

Normal ranges by age

Age	Pulse (bpm)	Respiration (/min)
Newborn	120–160 (avg 140)	30–50 (avg 40)
1–2 years	80–140 (avg 120)	20–30 (avg 25)
3–6 years	75–120 (avg 100)	18–26 (avg 22)
7–11 years	75–110 (avg 95)	16–22 (avg 19)
Adolescent—adult	60–100 (avg 80)	12–20 (avg 16)

- ✓ **Temperature, healthy adult:** 97.7–99.5 °F (36.5–37.5 °C); traditional average 98.6 °F (37 °C)
- ✓ **Pulse oximetry:** normal 95–100%; under 90% is hypoxemia
- ✓ **Cardinal signs:** temperature, pulse, respiration, blood pressure. Anthropometric measurements are *not* vital signs
- ✓ **Well-conditioned athletes:** a pulse of 50–60 bpm is normal

Temperature by site

Site	Average	Fever above
Axillary	97.6 °F / 36.4 °C	99 °F (37.2 °C)
Oral	98.6 °F / 37 °C	100 °F (37.8 °C)
Tympanic	99.6 °F / 37.6 °C	100.4 °F (38 °C)
Rectal	99.6 °F / 37.6 °C	100.4 °F (38 °C)
Temporal artery	99.6 °F / 37.6 °C	100.4 °F (38 °C)

- ✓ **Documenting:** (T) tympanic, (A) axillary, (R) rectal, (TA) temporal artery, (IFR) infrared. Oral needs no abbreviation
- ✓ **Rectal:** insert about 1 inch; most often used for infants
- ✓ **Tympanic:** pull the earlobe down and back under age 3; the pinna up and back over age 3
- ✓ **Axillary:** the least accurate site. Oral is not typically used under age 3
- ✓ **Fever patterns:**
 - **Continuous:** varies under 3°, stays elevated
 - **Intermittent:** alternates between elevated and normal
 - **Remittent:** varies over 3°, never returns to normal

Pulse sites

- ✓ **Radial:** thumb side of the wrist, 1 inch below the base of the thumb. Most frequently used
- ✓ **Apical:** left 5th intercostal space, midclavicular line. Stethoscope only; infants and irregular pulses. **Always a full minute**, documented (AP)
- ✓ **Carotid:** between the larynx and the sternocleidomastoid. Emergencies and adult CPR
- ✓ **Brachial:** inner antecubital elbow. The artery auscultated for BP; infant and child CPR
- ✓ **Femoral, popliteal, dorsalis pedis:** deep; may need a Doppler. Pedal is checked in diabetic and peripheral vascular patients, and may be congenitally absent
- ✓ **Never use your thumb:** it has its own pulse

Volume	Term	Under pressure
3+	Full bounding	Does not disappear with moderate pressure
2+	Normal	Disappears with moderate pressure
1+	Weak thready	Disappears with slight pressure