

Vital Signs

1

DENTALELLE TUTORING

Recording of Vital Signs

2

- At the New Patient Exam (and in some cases EVERY appointment) vital signs must be recorded
- Often vital signs are only recorded for adults and older children – here is the **normal** range:
- **Blood pressure** – 115/75 (or 120/80 depending on the text you read but 115/75 is the normal range under the ‘heart and stroke foundation’.
- **Pulse** – 60-90 BPM
- **Respiration** – 14-20 RPM
- **Temperature** – 97-99 degrees

Normal Results

3

- A normal body temperature taken orally is 98.6°F (37°C), with a range of **$97.8\text{--}99.1^{\circ}\text{F}$** ($36.5\text{--}37.2^{\circ}\text{C}$).
- A **fever** is a temperature of 101°F (38.3°C) or higher in an infant younger than three months or above 102°F (38.9°C) for older children and adults. **Hypothermia** is recognized as a temperature below 96°F (35.5°C).
- Respirations are quiet, slow, and shallow when the adult is asleep, and rapid, deeper, and noisier during and after activity.
- Average respiration rates at rest are:
 - **infants**, 34–40 per minute
 - **children** five years of age, 25 per minute
 - Tachypnea is rapid respiration above 20 per minute.

Continuation

4

- The strength of a heart beat is raised during conditions such as fever and lowered by conditions such as shock or elevated intracranial pressure. The average heart rate for older children (aged 12 and older) and adults is approximately 72 beats per minute (bpm). **Tachycardia** is a pulse rate over 100 bpm, while **bradycardia** is a pulse rate of under 60 bpm.

Blood Pressure

5

- To record blood pressure, a person should be seated with one arm bent slightly, and the arm bare or with the sleeve loosely rolled up. The cuff is placed level with the heart and wrapped around the upper arm, one inch above the elbow.
- If the blood pressure is monitored manually, a cuff is placed level with the heart and wrapped firmly but not tightly around the arm one inch above the elbow over the brachial artery. Positioning a **stethoscope** over the brachial artery in front of the elbow with one hand and listening through the earpieces, the cuff is inflated well above normal levels (to about 200 mmHg), or until no sound is heard. Alternatively, the cuff should be inflated 10 mm Hg above the last sound heard. The valve in the pump is slowly opened. Air is allowed to escape no faster than 5 mmHg per second to deflate the pressure in the cuff to the point where a clicking sound is heard over the brachial artery. The reading of the gauge at this point is recorded as the systolic pressure.

Blood Pressure Continuation

6

- The sounds continue as the pressure in the cuff is released and the flow of blood through the artery is no longer blocked. At this point, the noises are no longer heard. The reading of the gauge at this point is noted as the diastolic pressure. "Lub-dub" is the sound produced by the normal heart as it beats. Every time this sound is detected, it means that the heart is contracting once. The noises are created when the heart valves click to close. When one hears "lub," the atrioventricular valves are closing. The "dub" sound is produced by the pulmonic and aortic valves.
- With children, the clicking noise does not disappear but changes to a soft muffled sound. Because sounds continue to be heard as the cuff deflates to zero, the reading of the gauge at the point where the sounds change is recorded as the diastolic pressure.
- Blood pressure readings are recorded with the systolic pressure first, then the diastolic pressure (e.g., 120/70).
- Blood pressure should be measured using a cuff that is correctly sized for the person being evaluated. Cuffs that are too small are likely to yield readings that can be 10 to 50 millimeters (mm) Hg too high. **Hypertension** (high blood pressure) may be incorrectly diagnosed.

Pulse – Heart Beat

7

- The pulse can be recorded anywhere that a surface artery runs over a bone. The radial artery in the wrist is the point most commonly used to measure a pulse. To measure a pulse, one should place the index, middle, and ring fingers over the radial artery. It is located above the wrist, on the anterior or front surface of the thumb side of the arm.
- Gentle pressure should be applied, taking care to avoid obstructing blood flow. The rate, rhythm, strength, and tension of the pulse should be noted. If there are no abnormalities detected, the pulsations can be counted for half a minute, and the result doubled. However, any irregularities discerned indicate that the pulse should be recorded for one minute. This will eliminate the possibility of error. Pulse results should be noted in the health chart.

Respirations

8

- An examiner's fingers should be placed on the person's wrist, while the number of breaths or respirations in one minute is recorded. Every effort should be made to prevent people from becoming aware that their breathing is being checked. Respiration results should be noted in the medical chart

Temperature

9

- Temperature is recorded to check for fever (pyrexia or a febrile condition), or to monitor the degree of hypothermia.
- Manufacturer guidelines should be followed when recording a temperature with an electronic **thermometer**. The result displayed on the liquid crystal display (LCD) screen should be read, then recorded in a person's medical record. Electronic temperature monitors do not have to be cleaned after use. They have protective guards that are discarded after each use. This practice ensures that infections are not spread.