

Pediatric Developmental Assessment

MCQ CORE CONCEPT: HEREDITY VS. ENVIRONMENT

A child's development represents the interaction of both. **Heredity** determines the **potential**, while the **Environment** determines the **extent** to which that potential is achieved.

1. Fundamentals & Adjusting for Prematurity

- **Development:** Increase in function of processes related to body and mind.
- **Four Areas of Development:** Gross motor, Fine motor & vision, Speech/language & hearing, Social/emotional & behavioral.
- **Factors affecting development:** Prenatal/perinatal insults (hypoxia, maternal alcohol), gestational age, chronic illnesses, nutrition, maternal depression, trauma, and social factors.
- **MCQ HIGH-YIELD: Prematurity Correction.** If born preterm, developmental age must be calculated from the **expected date of delivery (corrected age)**.
 - *Example:* A 9-month chronological age baby born 3 months early (at 28 weeks) will have the developmental skills of a **6-month-old**.
 - **Correction is NOT required after about 2 years of age.**

2. Deep Dive: Motor Milestones Progression

Gross Motor (Prone & Supine)

- **Newborn:** Symmetrical flexion; marked head lag.
- **6-8 weeks:** Raises head to 45°, starts holding head.
- **3 months:** Raises half of chest; **No head lag** (by 12w); pulls to sit.
- **6 months:** Raises whole chest on palms; rolls front to back; sits momentarily with round back.
- **8 months:** Sits with **straight back**.
- **9 months:** Crawling.
- **10 months:** Stands with support, walks around furniture (cruising).
- **12 months:** Walks unsteadily, broad gait, hands apart.

Advanced Gross Motor (Walking & Beyond)

- **Walks unsupported statistics:** 50% by 12 mo, 90% by 15 mo, 97.5% by 18 mo.
- **18 months:** Runs; walks up stairs with hand held; stoops and recovers (picks up object without falling).
- **2 years (24 mo):** Runs well; jumps with 2 feet; kicks ball; throws ball overhand.
- **3 years:** Pedal tricycle; broad jumps.
- **4 years:** Balances on one foot.
- **5 years:** Skips with alternating feet.
- **6 years:** Rides a bike.

- **15 months:** Walks alone steadily.

MEMORY AID: THE STAIR CLIMBING RULE

- **18 months:** Needs help (*hand held*).
- **2 years:** 2 feet per step (*Up & Down*).
- **3 years:** Alternating 1 foot/step (*Up only*).
- **4 years:** Alternating 1 foot/step (*Downwards too*).

3. Fine Motor, Vision, and Drawing

- **Newborn:** Follows faces in midline; hands tightly fist (1 mo).
- **6 weeks:** Follows moving objects/faces 180°.
- **4 months:** Reaches for toys with both hands; bats at objects.
- **6 months:** Palmar grasp; transfers toys hand-to-hand.
- **10 months:** **Mature pincer grasp.**
- **12 months:** Casting objects; voluntarily releases items.
- **14-15 months:** Scribbles.
- **24 months (2 yrs):** Uses fork and spoon.

MEMORY AID: DRAWING & BLOCK SKILLS (HIGHLY TESTABLE)

Pencil Skills Progression: C-C-S-T (Think: Children Can See Things)

- **2 years:** Straight line
- **3 years:** Circle (1 continuous line)
- **4 years:** Cross (2 intersecting lines)
- **4.5 years:** Square (4 lines)
- **5 years:** Triangle
- **6 years:** Writes name

Block Tower Building:

- **15 mo:** 2 blocks | **18 mo:** 3 blocks | **2 y:** 6 blocks | **2.5 y:** 8 blocks
- **3 y:** Builds a **bridge** | **4 y:** Builds **steps**

MCQ CALCULATION: DRAW-A-MAN TEST

Mental age can be estimated by asking a child to draw a man. They receive 1 point for each body part (n) drawn.

$$\text{Mental Age (years)} = 3 + (n / 4)$$

Example: If a child draws 20 parts: $3 + (20/4) = 8$ years old.

4. Speech, Language & Hearing

- **Newborn:** Startles to loud noise.
- **3 months:** Vocalizes, laughs, coos.
- **6 months:** Babbles (da, ma); turns head to sounds out of sight (Hearing Distraction Test).
- **9 months:** Nonspecific 'Dada/Mama'; imitates speech sounds; **understands "no"**.
- **12 months:** Discriminate 'Dada/Mama' + 1 to 4 single words; follows commands with gesture.
- **15 months:** 4-6 words; uses jargon; responds to 1-step verbal command.
- **18 months:** 10-25 single words; points to body parts when asked.
- **21 months:** Uses 2+ words to make simple phrases.

MEMORY AID: RULE OF 4THS FOR SPEECH INTELLIGIBILITY

By age 2, vocabulary is ~50 words. By age 3, it's ~200 words. How well can a stranger understand them? **Divide age by 4!**

- **2 years** = $2/4 = 50\%$ intelligible
- **3 years** = $3/4 = 75\%$ intelligible
- **4 years** = $4/4 = 100\%$ intelligible

5. Social, Emotional & Behavioral

- **Birth - 1 mo:** Fixates on face; startles; social smile begins (by 6 wks).
- **6 - 8 months:** Puts food in mouth.
- **9 months:** **Object permanence**; stranger anxiety; plays gesture games (pat-a-cake); understands own name.
- **10 months:** Waves bye-bye; plays peek-a-boo.
- **12 months:** Drinks from cup; casting objects; cooperates with dressing; comes when called.
- **15 months:** Indicates desires by pointing.
- **18 months:** Symbolic play; kisses parents; tells mother wants potty; holds spoon; plays *near* but not *with* others (parallel play).

- **2 years:** Dry by day; pulls off clothing; listens to picture stories.
- **3 years:** **Interactive play (takes turns);** knows age and gender.
- **4 years:** Imaginary play; goes to toilet alone; brushes teeth; washes/dries hands.
- **5 years:** Dresses/undresses alone; plays cooperative games; names 4 colors; understands rules.
- **6 years:** Knows right from left; knows all color names.