to keep our body chemistry in balance.

Answer: ☒ True False

54) . Responsiveness or irritability is the ability to sense changes in the environment and then respond to them.

Answer: ☒ True False

55) The epigastric region is superior to the umbilical region.

Answer: ☒ True False

56) Histology would be best defined as a study of _____.

A) cell chemistry

B) cells

C) the gross structures of the body

D) tissues

Answer: D

57) The study of large body structures, visible to the naked eye, such as the heart is called _____ anatomy.

A) gross

B) microscopic

C) developmental

D) systemic

Answer: A

58) An increased rate of breathing as a result of an increased buildup of carbon dioxide in the bloodstream would be best described as an example of _____.

A) maintaining boundaries

B) responsiveness

C) excretion of metabolic waste

D) metabolism

Answer: C

59) Average body temperature is _____ degrees centigrade.

A) 37

B) 47

C) 68

D) 98

Answer: A

60) If you consider your home air conditioner in terms of homeostasis, then the wall thermostat would be the _____.

A) receptor B) effector C) variable D) control center

Answer: D

61) What is the main, general purpose of negative feedback?

- A) to regulate excretion via the kidneys B) to control body movement
C) to keep the body's blood sugar level high D) to maintain homeostasis

Answer: D

62) What is the regional term for the hip region?

- A) manus B) coxal C) inguinal D) pedal

Answer: B

63) An oblique cut is one that is cut _____.

- A) diagonally between vertical and horizontal planes
B) vertically right and left
C) horizontally superior and inferior
D) perpendicular to vertical and horizontal planes

Answer: A

64) The heart lies in the _____ cavity.

- A) pleural B) superior mediastinal
C) pericardial D) dorsal

Answer: C

65) The cavities housing the eyes are called _____ cavities.

- A) nasal B) orbital C) cranial D) frontal

Answer: B

66) A structure that is composed of two or more tissue types that work together to perform specific functions for the body is a(n) _____.

- A) organ system B) organ C) complex cell D) complex tissue

Answer: B

67) _____ cavities are spaces within joints.

- A) Orbital B) Nasal C) Oral D) Synovial

Answer: D

68) Which of the following would not be a functional characteristic of life?

- A) responsiveness to external stimuli B) decay
C) maintenance of boundaries D) movement

Answer: B

69) Which term means toward or at the back of the body, behind?

- A) lateral B) dorsal C) anterior D) distal

Answer: B

- 70) The single most abundant chemical substance of the body, accounting for 60% to 80% of body weight, is _____.
A) hydrogen B) water C) protein D) oxygen
Answer: B
- 71) The posterior knee area is called _____.
A) popliteal B) crural C) sural D) antecubital
Answer: A
- 72) Which of the following statements is true concerning feedback mechanisms?
A) Blood glucose levels are regulated by positive feedback mechanisms.
B) Negative feedback mechanisms tend to increase the original stimulus.
C) Negative feedback mechanisms work to prevent sudden severe changes within the body.
D) Positive feedback mechanisms always result in excessive damage to the host.
Answer: C
- 73) The anatomical position is characterized by all of the following except _____.
A) palms turned posteriorly B) body erect
C) arms at sides D) thumbs pointed laterally
Answer: A
- 74) A good example of a positive feedback mechanism would be _____.
A) enhancement of labor contractions B) body temperature regulation
C) blood calcium level regulation D) regulating glucose levels in the blood
Answer: A
- 75) Which of the following describes a parasagittal plane?
A) any cut dividing the body into anterior and posterior portions
B) any sagittal plane except in the midline
C) a transverse cut just above the knees
D) two cuts dividing the body into left and right halves
Answer: B
- 76) Which of the following organs or structures would be found in the left iliac region?
A) appendix B) liver C) intestines D) stomach
Answer: C
- 77) The parietal pleura would represent a serous membrane _____.
A) covering individual lungs B) covering the heart
C) lining the abdominal cavity D) lining the thoracic cavity
Answer: D
- 78) Which one of the following systems responds fastest to environmental stimuli?
A) muscular B) immune C) lymphatic D) nervous
Answer: D

79) Choose the anatomical topic and definition that is not correctly matched.

- A) Cytology: study of the structures in a particular region.
- B) Gross anatomy: study of structures visible to the eye.
- C) Embryology: study of the changes in an individual from conception to birth.
- D) Microscopic anatomy: study of structures too small to be seen by the naked eye.

Answer: A

80) Homeostasis is the condition in which the body maintains _____.

- A) a dynamic state within an unlimited range, depending on circumstances
- B) a relatively stable internal environment, within limits
- C) the lowest possible energy usage
- D) a static state with no deviation from preset points

Answer: B

81) In which body cavities are the lungs located?

- A) mediastinal, thoracic, and ventral
- B) pericardial, ventral, and thoracic
- C) pleural, dorsal, and abdominal
- D) pleural, ventral, and thoracic

Answer: D

82) Choose the following statement that is not completely correct regarding serous membranes.

- A) Visceral pericardium covers the outer surface of the heart, and parietal pericardium lines the internal walls of the heart.
- B) Serosa are very thin, double-layered structures.
- C) Serous membranes are divided into parietal and visceral membranes with a virtual space between the two.
- D) Serous membranes secrete a watery lubricating fluid.

Answer: A

83) Place the following in correct sequence from simplest to most complex:

- 1. molecules
- 2. atoms
- 3. tissues
- 4. cells
- 5. organs

A) 1-2-3-4-5

B) 2-1-4-3-5

C) 1-2-4-3-5

D) 2-1-3-4-5

Answer: B

84) Which of the following imaging devices would best localize a tumor in a person's brain?

- A) MRI
- B) X ray
- C) PET
- D) DSA

Answer: A

85) Which of these is not part of the dorsal cavity?

- A) spinal cord
- B) vertebral cavity
- C) cranial cavity
- D) thoracic cavity

Answer: D

86) In which quadrant of the abdominopelvic cavity is the stomach located?

- A) left lower quadrant
- B) right upper quadrant
- C) left upper quadrant
- D) right lower quadrant

Answer: C

87) Which of the following statements is the most correct regarding homeostatic imbalance?

- A) It is considered the cause of most diseases.
- B) Positive feedback mechanisms are overwhelmed.
- C) The internal environment is becoming more stable.
- D) Negative feedback mechanisms are functioning normally.

Answer: A

88) Which of the following are subdivisions of anatomy?

- A) regional, systemic, and surface
- B) gross, macroscopic, visual, and microscopic
- C) regional, surface, visual, and microscopic
- D) gross, regional, dissection, and surface

Answer: A

89) The term pollex refers to the _____.

- A) thumb
- B) fingers
- C) great toe
- D) calf

Answer: A

90) The dorsal body cavity is the site of which of the following?

- A) intestines
- B) liver
- C) brain
- D) lungs

Answer: C

91) Select the most correct statement.

- A) The endocrine system is not a true structural organ system.
- B) Organ systems operate independently of each other to maintain life.
- C) The immune system is closely associated with the lymphatic system.
- D) Organ systems can be composed of cells or tissues, but not both.

Answer: C

92) One of the functional characteristics of life is excitability or responsiveness. This refers to _____.

- A) sensing changes in the environment and then reacting or responding to them
- B) the necessity for all organisms to reproduce
- C) the nervous system causing all living things to sometimes experience anger
- D) indigestible food residues stimulating the excretory system

Answer: A

93) Which of the following are survival needs of the body?

- A) nutrients, water, growth, and reproduction
- B) nutrients, water, atmospheric pressure, and oxygen
- C) nutrients, water, movement, and reproduction
- D) water, atmospheric pressure, growth, and movement

Answer: B

94) The anatomical position is used _____.

- A) rarely, because people don't usually assume this position during waking moments
- B) for proper placement of a patient or a cadaver upon an operating table in order to reach all major organs
- C) as a standard reference point for directional terms regardless of the actual position of the body
- D) only when a body is lying down on one's back rather than stomach

Answer: C

- 95) What is a vertical section through the body, dividing it into left and right, called?
A) transverse B) sagittal C) frontal D) regional

Answer: B

- 96) What is a vertical section through the body, dividing it into anterior and posterior regions called?
A) sagittal B) transverse C) median D) frontal

Answer: D

- 97) The body cavities that protect the nervous system are located in the ____ cavity.
A) vertebral B) ventral C) dorsal D) thoracic E) cranial

Answer: C

- 98) Which of the following describes the operation of the heart and blood vessels?
A) systemic physiology B) cardiovascular physiology
C) cardiovascular anatomy D) systemic anatomy

Answer: B

- 99) Similar cells that have a common function are called _____.

Answer: tissues

- 100) What does the "principle of complementarity of structures and function" mean?

Answer: What a structure can do depends on its specific form, or "structure determines function."

- 101) The term that describes the back of the elbow is _____.

Answer: olecranal

- 102) The term that describes the neck region is _____.

Answer: cervical

- 103) The heart is _____ to the arm.

Answer: medial

- 104) The _____ cavity contains tiny bones that transmit sound vibrations to the organ of hearing in the inner ear.

Answer: middle ear

- 105) _____ is explained by chemical and physical principles and is concerned with the function of specific organs or organic systems.

Answer: Physiology

- 106) What is a dynamic equilibrium of your internal environment termed?

Answer: homeostasis

- 107) Which cavity contains the bladder, some reproductive organs, and the rectum?

Answer: pelvic

- 108) What is the serous membrane that covers the intestines called?

Answer: visceral peritoneum

109) _____ physiology concerns urine production and kidney function.

Answer: Renal

110) What broad term covers all chemical reactions that occur within the body cells?

Answer: metabolism

111) What is the function of the serous membranes?

Answer: They act to reduce friction and allow the organs to slide across cavity walls.

112) Fully describe the anatomical position for the human body.

Answer: The body is erect, arms hanging at the sides, palms forward, and thumbs pointed away from the midline.

113) What does gross anatomy study?

Answer: Larger structures of the body that can be seen with the naked eye.

114) Can lungs carry out excretory functions? Explain your answer.

Answer: Yes, carbon dioxide is a metabolic waste the lungs excrete.

115) The higher we go in the mountains, the greater the atmospheric pressure, resulting in an increase in available oxygen. Comment on this statement.

Answer: At high altitudes, the atmospheric pressure is less than at lower levels resulting in a decrease in oxygen levels. The lower oxygen levels may be inadequate to support cellular metabolism.

116) Why is anatomical terminology necessary?

Answer: Anatomical terms are precise words that have limited usage, which prevents confusion when describing the location of body parts.

117) The five unique cavities of the head are cranial, oral, nasal, middle ear, and _____.

Answer: orbital

118) The ability to sense changes in the environment and respond to them is called _____.

Answer: responsiveness or excitability

119) What is the single most abundant chemical substance in the body?

Answer: water

120) Why must a normal body temperature be maintained in order for chemical reactions to be continued at life-sustaining rates?

Answer: If body temperature is too low, chemical reactions slow and eventually stop. If body temperature is too high, chemical reactions speed up and body proteins lose their normal shape, resulting in loss of function.

121) What is the pathway between the receptor and the control center in the reflex pathway called?

Answer: afferent pathway

122) What type of homeostatic feedback reflex is the withdrawal reflex?

Answer: negative

- 123) Why are the abdominopelvic cavity organs the most vulnerable to blunt deceleration in an automobile accident with seat belts?
Answer: The walls of the abdominal cavity are formed only by trunk muscles and are not reinforced by bone. The pelvic organs receive a somewhat greater degree of protection from the bony pelvis.
- 124) What is the goal of all of the negative feedback mechanisms of the body?
Answer: The goal is to prevent sudden severe changes within the body.
- 125) Which feedback mechanism causes the variable to deviate further and further from its original value or range?
Answer: positive feedback
- 126) What can happen when the usual negative feedback mechanisms are overwhelmed and destructive positive feedback mechanisms take over?
Answer: Homeostatic imbalances increase our risk for illness and produce the changes we associate with aging.
- 127) Which body system would be most affected by a lower than normal atmospheric pressure?
Answer: respiratory system
- 128) A small family was traveling in its van and had a minor accident. The children in the back seats were wearing lap belts, but still sustained numerous bruises about the abdomen, and had some internal organ injuries. Why is this area more vulnerable to damage than others?
Answer: The abdominal organs are the least protected in the body because they are not surrounded by a bony covering such as the ribs, pelvis, or cranium.
- 129) Steve was injured in a football accident. X-ray examination showed a fracture underlying his left brachial deformity. What part of his body was injured?
Answer: His left upper arm
- 130) Judy is 16 years old and collapses on the gym floor with severe pain in her chest wall every time she takes a deep breath. She is rushed by ambulance to the emergency room. Judy is diagnosed with pleurisy and is given an anti-inflammatory drug through the intravenous route. Explain why an anti-inflammatory drug would be prescribed for someone with pleurisy.
Answer: The pleural space contains a small amount of fluid that acts as a lubricant, allowing the pleurae to slide smoothly over each other as the lungs expand and contract. Pleurisy is an inflammation of the pleura around the lungs. When inflammation occurs in the pleural space, the pleurae do not slide smoothly and this causes severe pain that is more directly transmitted by the parietal than the visceral pleura.
- 131) Sara is giving birth to her first child. She is concerned that her labor is taking longer than she thought it would. Why does giving birth usually take time for the contractions to proceed to the point when the child is born?
Answer: Childbirth is based on the increasing levels of oxytocin that cause the uterine contractions. Under positive feedback, oxytocin levels increase which results in increasing strong contractions by the upper uterus that will ultimately result in the birth of the child. But this positive feedback needs numerous contraction cycles to overcome the muscular resistance to stretching in the lower uterus in order for the head to pass.

132) The nurse charted: "Patient has an open wound located on lateral aspect of leg." Describe where the wound is located.

Answer: The wound is located on the outer side of the leg, the peroneal or fibular area.