

Study Guide for Clinical Practice Notes Short-Answer Quiz Instructions: Please answer the following questions in 2-3 sentences based on the provided clinical notes. Type 2 Diabetes involves a combination of insulin resistance and beta-cell dysfunction, is often associated with obesity, and has a more gradual onset at an older age (peak at 60). Severe pneumonia is differentiated from mild by signs such as high temperature ($\geq 38.5^{\circ}\text{C}$), moderate to severe respiratory distress including grunting and retractions, cyanosis, and altered mental status. Based on the provided clinical notes, outline a stepwise management plan covering lifestyle modifications, initial pharmacological choices for both conditions, and subsequent adjustments if initial targets are not met. Asthma (Bronchial) A chronic inflammatory disorder of the airway characterized by spasm, inflammation, and mucus production. An illness introduces exogenous pyrogens like microbes, which stimulate the release of endogenous pyrogens (IL1, IL6, TNF- α , INF- γ). It is crucial to rule out other potential causes for the seizure, such as meningitis, seizure epilepsy, tonsillitis, otitis media, or a urinary tract infection (UTI). The main causative agents of otitis media are the bacteria *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis*. Recommended antibiotic treatments include a 10-day course of Amoxicillin clavulanate, a 1- or 3-day course of IM Ceftriaxone, or a single dose of Azithromycin. CURB-65 A clinical prediction rule to assess the severity of community-acquired pneumonia and determine the need for hospitalization in adults. Endogenous Pyrogens Fever-inducing substances produced by the body in response to infection or inflammation, such as IL1, IL6, TNF- α , and INF- γ . Type 1 Diabetes is an autoimmune condition involving beta-cell destruction, leading to absolute insulin dependency with a sudden onset, typically before age 30. Its mechanism of action involves decreasing gluconeogenesis (glucose production by the liver) and improving the body's insulin resistance. Compare the management strategies for an acute asthma attack versus the long-term prophylactic treatment aimed at preventing future attacks. Bronchiolitis A viral illness, commonly caused by RS virus, affecting children under 1 year, characterized by wheezing and dyspnea. Bronchodilator A medication that relaxes bronchial muscles to widen the airways, used to treat spasm in conditions like asthma. Exogenous Pyrogens Fever-inducing substances from outside the body, such as microbes, microbial toxins, and other microbial components. What are the key differences between Paracetamol and Ibuprofen in terms of their therapeutic properties and primary uses in pediatrics? For a patient older than 55, the initial treatment for hypertension typically starts with a Calcium Channel Blocker (CCB) or a diuretic. If asthma is not controlled with initial prophylactic therapy, the next step is to increase the dose of the inhaled corticosteroid. -----

----- Essay Questions Instructions: Prepare detailed responses to the following essay prompts, drawing comprehensively from the information presented in the clinical notes. Differentiate the management for typical vs. atypical pneumonia and detail the specific clinical criteria that would warrant hospitalization. Dyslipidemia An abnormal amount of lipids (e.g., triglycerides, cholesterol) in the blood, often managed alongside hypertension. Sinusitis (Acute) Inflammation of the sinuses, presenting with symptoms like runny nose, facial pressure, and headache. Sulfonylureas A class of oral medications for Type 2 Diabetes that stimulates the pancreas to release more insulin. Describe the step-up approach for managing bronchial asthma in between attacks for a patient whose symptoms are not controlled by initial

therapy. These pyrogens act on arachidonic acid to produce PGE₂, which then resets the body's thermoregulatory set point in the hypothalamus. A febrile convulsion is diagnosed in a child between 6 months and 5 years old who experiences a seizure within 24 hours of a fever's onset. The first-line management for an acute asthma attack includes nebulizer sessions with a bronchodilator. This is often accomplished by switching to a combination inhaler like Seretide, which contains both a corticosteroid and a long-acting bronchodilator. Discuss the evolution of medical understanding regarding the use of ibuprofen in pediatric patients with asthma, referencing the 2002 and 2016 studies mentioned in the notes. Classified as intermittent or persistent (mild, moderate, severe). Corticosteroids Anti-inflammatory medications used to treat conditions like asthma, croup, and pneumonia. Febrile Convulsion A seizure in a child between 6 months and 5 years of age that is associated with a fever but without evidence of intracranial infection or another defined cause. Examples: Captopril, .Ramipril. 1.2.3.4.5.6.7.8.9. 10.2.3.4.5.6.7.8.9. 10. 1.2.3.4.5