

**POST-COURSE PRACTICE EXAM  
KEY**

(Source: ANCC and PNCB sample questions)

**1. The most likely cause of bilateral purulent conjunctivitis in a 1-day old infant is:**

- a. Sympilitic ophthalmia
- b. Adenovirus infection
- c. Chlamydia infection
- d. Gonorrheal ophthalmia**

Rationale: Gonorrhoea usually appears in the first 3-5 days of life. Chlamydia is between days 5-14. The other 2 are less common in neonates. Most common causes of conjunctivitis in newborn includes, Chlamydia, Gonorrhoea, HSV, and chemical induced conjunctivitis. (Burns)

**2. Which of the following circumstances is most suggestive of excessive stress in a family with a chronically ill child?**

- a. The mother provides the majority of the care for the child
- b. The parents stop participation in a support group**
- c. The father takes a second job to meet financial responsibilities
- d. A sibling exhibits decline in school performance

Rationale: Chronic illness takes a significant stress on the family. It can result in changes in roles as well as the sibling feeling unloved or left out in some way. Can also result in depression/anxiety of parents and other family members. Positive social networks are a positive influence on parents and the PNP should be concerned if the family is withdrawing from supportive social networks. This could indicate depression or extreme stress on the family unit. (Burns)

**3. An otherwise healthy 2-year old boy is brought to the emergency room with a four-week history of wheezing and persistent cough. Prior to the start of these symptoms, the parent recalls a coughing event which resolved spontaneously. Of the following the most likely diagnosis is:**

- a. Acute laryngotracheobronchitis
- b. Bronchiolitis
- c. Viral pneumonia
- d. Foreign body aspiration**

Rationale: An initial choking, gagging, or coughing episode following by spontaneous resolution is often present in history finding of a child with foreign body aspiration. The episode is typically followed by respiratory symptoms such as stridor, wheezing, and prolonged cough in the absence of illness. Acute layngotracheobronchitis, bronchitis, and viral pneumonia are also associated with coughing and wheezing but also involve other symptoms such as fever, rhinorrhea, fatigue and usually resolve within 10-14 days. (Nelson Textbook of Pediatrics 20<sup>th</sup> edition, Chapter 327)

**4. The sexual development of a 14-year old girl is notably delayed. She is very short, slightly obese, and complains of constipation and fatigue. Her skin is sallow and coarse in texture, and her hair is brittle. Which of the following tests should be obtained?**

- a. Chromosome analysis and serum thyroxine
- b. Serum thyroxine and thyroid-stimulating hormone**
- c. Serum leutinizing hormone and chromosome analysis
- d. Serum leutinizing hormone and thyroid stimulating hormone

Rationale: Classic symptoms of growth failure, goiter, delayed or arrested puberty, delayed dentition, weight gain, fatigue, dry skin, hyperlipidemia, decline in school performance, menorrhagia, and fatigue. It would be most appropriate to test for hypothyroidism first in this patient. If these are normal then you may want to consider the other tests for reasons for her growth delay etc. (Burns)

**5. Which of the following children requires a language referral for further evaluation?**

- a. 1-year-old with a 5-word vocabulary
- b. 2-year-old who cannot put two words together**
- c. 2-year-old with a 30-word vocabulary
- d. 3-year-old who is understandable to parents

Rationale: A 1 year old can have ~5 words with normal development, a 2 year old should have 20+ words, and by the age of 3 the child should be fully understandable by parents and 90% intelligible by strangers. A 2 year old should be able to put 2 word sentences together so if this milestone is not present then the patient needs further evaluation to assess for language delays. (Burns, Bright Futures)

**6. A pediatric primary care nurse practitioner observes multiple oval macules, both hyperpigmented and hypopigmented, on a child's upper trunk. A fine scale surrounds the borders of the lesions. The diagnosis is:**

- a. Atopic dermatitis
- b. Keratosis pilaris
- c. Pityriasis rosea
- d. Tinea versicolor**

Rationale: Tinea versicolor is a common dermatosis characterized by multiple small, oval, scaly patches measuring 1 to 3 cm in diameter, usually located in a raindrop pattern on the upper chest, back, and proximal portions of the upper extremities. In children, atopic dermatitis lesions are typically dry, papular, and intensely pruritic. Circumscribed scaly patches are distributed on the wrists, ankles, and antecubital and popliteal fossae. Keratosis Pilaris is typically distributed on the posterior upper portion of the arms and lesions are dry and papular. With Pityriasis rosea, a prodrome of malaise, headache, and mild constitutional symptoms occasionally precedes the rash but is not crucial for diagnosis. The typical eruption begins with the appearance of one or multiple "herald patches" which are large, isolated, oval lesions, usually pink in color and slightly scaly; they may occur anywhere on the body. From 5 to 10 days later, other smaller oval lesions appear on the body, frequently concentrated over the trunk but also seen on the proximal extremities, especially the thighs. (Zitelli and Davis' Atlas of Pediatric Physical Diagnosis, Chapter 8)

**7. A five-year-old child's physical examination is normal and the child has no known allergies to foods or medications. To date, the child has not been immunized and has had varicella disease. The pediatric primary care nurse practitioner now administers a poliovirus vaccine, a diphtheria, tetanus, and acellular pertussis vaccine; a measles, mumps, and rubella virus vaccine, and a:**

- a. Haemophilus influenza Type b vaccine
- b. Hepatitis B vaccine**
- c. Meningococcal vaccine
- d. Varicella vaccine (Varivax)

Rationale: Since the child has not been previously immunized, Hepatitis B should be given. The Haemophilus influenza Type B vaccine should not be given to children over 5 years of age if they are otherwise healthy. The meningococcal vaccine is not indicated in healthy children until 11 years of age. Because the child has had the varicella disease, the varicella vaccine is not a priority at this visit. (CDC, Immunizations, 2019)

**8. In reacting to parental divorce, a child between the ages of 9 and 12 differs from a younger**

**child in his or her:**

- a. Acceptance of the family's dissolution
- b. Conscious, intense anger**
- c. Positive reaction to the departure of a parent
- d. Tendency toward emotional decompensation

Rationale: Divorce is stressful and depending on the age of the child then you can expect different reactions. Children 2-5 years of age will often have regression, sleep disturbances, irritability and aggression. Children 6-8 years of age will often express open grieving and feelings of being rejected. They may also experience fussiness, regression, sadness, fear

and exhibit immature behaviors. Children 9-12 show fear and intense anger at one or both parents. The child who is 13 + years of age is worried about their own future, may act out or have depression symptoms. (Burns 6<sup>th</sup> edition, chapter 17)

**9. A 15-year-old male patient reports a three-day history of sore throat, fever, malaise. Physical examination reveals pharyngitis, anterior cervical adenopathy, and an oral temperature of 101.6F (38.7C). Which diagnostic test does a pediatric primary care nurse practitioner order next?**

- a. Antistreptolysin O titer
- b. Cytomegalovirus titer
- c. Monospot and complete blood count
- d. Rapid streptococcal antigen test

Rationale: Classic symptoms of strep pharyngitis include rapid onset of fever, sore throat, anterior cervical adenopathy, abdominal pain/nausea/vomiting, and headache. The most effective way to test for this disease process safely and quickly is the rapid streptococcal antigen test. The monospot tests for EBV and usually is a more insidious onset without severe symptoms. Cytomegalovirus usually affects the GI tract primarily. Antistreptolysin O titer detects antibodies to strep antigens and don't rise until 1-3 weeks after infection. (Burns)

**10. During a well-child visit, a mother expresses concern that her three-year-old has recently started to stutter when excited. The pediatric primary care nurse practitioner informs the mother that stuttering in a preschool-aged child:**

- a. Is a normal characteristic of language development
- b. Is a sign of abnormal speech pattern development
- c. Occurs because the child does not know what to say
- d. Signals the presence of stress in the child's environment

Rationale: 3-4 year old children have normal hesitancy in speech or stuttering. They will repeat words especially when stating a full sentence or when excited. It should not include syllable repetition. This usually resolves by 5 years of age and should not cause undue stress to the child. (Burns)

**11. A 14-year-old female patient has nonpustular, closed and open comedones. The patient has administered over-the-counter medications without effect. The pediatric primary care nurse practitioner's next action is to:**

- a. Prescribe oral minocycline (Minocin)
- b. Prescribe topical tretinoin (Retin-A)
- c. Recommend an antibacterial facial soap
- d. Refer the patient to a dermatologist

Rationale: Because over the counter treatment of mild to moderate acne was ineffective, topical tretinoin (Retin-A) is recommended as the next line of treatment. Patients with mild to moderate comedonal and/or inflammatory acne usually respond well to a combination of topical retinoids, benzoyl peroxide, and antibiotics. Moderate to severe papulopustular acne warrants the use of oral antibiotics in combination with topical agents. (Zitelli and Davis' Atlas of Pediatric Physical Diagnosis, Chapter 8)

**12. While evaluating a three-day old infant, a pediatric primary care nurse practitioner turns the infant on the side to examine the back and notes a sharp line of demarcation dividing the upper and lower parts of the body. The dependent half is bright red and the superior half is pale. The etiology of this phenomenon is:**

- a. An elevated central hematocrit level, typically > 65%
- b. An immature autonomic regulatory system, generally referred to as the "harlequin" sign
- c. Decreased blood flow to the superior half, usually caused by coarctation of the aorta
- d. Vasoconstriction of peripheral blood vessels, usually caused by sepsis

Rationale: The classic appearance of a harlequin sign is the is a division of the body skin color from forehead to pubis into red and pale halves. Etiology is unknown but thought be immature autonomic response. It is a benign finding and is self resolving. The high HCT would result in redden appearance overall. Coarctation would be associated with poor

pulses and blood pressure differences as well as pale mottle appearance overall (coarctation usually occurs between the take off of the right subclavian and the remainder of the body. Sepsis results in a mottled appearance with poor cap refill and cool extremities. (Burns)

**13. Which symptom requires immediate medical attention in a female adolescent who has recently started to use oral contraceptives?**

- a. Increasing breast tenderness
- b. Increasing emotional lability
- c. Spotting between periods
- d. Worsening headaches

Rationale: Worsening headaches in a female adolescent who has recently started to take oral contraceptives is worrisome. Individuals with a history of headaches taking pills that contain estrogen are at an increased risk of stroke. Increasing breast tenderness and emotional lability, in addition to spotting between cycles, are common side effects in many who recently have begun taking oral contraceptives. ( WHO, Medical eligibility for contraceptive use, 2015)

**14. An eight-year-old child comes to the clinic with a history of hard, painful bowel movements. The child's physical examination yields normal findings and an x-ray confirms constipation. The pediatric primary care nurse practitioner instructs the parent to increase fiber-rich foods for the child and to:**

- a. Increase cheese intake to two slices per day
- b. Limit milk consumption to 16 oz per day
- c. Limit the child to one candy bar per day
- d. Offer 24 oz of a sports drink per day

Rationale: Milk containing products and those high in carbohydrates tend to worsen constipation. The recommendations for children for milk consumption should be 16 oz per day. Increasing the cheese intake could worsen constipation. Candy bars should not be offered daily but only occasionally as a treat. Sport drinks are high in carbohydrates which adds unnecessary calories to the child's diet. Children should consume water and 2 glasses a milk daily with avoidance of sugary beverages (Burns, Bright Future)

**15. A pediatric primary care nurse practitioner notes seven café-au-lait spots of 0.5cm to 1cm in diameter on a six-year-old child. The nurse practitioner's next action is to:**

- a. Prescribe hydrocortisone valerate (Westcort) cream
- b. Prescribe ketoconazole (Nizoral) cream
- c. Provide genetic counseling to the family
- d. Refer the patient to a neurologist

Rationale: Multiple (6 or more) café-au-lait spots of large diameter is associated with neurofibromatosis. Other manifestations in children can include freckling in the axilla and groin region. Tumors can occur in the brain, skin, eye and along nerve tracks throughout the body. If present, this finding warrants further evaluation for neurofibromatosis. Genetic counseling may be part of the process but should not be the first referral because may be benign finding if no other associated tumors. The creams will not improve these spots. (Burns 6<sup>th</sup> edition, chapter 37)

**16. A pediatric primary care nurse practitioner examines a two-year-old who has a tender, edematous, and erythematous knee. The child's parent reports that, two weeks ago, the child experienced a five-day episode of a fever and bloody diarrhea. Which organism is likely the cause of the child's current symptoms?**

- a. Escherica coli
- b. Giardia lamblia
- c. Rotavirus
- d. Shigella flexneri

Rationale: Shigella causes 4-7 days of fever and diarrhea-that may contain blood and mucus. Most susceptible children are between 6 months to 3 years of age. The child in this scenario has developed reactive arthritis which is a known complication of a shigella infection. Rotavirus and giardia do not cause this illness. E. Coli usually infects the urinary

tract system and not other areas of the body. (Burns and Red Book)

**17. A mother brings her seven-month-old infant to the clinic and reports concerns that the mother has had for one month. The infant is no longer sitting and crawling, and been vomiting. Physical examination reveals that the infant's head circumference has markedly increased from the last visit and is at a much greater percentile than the infant's height or weight. The child is alert, but not playful. Which pathology does the practitioner suspect?**

- a. Congenital hydrocephalus
- b. Craniosynostosis
- c. Increased intracranial pressure
- d. Nutritional deficiency

Rationale: A loss of developmental milestones and increase in head circumference makes the PNP suspicious of increased intracranial pressure (either from a space occupying lesion or other reasons). Congenital hydrocephalus should have shown up in early infancy, nutritional deficiency results in lower than normal growth velocity of the head, and craniosynostosis is early fusion of one or more sutures so would result in misshapen head (Burns)

**18. A five-year-old child requires daily use of a short-acting beta2-agonist for wheezing and the child's symptoms exacerbate at least twice a week during physical exercise. The parent reports that the child has a dry cough at night, which occurs several times a week. The child's asthma is classified as:**

- a. Mild persistent
- b. Moderate intermittent
- c. Moderate persistent
- d. Severe persistent

Rationale: Moderate persistent asthma in the child between 5-11 years is defined by daily symptoms, night time awakenings more than once per week, daily SABA use, and some limitation in normal activity. Any child taking a SABA daily is classified as having persistent asthma. Because the child's symptoms happen on a daily basis, the severity is greater than "mild". Additionally, because the child has "some" limitation in normal activity but is not "extremely limited" the classification would not rank as severe. (Guidelines from the National Asthma Education and Prevention Program)

**19. The parents of a seven-year-old child subscribe to Taoist philosophy of yin and yang. Based on this philosophy, which practice are the parents likely to engage in?**

- a. Applying a heated glass to draw out infection
- b. Burning incense to drive away evil spirits
- c. Giving "hot" foods to counteract a "cold" illness
- d. Using an onion to eradicate a fever

Rationale: The philosophy of yin and yang is one where there is a belief that you must have balance. Therefore, if you have "cold" illness then you should give it "hot" foods. The PNP must be prepared to discuss cultural beliefs with families and allow shared decision making through patient/family centered care as long as it does not endanger the life of the child or cause harm.

**20. A pediatric primary care nurse practitioner obtains a sexual history from a 15-year-old female patient. The adolescent reports that her boyfriend has recently been pressuring her to agree to engage in sexual intercourse. The nurse practitioner's next action is to:**

- a. Explain the risks of having unprotected sexual intercourse
- b. Explore the adolescent's feelings about her desire to consent to sexual activities
- c. Offer the adolescent oral or transdermal birth control medications
- d. Perform a gynecologic examination and obtain a baseline Pap smear

Rationale: The next course of action is to encourage the adolescent to express their personal feelings about her desire to consent to sexual activities. Understanding the patient's feelings about the issue will serve to tailor the education and resources provided. Explaining the risks of having unprotected sex and offering birth control will

not address the fact that the patient is feeling pressured to have sex. A gynecologic examination and first pap smear is not indicated until the age of 21 or within 3 years of having sex. (Zitelli and Davis' Atlas of Pediatric Physical Diagnosis and the American College of Obstetricians and Gynecologists)

**21. A mother brings her two-month-old infant to a pediatric primary care nurse practitioner's clinic for a well child examination. The nurse practitioner orders the immunizations and provides an overview to the mother. The mother states, "I don't want my child to have those shots!" The nurse practitioner's most appropriate response is to:**

- a. Provide a strong recommendation for immunization on schedule
- b. Inform the mother that state law requires immunization.
- c. Negotiate an alternative immunization plan with the mother
- d. Recommend that the mother find another provider who shares the mother's philosophy regarding vaccines.

Rationale: The nurse practitioner should assume that all parents will want to vaccinate based on recommendations. Providing a strong recommendation to vaccinate on schedule and adding supportive statements is the best response to hesitation or initial refusal. Then listen to and respond to specific questions and concerns. An alternate immunization plan is not the most appropriate initial response as NP does not have an understanding of why the mother is hesitant. Laws vary from state to state and recommending the mother find a different provider will prevent future chances to discuss immunization. (CDC, Immunizations)

**22. Which is an accurate statement about vegetarian diets during childhood?**

- a. A child who eats a lactovegetarian diet is unlikely to consume adequate amounts of protein and vitamins for proper growth and development.
- b. Algae is a good source of bioavailable vitamin B12 for a child who eats a vegetarian diet
- c. Bioavailable vitamin B12 is present in both animal – and plant-based foods
- d. Vitamin B12 and zinc deficiencies place a child at risk for developmental delays

Rationale: B12 and zinc are most commonly found in meat and egg products. Sources of these nutrients in a vegan diet would include fortified soy milk, fortified soy based meat substitutes, nutritional yeast, fortified cereals, almonds, brown rice, wheat germ, tofu, pecans, and spinach. Other deficiencies with vegan or variations of vegetarian diets can include vitamin D, riboflavin, calcium, and iron. (Burns)

**23. A pediatric primary nurse practitioner evaluates an established patient who has completed treatment for acute otitis media. The nurse practitioner documents the resolution of the current illness, a review of previous upper respiratory infections, and the findings of an otoscopic examination and a brief head-to-toe assessment. Previous documentation includes a diagnosis of otitis media with effusion and a referral to an otolaryngologist. For which level of service does the nurse practitioner bill?**

- a. Comprehensive
- b. Detailed
- c. Expanded problem-focused
- d. Problem-focused

Rationale: The practitioner is not providing a comprehensive assessment because she does not include enough components of the history and physical, expanded problem focused would be a more extensive Hx with ROS, PE, and medical decision making process. This visit is only focused on the immediate problem that is now resolved without new diagnosis and limited assessment so it should be coded as problem focused (Burns; Stewart & Denisco, Chapter 13)

**24. A mother brings her six-year-old daughter to a pediatric primary care nurse practitioner for evaluation of breast and axillary hair growth. The patient has grown 1 inch during the last three months. The nurse practitioner's action is to:**

- a. Follow the child's development every six months
- b. Inform the mother that this condition is normal
- c. Initiate therapy with ketoconazole (Nizoral)

**d. Refer the patient to a pediatric endocrinologist**

Rationale: The child has evidence of precocious puberty in a child less than 8 years of age. Isolated axillary hair or single symptoms can be monitored but when the child has 2 or more symptoms they should be referred to endocrinology for work up of precocious puberty. The Ketoconazole is an antifungal medication and will not improve symptoms and this is not a normal finding. (Burns)

**25. A parent without health insurance brings an infant with bilateral otitis media to a pediatric primary care nurse practitioner. To optimize treatment adherence, the nurse practitioner prescribe which oral medication?**

- a. Amoxicillin (Amoxil) two times daily for 10 days
- b. Amoxicillin and clavulanate (Augmentin) twice daily for 10 days
- c. Azithromycin (Zithromax) once daily for five days
- d. Cefdinir (Omnicef) once daily for 10 days

Rationale: Amoxicillin is a very inexpensive medication with the lowest cost being around 3-4 dollars compared to Augmentin which can cost 400-900 dollars. Azithromycin and Cefdinir being 40 and 20+ respectively. The lower cost of the medication is a factor. Also, there is more compliance with 1-2 x a day medications. Finally, Amoxicillin remains first line therapy for AOM with augmentin as second line therapy and Cefdinir as a third line therapy. Azithromycin is not recommended for ear infections (Burns, AAP guideline, cost sources from the internet)

**26. The pediatric primary care nurse practitioner treats a two-year-old patient who has acute otitis media (AOM). The parents report a concern for speech delay. Review of the medical record reveals two additional AOM diagnoses in the past six months. The patient's plan of care includes:**

- a. A followup visit with the pediatrician to monitor for ongoing ear infections
- b. A hearing evaluation in the primary care office for speech concerns
- c. A referral to the local school district for speech evaluation
- d. An ear, nose, and throat consultation for recurrent otitis media

Rationale: The AAP guidelines states you can offer PE tubes if the child has 3 or more episodes of AOM in a six month period. This child has concern for speech delay as well which is another indication that he/she might be having hearing issues secondary to recurrent AOM or Otitis with Effusion (AAP guidelines)

**27. Which intervention is part of the recommended treatment for erythema multiforme minor?**

- a. Oral antihistamine as a supportive measure
- b. Oral steroid to resolve skin lesions
- c. Topical antibiotic to prevent infection
- d. Topical antifungal to treat skin lesions

Rationale: Erythema multiforme is a self limiting condition. In most cases, symptomatic treatment is sufficient. Oral antihistamines for 3 or 4 days may reduce the stinging and burning of the skin. Because the skin lesions are not related to a bacterial or fungal infection on the dermis, topical antibiotics and antifungals are not beneficial. Oral steroids are reserved for severe EM with functional impairments. (Zitelli and Davis' Atlas of Pediatric Physical Diagnosis)

**28. Statements that define the core knowledge of a pediatric primary care nurse practitioner's care are contained within the professional:**

- a. Accreditation standards
- b. Certification requirements
- c. Licensure application
- d. Scope of practice

Rationale: The scope of practice defines the knowledge, procedures, actions, and processes that a health care practitioner is permitted to undertake in keeping with the terms of their certification and licensure (PNCB, AANP and State Board of Nursing website)

**29. Evidence-based practice in clinical management is grounded in:**

- a. Clinical practice guidelines
- b. Cohort studies
- c. Expert opinions
- d. Systematic reviews**

Rationale: Systematic reviews are the highest level of evidence to support evidence base management. Clinical practice guidelines are often based on systematic reviews and provide grading of recommendations. Expert opinions and cohort studies do not provide a high enough level of evidence. (Research levels of evidence; Stewart & Denisco, Chapter 7)

**30. A pediatric primary care nurse practitioner examines a three-year-old patient who underwent a myringotomy four months ago. Sixty-five percent of the child's speech remains unintelligible. The nurse practitioner's response is to:**

- a. Consider the patient's history, by assessing the performance against standards, and recommend no action for eight months
- b. Interpret the patient's speech performance against expected standards and recommend a referral to an audiologist**
- c. Listen to the mother's report that the child's speech is progressing normally and recommend no further intervention for twelve months
- d. Recommend that the child visit a pediatric speech therapist because children should be speaking by three years of age

Rationale: The PNP should consider the speech development against expected standards and recommend further evaluation of hearing. The 3 year old should have 90% intelligible speech and if delayed it requires further assessment. Delays should be addressed immediately to promote the best outcome for children. (Burns)