New Zealand State Nursing Practice Exam (Sample)

Study Guide

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Questions

1. What is a common physiological change that occurs in a patient experiencing shock?

A. Hypotension

B. Hypertension

C. Increased heart rate

D. Increased body temperature

2. What is multiple sclerosis characterized by?

A. Demyelination of the central nervous system

B. Excessive neuron growth

C. Bone spurs in the vertebrae

D. Total loss of nerve function

3. Which demographic is at the highest risk for developing shingles?

A. Children under 10

B. Young adults

C. Adults over 50

D. Pregnant women

4. What is a common respiratory symptom associated with measles?

A. Shortness of breath

B. Runny nose

C. Aching throat

D. Congested lungs

5. What is the target blood sugar level for Type 1 diabetics?

A. 4.0-8.5 mmol

B. 4.5-9.0 mmol

C. 4.0-9.0 mmol

D. 5.0-10.0 mmol

6. What is the nephron's role in the body?

- **A. It controls blood pressure**
- **B. It filters blood to create urine**
- **C. It stores waste products**
- **D. It produces hormones directly**

7. Which antibiotic is most commonly used for urinary tract infections (UTIs)?

- **A. Ciprofloxacin**
- **B. Amoxicillin**
- **C. Trimethoprim**
- **D. Azithromycin**

8. What initiative can help reduce rheumatic fever cases in New Zealand?

- **A. Auckland-wide healthy homes initiative**
- **B. National smoking bans**
- **C. Regular physical leisure programs**
- **D. Free healthcare services**

9. What are common adverse effects of GTN?

- **A. Nausea and vomiting**
- **B. Muscle pain and fatigue**
- **C. Headaches and dizziness**
- **D. Constipation and diarrhea**

10. What is a main complication associated with shingles?

- **A. Infection of the skin**
- **B. Post herpetic nerve pain**
- **C. Reduced mobility**
- **D. Hair loss**

Answers

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

Explanations

1. What is a common physiological change that occurs in a patient experiencing shock?

A. Hypotension

B. Hypertension

C. Increased heart rate

D. Increased body temperature

Hypotension is a primary and common physiological change that occurs in patients experiencing shock. Shock is a critical condition that results from inadequate blood flow to the tissues, leading to insufficient oxygen and nutrient delivery, and ultimately affecting organ function. In response to a lack of perfusion, the body attempts to compensate for this decreased blood flow, which may initially manifest as an increase in heart rate and various other compensatory mechanisms. However, as shock progresses, the compensatory mechanisms can become overwhelmed, resulting in insufficient blood pressure regulation. This is seen as a drop in blood pressure or hypotension, which signifies that the body's circulatory system is unable to maintain adequate blood pressure, despite the heart working harder. The presence of hypotension can indicate a more severe form of shock, such as hypovolemic shock, cardiogenic shock, or septic shock, and is a critical sign that demands immediate medical attention.

2. What is multiple sclerosis characterized by?

A. Demyelination of the central nervous system

B. Excessive neuron growth

C. Bone spurs in the vertebrae

D. Total loss of nerve function

Multiple sclerosis is characterized by demyelination of the central nervous system, which includes the brain and spinal cord. In this autoimmune condition, the body's immune system mistakenly attacks the myelin sheath, the protective covering of nerve fibers. This damage disrupts the normal flow of electrical impulses along the nerves, leading to a variety of neurological symptoms, including muscle weakness, vision problems, coordination difficulties, and cognitive changes. By understanding the significance of demyelination, one can appreciate how it impacts communication between neurons, resulting in the various manifestations of this disease. The other options do not accurately describe multiple sclerosis. Excessive neuron growth is not a characteristic of this condition; it usually involves degeneration rather than growth. Bone spurs in the vertebrae pertain to a different condition, often related to aging or degeneration of the spine, and are not related to the mechanisms of multiple sclerosis. Total loss of nerve function is also not characteristic of multiple sclerosis, as the disease can lead to varying degrees of impairment but does not result in the complete loss of nerve function in all cases.

3. Which demographic is at the highest risk for developing shingles?

A. Children under 10

B. Young adults

C. Adults over 50

D. Pregnant women

The demographic at the highest risk for developing shingles is adults over 50. As people age, their immune system naturally weakens, making them more susceptible to various infections, including herpes zoster, the virus that causes shingles. The risk of developing shingles increases significantly after the age of 50, with many cases occurring in this age group. This vulnerability is due to the fact that the varicella-zoster virus, which lies dormant in the body after a person has chickenpox, can reactivate later in life, particularly when the immune system is compromised. While children, young adults, and pregnant women can be affected by shingles, their risk is notably lower compared to older adults. Children primarily acquire the virus through chickenpox and have not yet reached the age where the immune system starts to decline. Young adults may have a history of chickenpox, but they are not at the same heightened risk level as those over 50. Pregnant women have unique health considerations, but shingles occurs independently of pregnancy status and is far less common in this group compared to older adults. This makes adults over 50 the most critical demographic for monitoring and preventive measures against shingles.

4. What is a common respiratory symptom associated with measles?

A. Shortness of breath

B. Runny nose

C. Aching throat

D. Congested lungs

Runny nose is a common respiratory symptom associated with measles because one of the initial presentations of the infection includes upper respiratory tract symptoms. Measles typically starts with the prodromal phase, characterized by a high fever, cough, conjunctivitis, and a runny nose, also called rhinorrhea. These symptoms arise as the virus infects the respiratory epithelium, leading to inflammation and increased mucus production. This symptom, along with others like cough and conjunctivitis, often appears before the characteristic measles rash. Understanding the respiratory manifestations of measles helps healthcare professionals identify the illness early, especially given its contagious nature. Recognizing these symptoms can ensure timely isolation and treatment, which is crucial in preventing outbreaks.

5. What is the target blood sugar level for Type 1 diabetics?

A. 4.0-8.5 mmol

B. 4.5-9.0 mmol

C. 4.0-9.0 mmol

D. 5.0-10.0 mmol

The target blood sugar level for individuals with Type 1 diabetes is generally considered to be within the range of 4.0 to 9.0 mmol/L. This range allows for effective management of blood glucose, helping to prevent both acute and chronic complications associated with diabetes. Maintaining blood sugar levels within this target range is crucial for Type 1 diabetics, as they rely on insulin for glucose regulation. Lower levels, such as those in the 4.0 range, can help minimize the risk of hypoglycemia, while upper levels closer to 9.0 mmol/L help ensure that blood sugars remain controlled without posing unnecessary risk of hyperglycemia. While other alternatives may suggest different ranges, the chosen range is aligned with current clinical guidelines aimed at achieving optimal glycemic control while balancing the risk of diabetes-related complications.

6. What is the nephron's role in the body?

A. It controls blood pressure

B. It filters blood to create urine

C. It stores waste products

D. It produces hormones directly

The nephron is the fundamental structural and functional unit of the kidney, and its primary role is to filter blood in order to create urine. Each nephron consists of a renal corpuscle and a renal tubule. The renal corpuscle includes the glomerulus, where blood filtration occurs. Here, blood is filtered under pressure, allowing water, ions, and small molecules to pass into the tubular system while retaining larger molecules like proteins and blood cells. Following filtration, the renal tubule modifies the filtrate by reabsorbing substances that the body needs, such as glucose and certain ions, and secreting waste products into the urine. The end product of these processes is urine, which is then collected and eventually excreted from the body. This makes the nephron crucial for maintaining fluid and electrolyte balance and for eliminating waste products from metabolism, thereby playing a vital role in homeostasis. The other options either misrepresent the functions of the nephron or describe roles that are fulfilled by other structures in the body. For example, controlling blood pressure involves a more complex interaction of hormones and vascular structures rather than a direct function of the nephron alone, while storage of waste products typically occurs in the bladder, not in the nephron. Additionally, although

7. Which antibiotic is most commonly used for urinary tract infections (UTIs)?

A. Ciprofloxacin

B. Amoxicillin

C. Trimethoprim

D. Azithromycin

Trimethoprim is commonly used for urinary tract infections (UTIs) due to its effectiveness against the bacteria that frequently cause these infections, such as Escherichia coli. It works by inhibiting bacterial folic acid synthesis, which is essential for bacterial growth and reproduction. This mechanism makes it particularly effective in the urinary tract, where bacterial infection is prevalent. The choice of Trimethoprim as a first-line treatment is also influenced by factors such as its favorable pharmacokinetics, allowing for good renal excretion and adequate concentrations in the urine. Additionally, it is typically well-tolerated with a relatively low incidence of side effects, making it a preferred choice among healthcare providers for non-complicated UTIs. In contrast, while other antibiotics on the list may also be used for UTIs, they are generally not the first choice. For example, Ciprofloxacin is a fluoroquinolone that is effective for a broader range of infections but may be reserved for cases where first-line therapies fail or in complicated infections to limit the development of resistance. Amoxicillin has some effectiveness against uncomplicated UTIs but is less commonly used now due to rising resistance rates. Azithromycin is primarily used for respiratory infections and certain sexually transmitted infections,

8. What initiative can help reduce rheumatic fever cases in New Zealand?

A. Auckland-wide healthy homes initiative

B. National smoking bans

C. Regular physical leisure programs

D. Free healthcare services

The Auckland-wide healthy homes initiative is a key strategy designed to address the environmental factors that contribute to health issues, including rheumatic fever. This initiative focuses on improving housing conditions by ensuring that homes are warm, dry, and well-ventilated. Poor housing conditions, particularly those related to dampness and overcrowding, have been associated with a higher risk of streptococcal throat infections, which can lead to rheumatic fever. By targeting housing quality, the initiative aims to mitigate some of the social determinants of health that play a significant role in the prevalence of rheumatic fever, particularly among vulnerable populations. Improved living conditions can reduce exposure to infections and promote overall health, which directly impacts the rates of rheumatic fever in the community. The other options, while beneficial for public health in general, do not specifically target the environmental and social factors that are instrumental in the incidence of rheumatic fever as effectively as the healthy homes initiative does. For example, national smoking bans focus on reducing smoking-related illnesses, while regular physical leisure programs and free healthcare services contribute to overall health but may not address the specific housing issues tied to rheumatic fever rates.

9. What are common adverse effects of GTN?

A. Nausea and vomiting

B. Muscle pain and fatigue

C. Headaches and dizziness

D. Constipation and diarrhea

The correct choice highlights common adverse effects associated with glyceryl trinitrate (GTN), which is often used in the treatment of angina and heart failure. Headaches and dizziness are particularly prevalent side effects of GTN due to its mechanism of action as a vasodilator. When GTN is administered, it causes blood vessels to relax, leading to a decrease in blood pressure and increased blood flow. This vasodilation can trigger headaches, often described as thudding or pounding, due to the sudden change in cerebral blood flow. Dizziness can occur as a result of lowered blood pressure and reduced blood perfusion to the brain. In the context of the other symptoms mentioned in the alternatives, while nausea and vomiting, muscle pain and fatigue, or gastrointestinal issues like constipation and diarrhea can occur with various medications, they are not as commonly associated with GTN specifically. This is why headaches and dizziness are identified as more typical adverse effects of this medication. Understanding these side effects is crucial for monitoring patients on GTN and providing appropriate management if they occur.

10. What is a main complication associated with shingles?

A. Infection of the skin

B. Post herpetic nerve pain

C. Reduced mobility

D. Hair loss

Post herpetic neuralgia (PHN) is a significant complication associated with shingles, which is caused by the varicella-zoster virus. After the initial shingles rash has healed, some patients experience persistent pain that can last for weeks, months, or even years. This pain can be severe and debilitating, often described as burning, stabbing, or aching. The development of PHN is more common in older adults and can greatly affect a person's quality of life, leading to difficulties in daily activities and mental health issues due to chronic pain. While skin infections can occur at the site of shingles lesions, they are generally considered less common than the occurrence of post herpetic neuralgia. Reduced mobility and hair loss are not direct complications associated with shingles, making them less relevant to this specific question. Therefore, post herpetic neuralgia stands out as the primary and most concerning complication arising from shingles.