Neural Tube Defects Myelomeningocele/Spina Bifida Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- **Practice answering questions under realistic conditions,**
- **Improve accuracy and speed,**
- **Review explanations to strengthen weak areas, and**
- **Approach the exam with greater confidence.**

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here’s how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don’t just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There’s no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

1. Which level is the frog leg position associated with?

A. Thoracic level

B. High lumbar L1-L2

C. Cervical level

D. Lumbar level

2. Why is regular fit and adjustment to a wheelchair necessary in spina bifida care?

A. To accommodate growth and changes

B. It's optional

C. Wheelchairs never fit once purchased

D. Only for aesthetic reasons

3. Chiari II malformation is closely associated with spina bifida. Which statement is true?

A. True

B. False

C. Not mentioned

D. Rarely occurs

4. How is sensation typically assessed in dermatome testing?

A. Light touch or vibration

B. Sharp/dull pinprick only

C. Temperature discrimination only

D. Pressure discrimination only

5. What is the primary cause of hydrocephalus in most children with spina bifida?

A. Chiari II malformation

B. Overproduction of CSF

C. Obstruction in the normal flow of CSF

D. Absorption failure of CSF

6. Which positioning aid is mentioned to support symmetry and alignment in infancy?

A. Use of towel rolls

B. Heavy blankets

C. Neck braces

D. No supports

7. Which options reflect high lumbar L1-L2 equipment use?

A. Wheelchair

B. Walker

C. Forearm crutches

D. All of the above

8. Hydromyelia is defined as what abnormal process in the spinal cord?

A. Abnormal widening of the central canal near the fourth ventricle with CSF accumulation

B. Herniation of the spinal cord through the vertebral column

C. Degeneration of myelin sheath only in the peripheral nerves

D. Excessive flexion of the spine causing nerve root compression

9. Which assistive device is mentioned as a consideration for prolonged use in high lumbar L1-L2 PT?

A. Forearm crutches

B. Cane

C. Parallel bars

D. Walker

10. Which foot deformity is described as equinus and related to dorsiflexion lack?

A. Equinus foot deformity

B. Vertical talus

C. Claw toe

D. Pes planus

Answers

1. A
2. A
3. A
4. A
5. A
6. A
7. D
8. A
9. A
10. A

Explanations

1. Which level is the frog leg position associated with?

A. Thoracic level

B. High lumbar L1-L2

C. Cervical level

D. Lumbar level

Leg position at rest mirrors the level of spinal involvement—the higher the lesion, the more dramatic the abnormal posture in the legs. A frog-leg posture—hips flexed and abducted with knees flexed and feet rotated outward—signals a high spinal involvement, such as the thoracic level. When control from higher up is lost, the muscles around the hips and thighs balance in a way that leaves the legs in this flexed, externally rotated stance. Lower-level lesions tend to produce different configurations because more distal muscles are affected and the patterns of weakness and spasticity shift accordingly. So, the frog-leg resting posture is most consistent with a thoracic-level lesion, reflecting widespread disruption of supraspinal control over the lower limbs.

2. Why is regular fit and adjustment to a wheelchair necessary in spina bifida care?

A. To accommodate growth and changes

B. It's optional

C. Wheelchairs never fit once purchased

D. Only for aesthetic reasons

Regular fit and adjustment are essential because growth and changes in body size, limb lengths, posture, and mobility happen over time in people with spina bifida. A properly fitted wheelchair keeps the pelvis and spine in a supportive, neutral position, distributes pressure evenly to protect the skin, and reduces pain or ulcers that can come from a bad fit. It also improves propulsion efficiency, control, and safety during transfers and daily activities, helping maintain independence. Wheelchair components and seating setup can drift with growth, weight changes, or progression of scoliosis or contractures, so periodic reassessment ensures the device continues to fit well and support function. It isn't optional and it isn't about appearance—the right fit prevents complications and supports ongoing participation in daily life.

3. Chiari II malformation is closely associated with spina bifida. Which statement is true?

A. True

B. False

C. Not mentioned

D. Rarely occurs

Chiari II malformation is a hindbrain abnormality that almost always accompanies open spina bifida (myelomeningocele). The typical picture is downward displacement of the cerebellar vermis and brainstem through the foramen magnum, often with a small posterior fossa and a high likelihood of hydrocephalus. This strong association with open spina bifida reflects the shared disruption in neural tube closure and CSF dynamics that characterizes these conditions. Because spina bifida occulta or closed spinal dysraphisms rarely show Chiari II changes, the statement that Chiari II is closely associated with spina bifida is true.

4. How is sensation typically assessed in dermatome testing?

A. Light touch or vibration

B. Sharp/dull pinprick only

C. Temperature discrimination only

D. Pressure discrimination only

Sensation across dermatomes is mapped by using modalities that reflect different nerve fiber pathways, and light touch is the most practical starting point. A clinician lightly strokes the skin with a cotton wisp or brush to see if the patient can feel touch at each dermatomal level. This quick, reliable measure helps establish a sensory map of which spinal roots are functioning. Vibration testing with a tuning fork can be added to check large-fiber (A-beta) pathways and dorsal column function. It provides a complementary view of sensory integrity, especially when you're trying to differentiate levels of involvement or detect subtler deficits that light touch alone might miss. Relying solely on sharp/dull pinprick tests pain fibers, which can be variable and sometimes misleading for locating dermatomal levels. Temperature discrimination targets small fibers and isn't as consistently useful for defining a dermatome map. Pressure discrimination isn't a standard method for delineating dermatomes either.

5. What is the primary cause of hydrocephalus in most children with spina bifida?

A. Chiari II malformation

B. Overproduction of CSF

C. Obstruction in the normal flow of CSF

D. Absorption failure of CSF

In spina bifida, hydrocephalus most often arises because Chiari II malformation disrupts the normal CSF pathways. The hindbrain malformation associated with Chiari II causes downward displacement of brainstem and cerebellar tissue, which commonly blocks CSF flow at the aqueduct or outlets of the fourth ventricle. This obstruction leads to accumulation of CSF in the ventricles and enlarged ventricles, i.e., hydrocephalus. While CSF overproduction or failure of absorption can cause hydrocephalus in other contexts, they are not the typical drivers in most children with spina bifida. The presence of Chiari II malformation is the key factor that leads to the obstructed CSF circulation seen in these patients.

6. Which positioning aid is mentioned to support symmetry and alignment in infancy?

A. Use of towel rolls

B. Heavy blankets

C. Neck braces

D. No supports

Promoting symmetry and proper alignment in infancy relies on gentle, adjustable supports that keep the body in a natural midline. A towel roll is ideal because it's soft, adjustable, and easy to position exactly where support is needed. Placing rolled towels along the sides of the trunk or beneath the pelvis helps maintain even hips and a neutral spine, reducing the tendency to tilt or rotate to one side as the baby lies or rests. This simple tool provides stable, customizable support without restricting movement or causing pressure points, which is especially important for healthy motor development. Heavy blankets can overwhelm the baby, create heat or pressure issues, and may push or hold the infant into an uneven position. Neck braces are not appropriate for infants and could restrict airway or movement. No supports would leave the infant without guidance to stay in midline, increasing the risk of asymmetrical posture and development of positional deformities. A towel roll offers the practical, gentle aid needed to support symmetry.

7. Which options reflect high lumbar L1-L2 equipment use?

A. Wheelchair

B. Walker

C. Forearm crutches

D. All of the above

Mobility at the L1–L2 level can span a range from brace-assisted ambulation to energy-conserving wheelchair use, depending on residual strength and trunk control. There is enough hip flexor power to walk with assistive devices, but endurance and balance vary, so different tools may be appropriate. A wheelchair is common for longer distances or when energy conservation is needed. For training and shorter distances, a walker provides a stable base while wearing braces that support knee alignment. Forearm crutches can also be used when there is adequate trunk control and a desire for greater mobility with less support than a walker. Because individuals at this level may rely on any of these options depending on goals and strength, all of the listed devices can reflect high lumbar L1–L2 equipment use.

8. Hydromyelia is defined as what abnormal process in the spinal cord?

A. Abnormal widening of the central canal near the fourth ventricle with CSF accumulation

B. Herniation of the spinal cord through the vertebral column

C. Degeneration of myelin sheath only in the peripheral nerves

D. Excessive flexion of the spine causing nerve root compression

Hydromyelia is the abnormal widening of the spinal cord's central canal with accumulation of cerebrospinal fluid. The central canal is the CSF-filled channel that runs through the spinal cord and connects with the brain's ventricular system, including the area near the fourth ventricle. When CSF dynamics cause this canal to dilate, CSF fills the expanded space, producing hydromyelia. This is distinct from syringomyelia, where a separate fluid-filled cavity forms within the cord tissue itself. This isn't about a herniation of the spinal cord through the vertebral column, which would be a different condition, nor about peripheral nerve demyelination, nor about mechanical nerve root compression from spine flexion.

9. Which assistive device is mentioned as a consideration for prolonged use in high lumbar L1-L2 PT?

A. Forearm crutches

B. Cane

C. Parallel bars

D. Walker

For prolonged walking with a high lumbar injury (L1–L2), the best choice is a device that provides solid bilateral support while minimizing energy cost and maintaining good balance. Forearm crutches fit that need well: they share weight through both arms and the trunk, help keep the body upright, and offer more stability and endurance than a single-point aid like a cane. They also tend to be less cumbersome and more energy-efficient over long distances than a walker, and they're more versatile for ongoing mobility in the community. A cane provides less support and stability, which makes it less suitable for long-term ambulation in this high-level injury. Parallel bars are excellent for early, supervised gait training but aren't practical for prolonged use outside a clinical setting. A walker offers great stability but can be bulky and tiring for extended use. Forearm crutches strike a balance, enabling longer, safer ambulation with good balance and trunk control.

10. Which foot deformity is described as equinus and related to dorsiflexion lack?

A. Equinus foot deformity

B. Vertical talus

C. Claw toe

D. Pes planus

Equinus foot deformity is when the ankle remains pointed downward in plantarflexion because dorsiflexion is limited or absent. The defining idea is the inability to bring the top of the foot toward the shin, so the foot sits in a pointed position. This happens when the calf muscles or Achilles tendon are tight or a joint contracture prevents upward bending of the ankle. Other foot deformities involve different problems: vertical talus is a misalignment that creates a rocker-bottom foot shape, not just limited dorsiflexion; claw toe is a toe deformity, not an ankle issue; and pes planus is a flat arch of the foot. The term equinus directly captures the lack of dorsiflexion and the resulting plantarflexed posture.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://neuraltubedefects.examzify.com

We wish you the very best on your exam journey. You've got this!