Spinal Cord

Study Slides
What would normally be found within the central canal of the spinal cord?

A. Blood
B. Myelin
C. Cerebrospinal fluid
D. Air
E. Gray matter
What would normally be found within the central canal of the spinal cord?

A. Blood
B. Myelin
C. **Cerebrospinal fluid**
D. Air
E. Gray matter
The adult spinal cord extends only to which vertebral level?

A. Coccyx
B. Sacral
C. Fifth or six lumbar
D. First or second lumbar
E. Last thoracic
The adult spinal cord extends only to which vertebral level?

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B. Sacral
C. Fifth or six lumbar
D. First or second lumbar
E. Last thoracic
The dorsal root ganglion is

A. The roots of the spinal nerves hanging inferiorly from the inferior end of the spinal cord in the vertebral column.
B. An indentation on the dorsal side of the spinal cord.
C. The tapered end of the spinal cord.
D. An extension of the pia matter that anchors the spinal cord coccyx.
E. Where the cell bodies of sensory neurons are located.
ANSWER

- The dorsal root ganglion is
  A. The roots of the spinal nerves hanging inferiorly from the inferior end of the spinal cord in the vertebral column.
  B. An indentation on the dorsal side of the spinal cord.
  C. The tapered end of the spinal cord.
  D. An extension of the pia matter that anchors the spinal cord coccyx.
  E. Where the cell bodies of sensory neurons are located.
What would normally be found immediately surrounding the central canal of the spinal cord?

A. White matter
B. Gray matter
C. Cerebrospinal fluid
D. The pia matter
E. The dura mater
What would normally be found immediately surrounding the central canal of the spinal cord?

A. White matter
B. **Gray matter**
C. Cerebrospinal fluid
D. The pia matter
E. The dura mater
Cerebrospinal fluid normally circulates in the

A. Epidural space.
B. Subdural space.
C. Subarachnoid space.
D. Ascending tracts.
E. Descending tracts.
Cerebrospinal fluid normally circulates in the

A. Epidural space.
B. Subdural space.
C. Subarachnoid space.
D. Ascending tracts.
E. Descending tracts
The cuada equina is

A. The roots of spinal nerves hanging inferiorly from the inferior end of the spinal cord in the vertebral column
B. An indentation on the dorsal side of the spinal cord
C. The tapered end of the spinal cord
D. An extension of the pia matter that anchors the spinal cord to the coccyx
E. Where the cell bodies of sensory neurons are located
The cuada equina is

A. The roots of spinal nerves hanging inferiorly from the inferior end of the spinal cord in the vertebral column
B. An indentation on the dorsal side of the spinal cord
C. The tapered end of the spinal cord
D. An extension of the pia matter that anchors the spinal cord to the coccyx
E. Where the cell bodies of sensory neurons are located
The entire spinal cord is divided into _____ segments.

A. 5
B. 12
C. 25
D. 31
E. 35
The entire spinal cord is divided into _____ segments.

A. 5  
B. 12  
C. 25  
D. 31  
E. 35
Descending tracts contain
A. Motor neurons
B. Sensory neurons
C. Cerebrospinal fluid
D. Only cell bodies
E. Only unmyelinated axons
Descending tracts contain

A. Motor neurons
B. Sensory neurons
C. Cerebrospinal fluid
D. Only cell bodies
E. Only unmyelinated axons
The tough, fibrous outermost covering of the spinal cord is the

A. arachnoid.
B. pia mater.
C. dura mater.
D. epidural block.
E. periosteum.
The tough, fibrous outermost covering of the spinal cord is the

A. arachnoid.
B. pia mater.
C. dura mater.
D. epidural block.
E. periosteum.
In the adult the spinal cord extends from the medulla to the
A. Coccyx.
B. Sacral promontary.
C. Point of attachment of the most inferior pair of ribs.
D. Sacral hiatus.
E. Upper border of the vertebra L2.
ANSWER

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  A. Coccyx.
  B. Sacral promontary.
  C. Point of attachment of the most inferior pair of ribs.
  D. Sacral hiatus.
  E. **Upper border of the vertebra L2.**
The specialized membranes that protect the spinal cord are termed

A. cranial meninges.
B. cranial mater.
C. spinal meninges.
D. spinal mater.
E. epidural membranes.
The specialized membranes that protect the spinal cord are termed
A. cranial meninges.
B. cranial mater.
C. spinal meninges.
D. spinal mater.
E. epidural membranes.
The white matter of the spinal cord is dominated by

A. unmyelinated axons.
B. cell bodies of neurons, neuroglia, and unmyelinated axons.
C. Schwann cells and satellite cells.
D. myelinated axons.
E. nodes of Ranvier.
The white matter of the spinal cord is dominated by

A. unmyelinated axons.
B. cell bodies of neurons, neuroglia, and unmyelinated axons.
C. Schwann cells and satellite cells.
D. myelinated axons.
E. nodes of Ranvier.
Spinal nerves are considered mixed, which means that

A. They contain both nerves and tracts.
B. They contain both gray and white matter.
C. They contain both afferent and efferent nerves.
D. They use multiple types of neurotransmitters.
E. A single nerve arises from the multiple segments of the spinal cord.
ANSWER

- Spinal nerves are considered mixed, which means that
  A. They contain both nerves and tracts.
  B. They contain both gray and white matter.
  C. They contain both afferent and efferent nerves.
  D. They use multiple types of neurotransmitters.
  E. A single nerve arises from the multiple segments of the spinal cord.
Cell bodies of the sensory neurons of the spinal nerves are located in:

A. The dorsal root ganglia of the spinal cord
B. The ventral root ganglia of the spinal cord
C. The thalamus
D. Sympathetic ganglia
Cell bodies of the sensory neurons of the spinal nerves are located in:

A. The dorsal root ganglia of the spinal cord
B. The ventral root ganglia of the spinal cord
C. The thalamus
D. Sympathetic ganglia
Which plexus has the primary responsibility for innervating the diaphragm?
A. cervical plexus
B. sacral plexus
C. brachial plexus
D. sacral plexus
E. lumbar plexus
Which plexus has the primary responsibility for innervating the diaphragm?

A. cervical plexus
B. sacral plexus
C. brachial plexus
D. sacral plexus
E. lumbar plexus
The brain and spinal cord comprise the ______________ nervous system.

A. Autonomic  
B. Peripheral  
C. Central  
D. Efferent 
E. Afferent
The brain and spinal cord comprise the ______________ nervous system.

A. Autonomic
B. Peripheral
C. Central
D. Efferent
E. Afferent
The part of the peripheral nervous system which brings information to the central nervous system is:

A. Motor
B. Afferent
C. Efferent
D. Autonomic
E. Somatic
The part of the peripheral nervous system which brings information to the central nervous system is:

- Motor
- Afferent
- Efferent
- Autonomic
- Somatic
Which plexus has the primary responsibility for innervating gluteus maximus?

A. cervical plexus
B. sacral plexus
C. brachial plexus
D. lumbar plexus
Which plexus has the primary responsibility for innervating the gluteus maximus?

A. cervical plexus  
B. sacral plexus  
C. brachial plexus  
D. lumbar plexus
In diagnosing bacterial and viral infections of the nervous system, samples of cerebrospinal fluid are extracted for analysis. This procedure would logically withdraw fluid for analysis from the

A. dura mater.
B. arachnoid mater.
C. epidural space.
D. subarachnoid space.
E. cerebral ventricles.
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A. dura mater.
B. arachnoid mater.
C. epidural space.
D. subarachnoid space.
E. cerebral ventricles.
The nerve that stimulate the diaphragm to contract arises from the
A. Cervical plexus.
B. Lumbar plexus.
C. Brachial plexus.
D. Sacral plexus.
E. Intercostal nerve.
The nerve that stimulate the diaphragm to contract arises from the

A. Cervical plexus.
B. Lumbar plexus.
C. Brachial plexus.
D. Sacral plexus.
E. Intercostal nerve.
In general spinal nerve S2 innervates

A. The back of the head
B. The neck and shoulders
C. The diaphragm
D. The pelvic cavity and legs
E. The trunk
In general spinal nerve S2 innervates

A. The back of the head
B. The neck and shoulders
C. The diaphragm
D. The pelvic cavity and legs
E. The trunk
Which plexus has the primary responsibility for innervating the deltoid

A. cervical plexus
B. sacral plexus
C. brachial plexus
D. sacral plexus
E. lumbar plexus
ANSWER

➢ Which plexus has the primary responsibility for innervating the deltoid

A. cervical plexus
B. sacral plexus
C. brachial plexus
D. sacral plexus
E. lumbar plexus
The spinal cord itself is _____ in relation to the vertebral column.

A. longer
B. shorter
C. the same size
D. none of the above
E. both A and C
The spinal cord itself is _____ in relation to the vertebral column.

A. longer

B. shorter

C. the same size

D. none of the above

E. both A and C
The dorsal root of a spinal nerve contains
A. axons of motor neurons.
B. axons of sensory neurons.
C. cell bodies of motor neurons.
D. cell bodies of sensory neurons.
E. interneurons.
The dorsal root of a spinal nerve contains

A. axons of motor neurons.

B. **axons of sensory neurons.**

C. cell bodies of motor neurons.

D. cell bodies of sensory neurons.

E. interneurons.
_____ is an inflammation of the meningeal membranes.

A. Hepatitis
B. Meningealitis
C. Meningitis
D. Membranitis
E. None of the above
ANSWER

_____ is an inflammation of the meningeal membranes.

A. Hepatitis
B. Meningealitis
C. Meningitis
D. Membranitis
E. none of the above
Spinal nerves are _____ nerves.

A. purely sensory
B. purely motor
C. mixed
D. interneuronal
E. involuntary
ANSWER

Spinal nerves are _____ nerves.

A. purely sensory
B. purely motor
C. mixed
D. interneuronal
E. involuntary
The dorsal and ventral roots of each spinal segment unite to form a

A. cervical enlargement.
B. lumbar enlargement.
C. spinal nerve.
D. spinal meninge.
E. spinal ganglion.
The dorsal and ventral roots of each spinal segment unite to form a

A. cervical enlargement.
B. lumbar enlargement.
C. spinal nerve.
D. spinal meninge.
E. spinal ganglion.
In the condition _____, a virus infects dorsal root ganglia, causing a painful rash whose distribution corresponds to that of the affected sensory nerve.

A. myasthenia gravis
B. neuronal damage
C. shingles
D. chickenpox
E. Hodgkin’s disease
In the condition _____, a virus infects dorsal root ganglia, causing a painful rash whose distribution corresponds to that of the affected sensory nerve.

A. myasthenia gravis
B. neuronal damage
C. shingles
D. chickenpox
E. Hodgkin’s disease
The spinal cord passes through the
A. Vertebral bodies.
B. Intervertebral discs.
C. Intervertebral foramina.
D. Vertebral foramen.
E. All of the above except the intervertebral foramina.
The spinal cord passes through the

A. Vertebraal bodies.
B. Intervertebral discs.
C. Intervertebral foramina.
D. **Vertebral foramen.**
E. All of the above except the intervertebral foramina.
Muscles of the neck and shoulder are innervated by spinal nerves from the _____ region.

A. cervical  
B. thoracic  
C. lumbar  
D. sacral  
E. coccygeal
Muscles of the neck and shoulder are innervated by spinal nerves from the _____ region.

A. cervical
B. thoracic
C. lumbar
D. sacral
E. coccygeal
Spinal nerves from the sacral region of the cord innervate the ______ muscles.

A. shoulder
B. intercostal
C. abdominal
D. leg
E. facial
Spinal nerves from the sacral region of the cord innervate the ______ muscles.

A. shoulder
B. intercostal
C. abdominal
D. leg
E. facial
Neurons that transmit impulses from the receptors to the central nervous system are called

A. Motor neurons.
B. Association neurons.
C. Bipolar neurons.
D. Sensory neurons.
E. Efferent neurons.
ANSWER

- Neurons that transmit impulses from the receptors to the central nervous system are called
  A. Motor neurons.
  B. Association neurons.
  C. Bipolar neurons.
  D. Sensory neurons.
  E. Efferent neurons.
If a person has an injury at C4, you would expect that he
A. would be unable to breathe on his own.
B. could walk without difficulty.
C. would have full range of motion in all extremities.
D. would be in a coma.
E. would exhibit none of the above.
If a person has an injury at C4, you would expect that he

A. would be unable to breathe on his own.
B. could walk without difficulty.
C. would have full range of motion in all extremities.
D. would be in a coma.
E. would exhibit none of the above.
The scalenes, sternocleidomastoid, trapezius, and deltoid muscles are innervated by spinal nerves from the _____ region.

A. cervical
B. thoracic
C. lumbar
D. sacral
E. coccygeal
The scalenes, sternocleidomastoid, trapezius, and deltoid muscles are innervated by spinal nerves from the _____ region.

A. cervical  
B. thoracic  
C. lumbar  
D. sacral  
E. coccygeal
The innermost layer of the meninges is the
A. Dura mater.
B. Arachnoid.
C. Pia mater.
D. Gray commissure.
E. Conus medullaris.
The innermost layer of the meninges is the

A. Dura mater.
B. Arachnoid.
C. **Pia mater.**
D. Gray commissure.
E. Conus medullaris.
The outermost covering of the spinal cord is the
A. filum terminale.
B. denticulate ligament.
C. dura mater.
D. pia mater.
E. arachnoid mater.
The outermost covering of the spinal cord is the

A. filum terminale.
B. denticulate ligament.
C. **dura mater.**
D. pia mater.
E. arachnoid mater.
The layer of the meninges that is tightly bound to the surface of the neural tissue is the

A. filum terminale.
B. denticulate ligament.
C. dura mater.
D. pia mater.
E. arachnoid mater.
The layer of the meninges that is tightly bound to the surface of the neural tissue is the
A. filum terminale.
B. denticulate ligament.
C. dura mater.
D. **pia mater.**
E. arachnoid mater.