Human Development

United States Medical Licensing Examination (USMLE) Step 1

1 to 3% of Step 1 · 6 sections · content outline and specifications

Human Development covers normal growth, body changes, development and preventive care across life: infancy and childhood, adolescence, adulthood and older age. It is a small part of Step 1, but its questions are often quick points if you know what is normal. Most questions describe a healthy person and ask what is expected at that age, what explains a normal finding, or what mechanism lies behind a preventive step such as a vaccine. Some questions show a normal variant, such as constitutional growth delay, beside a disease that looks similar. Learn the normal first, then the signs that something is not normal.

You should be able to: After this guide, you should be able to tell normal development and normal aging from disease at each stage of life and explain the physiology behind common preventive steps.

Every section: the key point and the trap

1 Infancy and childhood: growth and body changes

Weight: birth weight is regained by about 2 weeks, doubles by about 4 to 5 months and triples by 1 year. Length increases by about half in the first year.

Trap: A short child with a normal growth rate is usually a normal variant. A falling growth rate (crossing percentiles downward) suggests disease such as hypothyroidism, growth hormone deficiency or malabsorption.

2 Developmental milestones and stages in childhood

2 months: social smile, lifts head when on the tummy. 4 to 6 months: rolls over, laughs, reaches for objects. 6 months: sits with support, babbles, passes objects between hands; stranger anxiety starts at about 6 to 9 months.

Trap: Do not choose an age from one skill alone. Use the most advanced skill in each area (motor, language, social) and choose the age that fits all of them. Loss of a skill the child had is never normal.

3 Childhood preventive care: nutrition, vaccines and safety

Breast milk is the best food for infants. Exclusively breastfed infants need vitamin D. Iron-rich foods are added from about 6 months. Cow's milk and honey are not given before 12 months.

Trap: A live vaccine given too early fails because of maternal antibody, not because the infant cannot make antibodies. Infants make IgM from birth.

4 Adolescence: puberty, growth, sleep and identity

Girls: breast budding (thelarche) is usually the first sign, then pubic hair, the growth spurt and menarche about 2 to 3 years after thelarche. The growth spurt is early in puberty.

Trap: A teenager who understands risk can still take risks with friends. The answer is late prefrontal maturation, not a lack of abstract thinking.

5 Adulthood: health maintenance and development

Erikson: intimacy vs isolation (young adults) and generativity vs stagnation (middle adults, guiding the next generation and productive work).

Trap: Screening ages and intervals change over time. Step 1 tests the principle (why a test is done and for whom) more than exact intervals. Know the main starting ages.

6 Older adulthood: normal aging and preventive care

Body composition: lean mass and total body water fall; body fat rises. Lipid-soluble drugs have a longer half-life; water-soluble drugs reach higher levels.

Trap: Common is not the same as normal. Bruising on the backs of the arms and early waking are normal aging; new incontinence, confusion or loss of daily function are not.

Key terms

Bone age: The maturity of the skeleton judged from a hand x-ray, compared with real age.

Milestone: A skill most children gain by a certain age.

Object permanence: Knowing that an object still exists when it is hidden.

Thelarche: The start of breast development at puberty.

Menarche: The first menstrual period.

Anticipatory guidance: Advice that helps families prepare for the next stage of development and its risks.

Volume of distribution: How widely a drug spreads in the body compared with its level in the blood.

Polypharmacy: The use of many medicines at the same time, which raises the risk of side effects and interactions.

Retrospection: Looking back on and thinking about one's own past.

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