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Nelson Textbook of

PEDIATRICS

19th Edition

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Nelson Pediatrics Review(MCQs) 19 Edition

1. Which of the following statements regarding foster care is true?

- A permanency plan must be made for a child in foster care no later than 12 mo from the child's entry into care
- A minority of children in foster care have a history of abuse or neglect
- The mission of foster care is to safely care for children while providing services to families to promote reunification
- Most (>70%) of children in foster care are reunited with their families

■ A and C

description The mission of foster care is to provide for the health, safety, and well-being of children while assisting their families with services to promote reunification. Children entering foster care have frequently experienced early childhood trauma. More than 70% have a history of abuse, neglect, or both. Only about 50% of children achieve reunification. In the USA, the Adoption and Safe Families Act (P.L. 105-89) passed in 1997 requires that a permanency plan be made for each child no later than 12 mo after entry to foster care and that a petition to terminate parental rights typically must be filed when a child has been in foster care for at least 15 of the previous 22 mo. ([See Chapter 35, page 134, and e35-1.](#))

2. A 4 yr old girl is admitted to the hospital for her third evaluation for vaginal bleeding. The mother noted bright red blood on the child's underwear. Previous examinations revealed a normal 4 yr old girl, Tanner stage 1, with normal external genitalia. Pelvic ultrasound results were normal, as was the serum estradiol level. The hemoglobin and platelet counts were normal, as were the bleeding time and coagulation studies. Findings on pelvic examination conducted under anesthesia also were normal. The next step in the examination is to:

- Determine the blood type of the blood on the underwear
- Interrogate the father
- Isolate the parents and child
- Determine von Willebrand factor levels

Measure fibronectin in the vagina

description Consideration of factitious disorder by proxy should be triggered when the reported symptoms are repeatedly noted by only one parent, appropriate testing fails to confirm a diagnosis, and seemingly appropriate treatment is ineffective. At times, the child's symptoms, their course, or the response to treatment may be incompatible with any recognized disease. Preverbal children are usually involved. Bleeding is a particularly common presentation. This may be caused by adding dyes to samples, adding blood (e.g., from the mother) to the child's sample, or giving the child an anticoagulant (e.g., warfarin). ([See Chapter 37, page 146.](#))

3. Munchausen syndrome by proxy is characterized by all of the following EXCEPT:

Mother who appears devoted and wins over members of care team

Multiple hospitalizations and investigations without diagnosis

Symptoms on history but not witnessed by medical team

Symptoms occurring in presence of different caregivers (e.g., while mother is out of town)

Use of medications or toxins

description Symptoms in young children are mostly associated with proximity of the offending caregiver to the child. The mother may present as a devoted or even model parent who forms close relationships with members of the health care team. While appearing very interested in her child's condition, she may be relatively distant emotionally. ([See Chapter 37, page 146.](#))

4. Which statement is false?

Malnutrition is the second leading cause of acquired immune deficiency worldwide behind HIV infection

Zinc is important in immune function and linear growth

Kwashiorkor and marasmus are rare in developed countries

The Western diet is associated with increased noncommunicable disease

description The significant global burden of malnutrition and undernutrition is the leading worldwide cause of acquired immunodeficiency and the major underlying factor for morbidity and mortality globally for children <5 yr of age. Zinc is a micronutrient that supports multiple metabolic functions in the body, is essential for normal immune functioning, and is required to support linear growth; zinc deficiency is associated with impaired immune functioning and poor linear growth. In parallel to the risk for nutrient and energy deficiencies, issues relating to excesses pose important challenges because of their negative health effects, such as obesity or cardiovascular disease risk factors. The nutrition transition under way in the

developing world from traditional diets to the Western diet has been associated with increases in noncommunicable diseases, often coexisting with undernutrition and malnutrition, observed sometimes in the same communities or even the same families. ([See e41-1.](#))

5. Components of energy expenditure in children include:

- Thermal effect of food
- Basal metabolic rate
- Energy for physical activity
- Energy to support growth
- All of the above

description The 3 components of energy expenditure in adults are the basal metabolic rate, the thermal effect of food (energy required for digestion and absorption), and energy for physical activity. Additional energy intake and expenditure are required to support growth and development for children. ([See e41-4.](#))

6. Which of the following clinical scenarios increases the risk of vitamin A deficiency?

- Vegetarian diet
- Chronic intestinal disorders
- Zinc deficiency
- B and C
- All of the above

description Vitamin A is an essential micronutrient because it cannot be biogenerated de novo by animals. It must be obtained from plants in the form of provitamin-A carotenoids. In the USA, grains and vegetables supply approximately 55% and dairy and meat products supply approximately 30% of vitamin A intake from food. Vitamin A and the provitamins-A are fat soluble, and their absorption depends on the presence of adequate lipid and protein within the meal. Chronic intestinal disorders or lipid malabsorption syndromes can result in vitamin A deficiency. In developing countries, subclinical or clinical zinc deficiency can increase the risk of vitamin A deficiency. There is also some evidence of marginal zinc intakes in children in the USA. ([See Chapter 45, page 188.](#))

7. Which statement about vitamin A toxicity is NOT true?

Excess vitamin A in utero can cause congenital malformations

It may present as pseudotumor cerebri

■ An infant with a preference for carrots and butternut squash may develop toxicity

It may cause fissures at the corners of the mouth, pruritus, and alopecia

Symptoms subside rapidly after withdrawing the source of the vitamin

description Excessive intake of carotenoids is not associated with toxicity but can cause yellow coloration of the skin that disappears when intake is reduced; this disorder (carotenemia) is especially likely to occur in children with liver disease, diabetes mellitus, or hypothyroidism and in those who do not have enzymes that metabolize carotenoids. ([See Chapter 45, page 191.](#))

8. Which statement about vitamin E is false?

The most common form of vitamin E is tocopherol

■ Premature infants given formula with a high content of polyunsaturated fatty acids and iron supplementation are protected from deficiency

Cholestatic liver disease increases the risk of deficiency

Premature infants with vitamin E deficiency develop hemolysis, thrombocytosis, and edema

Prolonged vitamin E deficiency causes a severe, progressive neurologic disorder

description Premature infants are particularly susceptible to vitamin E deficiency because there is significant transfer of vitamin E during the last trimester of pregnancy. Vitamin E deficiency in premature infants causes thrombocytosis, edema, and hemolysis, potentially causing anemia. The risk of symptomatic vitamin E deficiency was increased by the use of formulas for premature infants that had a high content of polyunsaturated fatty acids (PUFAs). These formulas led to a high content of PUFAs in red blood cell membranes, making them more susceptible to oxidative stress, which could be ameliorated by vitamin E. Oxidative stress was augmented by aggressive use of iron supplementation; iron increases the production of oxygen radicals. The incidence of hemolysis due to vitamin E deficiency in premature infants decreased secondary to the use of formulas with a lower content of polyunsaturated fatty acids, less-aggressive use of iron, and provision of adequate vitamin E. ([See e49-1.](#))

9. Manifestations of hyperkalemia include all of the following EXCEPT:

Paresthesias

Weakness

Paralysis

Wide QRS complex

■ Tetany

description The most important effects of hyperkalemia are due to the role of potassium in membrane polarization. The cardiac conduction system is usually the dominant concern. Changes in the electrocardiogram (ECG) begin with peaking of the T waves. This is followed, as the potassium level increases, by ST segment depression, an increased PR interval, flattening of the P wave, and widening of the QRS complex. This process can eventually progress to ventricular fibrillation. Asystole may also occur. Some patients have paresthesias, fasciculations, weakness, and even an ascending paralysis, but cardiac toxicity usually precedes these clinical symptoms, emphasizing the danger of assuming that an absence of symptoms implies an absence of danger. ([See Chapter 52, page 221.](#))

10. Hyperkalemia may be associated with all of the following EXCEPT:

Succinylcholine use

Burns

Trauma

Chemotherapy

■ Metabolic alkalosis

Digitalis toxicity

Uremia

description Many causes of hyperkalemia result in metabolic acidosis; a metabolic acidosis worsens hyperkalemia through the transcellular shift of potassium out of cells. Renal insufficiency is a common cause of the combination of metabolic acidosis and hyperkalemia. This association is also seen in diseases associated with aldosterone insufficiency or aldosterone resistance. ([See Chapter 52, page 221.](#))

11. The best method to reduce the potassium level during hyperkalemia, by reducing the body burden of potassium, is:

Sodium bicarbonate infusion

Glucose and insulin infusion

Calcium infusion

Albuterol aerosol

■ Kayexalate enema

description Treatment of hyperkalemia has 2 basic goals: (1) to stabilize the heart to prevent life-threatening arrhythmias and (2) to remove potassium from the body. The treatments that acutely prevent arrhythmias all have the advantage of working quickly (within minutes) but do not remove potassium from the body. Calcium stabilizes the cell membrane of heart cells, preventing arrhythmias. It is given intravenously over a few minutes, and its action is almost immediate. Several medications cause potassium to move intracellularly and thus rapidly reduce the plasma level to prevent arrhythmias. These include bicarbonate, insulin and glucose, and nebulized albuterol. However, these medicines do not remove potassium from the body. To reduce the total body potassium, 3 options are available. In patients who are not anuric, a loop diuretic increases renal excretion of potassium. A high dose may be required in a patient with significant renal insufficiency. Sodium polystyrene sulfonate (Kayexalate) is an exchange resin that is given either rectally or orally. Sodium in the resin is exchanged for body potassium, and the potassium-containing resin is then excreted from the body. Some patients require dialysis for acute removal of potassium. Dialysis is often necessary if the patient has either severe renal failure or an especially high rate of endogenous potassium release, as is sometimes present with tumor lysis syndrome or rhabdomyolysis. ([See Chapter 52, page 222.](#))

12. Clinical manifestations of hypokalemia include all of the following EXCEPT:

ECG changes

Paralysis

Urinary retention

Constipation

Muscle cramps

■ Blurry vision

description The heart and skeletal muscle are especially vulnerable to hypokalemia. ECG changes include a flattened T wave, a depressed ST segment, and the appearance of a U wave, which is located between the T wave (if still visible) and the P wave. Ventricular fibrillation and torsades de pointes may occur, although usually only in the context of underlying heart disease. The clinical consequences of hypokalemia in skeletal muscle include muscle weakness and cramps. Paralysis is a possible complication, generally only at potassium levels <2.5 mEq/L. It usually starts in the legs and moves to the arms. Respiratory paralysis may require mechanical ventilation. Some patients have rhabdomyolysis; the risk increases with