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Pulse and Blood Pressure at Rest and With Posture

Practical 05 / Supervised clinical examination

Aim

Measure pulse and blood pressure under defined resting and approved postural or exercise conditions.

Principle

Heart rate and vessel tone respond to posture and effort. Cuff size, body position, recovery time and technique affect comparability.

Materials and Requirements

- Validated upper-arm BP device and correct cuffs
- Watch, stethoscope and supervised activity protocol

Procedure

1. Ask permission, confirm suitability for the task and allow quiet seated rest. Support the bare upper arm at heart level.
2. Keep the back supported, feet flat and legs uncrossed. After at least five minutes of quiet seated rest for the resting reading, select the cuff from the stated arm circumference range.
3. Record radial pulse rate and rhythm. If irregular, count over a full minute and seek supervisor confirmation.
4. Use the pads of the fingers over the radial artery without excessive pressure. Note pulse volume and compare the count with a timer before documenting in beats per minute.
5. Measure pressure with the correctly sized cuff. For the auscultatory method identify the onset and disappearance of Korotkoff sounds as taught.

Continue with step 6 on the next page.

Procedure Continued

Pulse and Blood Pressure at Rest and With Posture

6. Position the cuff on the bare arm with its marker over the brachial region. For manual readings obtain the palpatory estimate and use the instructed inflation and deflation method. Record first and last heard sounds with units.
7. Take a repeat resting reading at the specified interval with the same arm and position. If the values differ appreciably, check posture, cuff and technique with the supervisor.
8. Repeat at defined times after an approved posture change or mild exercise. Record conditions, symptoms and repeat readings.
9. For the postural station, record blood pressure and pulse after five minutes lying down. Help the volunteer stand and repeat at one minute and three minutes. Support the arm at heart level, note symptoms and stop safely if the volunteer feels unwell.
10. Report dizziness or a fall of at least 20 mmHg systolic or 10 mmHg diastolic from the lying reading. In the mild-exercise station, record workload, measurement times and recovery using the supervisor’s protocol.

Precautions

- Stop a supervised exercise station for chest discomfort, dizziness, marked breathlessness or the instructor’s stop criteria.
- Avoid diagnosis from one reading.

Observations and Interpretation

Pulse and Blood Pressure at Rest and With Posture

Observations and Record

Item	What to record	What it tells you
Resting state	Posture, arm, cuff, pulse and BP	Provides baseline
Change condition	Posture or workload and time of reading	Makes the comparison reproducible
Recovery	Pulse, BP and symptoms	Distinguishes expected recovery from concerning findings

Worked Example

A fictional lying BP of 124/78 mmHg gives a pulse pressure of 46 mmHg. At one minute standing, BP is 100/68 mmHg with lightheadedness. Support the volunteer, stop the exercise and report a fall of 24 mmHg systolic and 10 mmHg diastolic.

Result and Interpretation

Report values with the measurement conditions and consider repeat clinical assessment when readings or symptoms are concerning.

Viva Questions and Answers

What does pulse pressure equal?

Systolic pressure minus diastolic pressure.

Why match cuff size to arm size?

An incorrectly sized cuff can bias the measured pressure.

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