Vital Signs Reference Chart

Age-Specific Normal Ranges for Emergency and Clinical Use

> Note: Values are approximate; always interpret in clinical context. Extremes outside these ranges may indicate instability. Use length-based tape for pediatrics when available.

Neonates (0–28 days)

- **Respiratory rate:** 40–60/min
- **Heart rate:** 100–180/min
- **Systolic BP:** 60–85 mmHg
- **Temperature:** 36.5–37.5 °C

Infants (1–12 months)

- **Respiratory rate:** 30–53/min
- **Heart rate:** 100–180/min (sleeping HR ≥ 90 acceptable)
- **Systolic BP:** 70–105 mmHg
- **Temperature:** 36.5–37.5 °C

Toddlers (1–3 years)

- **Respiratory rate:** 22–37/min
- **Heart rate:** 90–150/min
- **Systolic BP:** 85–105 mmHg
- **Temperature:** 36.5–37.5 °C

Preschool (4–5 years)

- **Respiratory rate:** 20–28/min
- **Heart rate:** 80–140/min
- **Systolic BP:** 90–110 mmHg
- **Temperature:** 36.5–37.5 °C

School-Age (6–12 years)

- **Respiratory rate:** 18–25/min
- **Heart rate:** 70–120/min
- **Systolic BP:** 90–120 mmHg
- **Temperature:** 36–37.5 °C

Adolescents (13–17 years)

- **Respiratory rate:** 12–20/min
- **Heart rate:** 60–100/min
- **Systolic BP:** 100–130 mmHg
- **Temperature:** 36–37.5 °C

Adults (≥18 years)

- **Respiratory rate:** 12–20/min
- **Heart rate:** 60–100/min (beta-blocked/athletes may be lower)
- **Systolic BP:** 100–140 mmHg (≥110 in TBI; age-adjusted)
- **Temperature:** 36–37.5 °C

Older Adults (≥65 years)

- **Respiratory rate:** 12–20/min
- **Heart rate:** 60–100/min (blunted tachycardic response common)
- **Systolic BP:** 110–150 mmHg (lower SBP may indicate shock despite "normal" values)
- **Temperature:** 36–37.2 °C (fever response may be blunted)

Quick Reference Notes

- **Hypotension thresholds (SBP):**
  - Neonate < 60 mmHg
  - Infant < 70 mmHg
  - Child (1–10 years): < 70 + (2 × age)
  - Child >10 years: < 90 mmHg
  - Adult: < 90 mmHg (except permissive hypotension protocols in trauma)
- **Normal urine output:**
  - Neonates/children: ≥ 1 mL/kg/h
  - Adults: ≥ 0.5 mL/kg/h

Using the Broselow Tape

The **Broselow Pediatric Emergency Tape** is a length-based tool used to estimate a child's weight and guide emergency interventions.

Steps: 1. Lay the child flat and align the red end of the tape at the top of the child's head. 2. Extend the tape along the body to the child's heels. 3. Note the color zone where the child's heels fall. 4. Use the color zone to determine: - **Estimated weight** (for drug and fluid

calculations) - **Correct equipment sizes** (ET tubes, airway adjuncts, BP cuffs, etc.) - **Medication dosages** (pre-calculated on many tape versions)

Key Points: - Designed for children up to 145 cm (approx. 36 kg). - Provides rapid guidance during emergencies when weighing is not feasible. - Always confirm critical doses and adjust if clinical condition suggests discrepancy.

References: - American Heart Association Pediatric Advanced Life Support (PALS) - Advanced Trauma Life Support (ATLS) - WHO Emergency Care guidelines - South African Triage Scale (SATS) reference tables - Broselow Pediatric Emergency Tape manufacturer guidelines