Histomuscle review

1.What is the connective tissue covering of a muscle fascicle?
a. Sarcolemma
b. Endomysium
c. Epimysium
d. Sarcoplasm
e. Perimysium

2.What is actin?
a. Myofilament
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

3.Which of the following is composed of smooth muscle?
a. Upper esophagus
b. Heart
c. Tongue
d. Biceps muscle
e. Walls of the visceral organs

4.What is a receptor in muscle?
a. Motor unit
b. Motor neuron
c. Motor end plate
d. Neuromuscular spindle
e. Neurotransmitter

5.Which fiber type is larger in diameter?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

6.Which fiber type is make up fast-twitch muscle?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

7.Which fiber type has more myoglobin?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

8.Which fiber type gets its energy primarily from glycogen?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

9.Which fiber type is seen in skeletal muscle?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

10.What is line that bisects the dark band in muscle?
a. A band
b. I band
c. Z line
d. H band
e. M line

1.
What is the outer connective tissue covering of a muscle?
a. Epimysium
b. Sarcoplasm
c. Perimysium
d. Sarcolemma
e. Endomysium

2.
What is myosin?
a. Muscle fibers
b. Myofibrils
c. Myocardium
d. Myofilament
e. Muscle cell

3.
Where is cardiac muscle found?
a. Myofilaments
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

4.
What type of muscle has visible cross striations?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

5.
What type of muscle is specialized for contraction?
a. Skeletal muscle

b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

6.
What is released at a synapse?
a. Motor unit
b. Motor neuron
c. Motor end plate
d. Neuromuscular spindle
e. Neurotransmitter

7.
Which fiber type is more resistant to fatigue?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

8.
Lance Armstrong is the seven time winner of the Tour de France. The Tour de France is a bicycle race which covers between 3500 to 4000 kilometers. What type of muscle fiber probably predominates in his legs?
a. Red fibers
b. White fibers
c. Intermediate fibers
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What region is made of thin filaments?
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d. H band
e. M line

10.
On a cross section of a muscle, how many thin filaments surround each thick filament?
a. 2
b. 3
c. 4
d. 6
e. 8

1.
What is the plasma membrane of a muscle cell called?
a. Endomysium
b. Sarcolemma
c. Sarcoplasm
d. Perimysium
e. Epimysium

2. What are the thin filaments?
a. Myocardium
b. Myofibrils
c. Myofilaments
d. Muscle fibers
e. Myosin

3.
Which of the following is composed of skeletal muscle?
a. Tongue
b. Blood vessel
c. Walls of the visceral organs
d. Lower esophagus
e. Heart

4.
What type of muscle is composed of spindle shaped cells?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
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What type of muscle is always multinucleated?
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7.
Which fiber type fatigues more readily?
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b. White fibers
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d. All of the above
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8.
What type of muscle probably predominates in Charles Atlas, the worlds most famous power weight lifter?
a. Red fibers
b. White fibers
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9.
What is line that bisects the light band in muscle?

a. A band
b. I band
c. Z line
d. H band
e. M line

10.
What is the name of the tissue which surrounds muscle fascicles?
a. Perimysium
b. Periosteum
c. Perichondrium
d. Perineurium
e. Endosteum

1.
What is the cytoplasm of a muscle cell?
a. Epimysium
b. Sarcolemma
c. Endomysium
d. Sarcoplasm
e. Perimysium

2.
What is another term for muscle cells?
a. Myofilaments
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

3.
Which of the following contains a substantial amount of smooth muscle?
a. Upper esophagus
b. Blood vessels
c. Heart
d. Biceps muscle
e. Tongue

4.
What type of muscle contains actin and myosin?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

5.
What is a single neuron and the aggregation of muscle fibers innervated by that single neuron called?
a. Motor unit
b. Motor neuron
c. Motor end plate
d. Neuromuscular spindle
e. Neurotransmitter

6.
Which fiber type has a lot of mitochondria?
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b. White fibers
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d. All of the above
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Which fiber type uses more aerobic metabolism?
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e. None of the above

8.
What is the light band in muscle?
a. A band
b. I band
c. Z line
d. H band
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9.
What type of muscle contains sarcomeres?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

10.
What type of muscle has branching cells?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

1.
Which fiber type is seen in smooth muscle?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

2.
A sarcomere is defined as the segment from _____ to ____?
a. A band
b. I band

c. Z line
d. H band
e. M line

3.
What are the bundle of longitudinal contractile elements within a muscle cell called?
a. Myofilaments
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

Histo review answers

1.
What is the connective tissue covering of a muscle fascicle?
a. Sarcolemma
b. Endomysium
c. Epimysium
d. Sarcoplasm
e. Perimysium

Answer: e

The outer connective tissue covering of a muscle is the epimysium. Within the muscle, there are subdivisions called fascicles. The perimysium surrounds these muscle fascicles. The endomysium is the covering around an individual muscle fiber. The sarcolemma is the plasma membrane of a muscle cell. The sarcoplasm is the cytoplasm of a muscle cell.

2.
What is actin?
a. Myofilament
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

Answer: a

Myofilaments are the contractile protein within a muscle cell. The myofilaments are actin and myosin. The thin filaments are actin and the thick filaments are myosin. The muscle cell is a muscle fiber. The term "muscle cell" and "muscle fiber" are synonymous. A myofibril is a longitudinal bundle of myofilaments within a muscle cell. Myocardium is the muscular layer of the heart. Thus, the myocardium is composed of cardiac muscle.

3.
Which of the following is composed of smooth muscle?
a. Upper esophagus
b. Heart
c. Tongue
d. Biceps muscle
e. Walls of the visceral organs

Answer: e

There are two chief categories of muscle: striated and non striated muscle (smooth muscle).

Striated muscle can be sub-categorized into cardiac muscle and skeletal muscle. The tongue, biceps muscle, and upper esophagus are made of striated muscle. The heart is composed of cardiac muscle.

Non striated muscle is also called smooth muscle. Smooth muscle is involuntary muscle. It is found in viscera and blood vessels.

4.
What is a receptor in muscle?
a. Motor unit
b. Motor neuron
c. Motor end plate
d. Neuromuscular spindle
e. Neurotransmitter

Answer: d

A single motor neuron and the aggregation of muscle fibers innervated by that single neuron is called the motor unit. A motor neuron is a neuron which innervates a muscle cell. The point of contact where a neuron contacts a muscle is the motor end plate. A neuromuscular spindle is a receptor which is sensitive to stretching of the muscle. A neurotransmitter is the chemical released by a nerve at a synapse.

5.
Which fiber type is larger in diameter?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: b

Skeletal muscle fibers can be classified as red fibers, white fibers or intermediate fibers. Red fibers are smaller in diameter; white fibers are larger in diameter. Red fibers have more mitochondria than white fibers. Red fibers make up slow-twitch muscle; white fibers make up fast-twitch muscle. Red fibers are more resistant to fatigue than are white fibers. Red fibers have more myoglobin (oxygen binding pigment) than

white fibers. White fibers store glycogen and use anaerobic metabolism.

Red fiber and slow twitch muscle is for endurance.

White fiber and fast twitch muscle is for a burst of power.

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6.
Which fiber type is make up fast-twitch muscle?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: b

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d. All of the above
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Answer: a

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8.
Which fiber type gets its energy primarily from glycogen?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: b

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9.
Which fiber type is seen in skeletal muscle?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: d

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What is line that bisects the dark band in muscle?
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b. I band
c. Z line
d. H band
e. M line

Answer: d

The A band is the darker staining band. The I band is the light band. The I band is made of thin filaments. The Z line runs through the I band. The H band bisects the A band. The M line runs through the H band.

A sarcomere is the segment that runs from Z line to Z line.

1.
What is the outer connective tissue covering of a muscle?
a. Epimysium
b. Sarcoplasm
c. Perimysium
d. Sarcolemma
e. Endomysium

Answer: a

The outer connective tissue covering of a muscle is the epimysium. Within the muscle, there are subdivisions called fascicles. The perimysium surrounds these muscle fascicles. The endomysium is the covering around an individual muscle fiber. The sarcolemma is the plasma membrane of a muscle cell. The sarcoplasm is the cytoplasm of a muscle cell.

2.
What is myosin?
a. Muscle fibers
b. Myofibrils
c. Myocardium
d. Myofilament
e. Muscle cell

Answer: d

Myofilaments are the contractile protein within a muscle cell. The myofilaments are actin and myosin. The thin filaments are actin and the thick filaments are myosin. The muscle cell is a muscle fiber. The term "muscle cell" and "muscle fiber" are synonymous. A myofibril is a longitudinal bundle of myofilaments within a muscle cell. Myocardium is the muscular layer of the heart. Thus, the myocardium is composed of cardiac muscle.

3.
Where is cardiac muscle found?
a. Myofilaments
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

Answer: e

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4.
What type of muscle has visible cross striations?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: d

Both skeletal muscle and cardiac muscle have visible striations. Collectively, skeletal muscle and cardiac muscle are classified as "striated muscle".

5.
What type of muscle is specialized for contraction?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: e

The fundamental property of muscle tissue is that it is specialized for contraction.

6.
What is released at a synapse?
a. Motor unit
b. Motor neuron
c. Motor end plate
d. Neuromuscular spindle
e. Neurotransmitter

Answer: e

A single motor neuron and the aggregation of muscle fibers innervated by that single neuron is called the motor unit. A motor neuron is a neuron which innervates a muscle cell. The point of contact where a neuron contacts a muscle is the motor end plate. A neuromuscular spindle is a receptor which is sensitive to stretching of the muscle. A neurotransmitter is the chemical released by a nerve at a synapse.

7.
Which fiber type is more resistant to fatigue?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: a

Skeletal muscle fibers can be classified as red fibers, white fibers or intermediate fibers. Red fibers are smaller in diameter; white fibers are larger in diameter. Red fibers have more mitochondria than white fibers. Red fibers make up slow-twitch muscle; white fibers make up fast-twitch muscle. Red fibers are more resistant to fatigue than are white fibers. Red fibers have more myoglobin (oxygen binding pigment) than white fibers. White fibers store glycogen and use anaerobic metabolism.

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9.
What region is made of thin filaments?
a. A band
b. I band
c. Z line
d. H band
e. M line

Answer: b

The A band is the darker staining band. The I band is the light band. The I band is made of thin filaments. The Z line runs through the I band. The H band bisects the A band. The M line runs through the H band.

A sarcomere is the segment that runs from Z line to Z line.

10.
On a cross section of a muscle, how many thin filaments surround each thick filament?
a. 2
b. 3
c. 4
d. 6
e. 8

Answer: d

On a cross section of a muscle, each thick filament is surrounded by 6 thin filaments.

1.
What is the plasma membrane of a muscle cell called?
a. Endomysium
b. Sarcolemma
c. Sarcoplasm
d. Perimysium
e. Epimysium

Answer: b

The outer connective tissue covering of a muscle is the epimysium. Within the muscle, there are subdivisions called fascicles. The perimysium surrounds these muscle fascicles. The endomysium is the covering around an individual muscle fiber. The sarcolemma is

the plasma membrane of a muscle cell. The sarcoplasm is the cytoplasm of a muscle cell.

2. What are the thin filaments?
a. Myocardium
b. Myofibrils
c. Myofilaments
d. Muscle fibers
e. Myosin

Answer: c

Myofilaments are the contractile protein within a muscle cell. The myofilaments are actin and myosin. The thin filaments are actin and the thick filaments are myosin. The muscle cell is a muscle fiber. The term "muscle cell" and "muscle fiber" are synonymous. A myofibril is a longitudinal bundle of myofilaments within a muscle cell. Myocardium is the muscular layer of the heart. Thus, the myocardium is composed of cardiac muscle.

3.
Which of the following is composed of skeletal muscle?
a. Tongue
b. Blood vessel
c. Walls of the visceral organs
d. Lower esophagus
e. Heart

Answer: a

There are two chief categories of muscle: striated and non striated muscle (smooth muscle).

Striated muscle can be sub-categorized into cardiac muscle and skeletal muscle. The tongue, biceps muscle, and upper esophagus are made of striated muscle. The heart is composed of cardiac muscle.

Non striated muscle is also called smooth muscle. Smooth muscle is involuntary muscle. It is found in viscera and blood vessels.

4.
What type of muscle is composed of spindle shaped cells?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: c

Smooth muscle is composed of spindle shaped cells.

5.
What type of muscle is always multinucleated?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: a

Skeletal muscle is multinucleated. The nuclei are seen on the periphery. Occasionally, cardiac muscle is bi-nucleated.

6.
Which fiber type is smaller in diameter?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: a

Skeletal muscle fibers can be classified as red fibers, white fibers or intermediate fibers. Red fibers are smaller in diameter; white fibers are larger in diameter. Red fibers have more mitochondria than white fibers. Red fibers make up slow-twitch muscle; white fibers make up fast-twitch muscle. Red fibers are more resistant to fatigue than are white fibers. Red fibers have more myoglobin (oxygen binding pigment) than white fibers. White fibers store glycogen and use anaerobic metabolism.

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7.
Which fiber type fatigues more readily?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: b

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A sarcomere is the segment that runs from Z line to Z line.

10.
What is the name of the tissue which surrounds muscle fascicles?
a. Perimysium
b. Periosteum
c. Perichondrium
d. Perineurium
e. Endosteum

Answer: a

The perimysium is the connective tissue sheath which surrounds muscle fascicles.

The periosteum is the connective tissue covering of a bone.

The perichondrium is the connective tissue which surrounds cartilage.

The perineurium is the covering of nerve fascicles.

The endosteum is the lining of the inner bone (the side which abuts the
medullary cavity).

Note The prefix "peri" means around, such as in the word
"perimeter". The prefix "endo" means within or inner, such as in "endosteum",
"endocrine", "endoscope".

1.
What is the cytoplasm of a muscle cell?
a. Epimysium
b. Sarcolemma
c. Endomysium
d. Sarcoplasm
e. Perimysium

Answer: d

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b. Myosin
c. Muscle fibers
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3.
Which of the following contains a substantial amount of smooth muscle?
a. Upper esophagus
b. Blood vessels
c. Heart
d. Biceps muscle
e. Tongue

Answer: b

There are two chief categories of muscle: striated and non striated muscle (smooth muscle).

Striated muscle can be sub-categorized into cardiac muscle and skeletal muscle. The tongue, biceps muscle, and upper esophagus are made of striated muscle. The heart is composed of cardiac muscle.

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4.
What type of muscle contains actin and myosin?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: e

All types of muscle contain actin and myosin.

5.
What is a single neuron and the aggregation of muscle fibers innervated by that single neuron called?
a. Motor unit
b. Motor neuron
c. Motor end plate
d. Neuromuscular spindle
e. Neurotransmitter

Answer: a

A single motor neuron and the aggregation of muscle fibers innervated by that single neuron is called the motor unit. A motor neuron is a neuron which innervates a muscle cell. The point of contact where a neuron contacts a muscle is the motor end plate. A neuromuscular spindle is a receptor which is sensitive to stretching of the muscle. A neurotransmitter is the chemical released by a nerve at a synapse.

6.
Which fiber type has a lot of mitochondria?
a. Red fibers
b. White fibers
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e. None of the above

Answer: a

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7.
Which fiber type uses more aerobic metabolism?
a. Red fibers
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c. Intermediate fibers
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a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: d

Both skeletal muscle and cardiac muscle have sarcomeres. Smooth muscle has no sarcomeres.

10.
What type of muscle has branching cells?
a. Skeletal muscle
b. Cardiac muscle
c. Smooth muscle
d. Both "a" and "b"
e. "a" "b" and "c"

Answer: b

Branching cells are seen in cardiac muscle.

PEARL from Sarah Bellham: This is an important point, as both skeletal muscle and cardiac muscle are striated. The branching seen with cardiac muscle is one of the things that can be used to distinguish between the two.

1.
Which fiber type is seen in smooth muscle?
a. Red fibers
b. White fibers
c. Intermediate fibers
d. All of the above
e. None of the above

Answer: e

Skeletal muscle fibers can be classified as red fibers, white fibers or intermediate fibers. Red fibers are smaller in diameter; white fibers are larger in diameter. Red fibers have more mitochondria than white fibers. Red fibers make up slow-twitch muscle; white fibers make up fast-twitch muscle. Red fibers are more resistant to fatigue than are white fibers. Red fibers have more myoglobin (oxygen binding pigment) than white fibers. White fibers store glycogen and use anaerobic metabolism.

Red fiber and slow twitch muscle is for endurance.

White fiber and fast twitch muscle is for a burst of power.

2.
A sarcomere is defined as the segment from _____ to ____?
a. A band
b. I band
c. Z line
d. H band
e. M line

Answer: c

The A band is the darker staining band. The I band is the light band. The I band is made of thin filaments. The Z line runs through the I band. The H band bisects the A band. The M line runs through the H band.

A sarcomere is the segment that runs from Z line to Z line.

3.
What are the bundle of longitudinal contractile elements within a muscle cell called?
a. Myofilaments
b. Myosin
c. Muscle fibers
d. Myofibrils
e. Myocardium

Answer: d

Myofilaments are the contractile protein within a muscle cell. The myofilaments are actin and myosin. The thin filaments are actin and the thick filaments are myosin. The muscle cell is a muscle fiber. The term "muscle cell" and "muscle fiber" are synonymous. A myofibril is a longitudinal bundle of myofilaments within a muscle cell. Myocardium is the muscular layer of the heart. Thus, the myocardium is composed of cardiac muscle.