Blood Pressure Measurement

Introduction
- Wash hands, Introduce self, ask Patients name & DOB & what they like to be called, Explain procedure and get consent
- Ensure the patient has been seated for 5 minutes
- Ask them to try and be relaxed and not speak or move during the recording

Equipment
- Sphygmomanometer – identify the correct cuff size for the patient
- Stethoscope

Preparation
- Expose the patient’s arm and remove tight fitting arm clothing
- Apply the sphygmomanometer cuff
  - the bladder should encircle at least 80% of the arm circumference
  - the bladder must be placed over the mid-upper arm
  - the artery arrow (or mid-point of the cuff bladder, if no arrow) should be placed above the brachial artery pulsation
- Ensure the patient is seated in a chair resting, back supported, legs not crossed and asked not to talk
- Support their forearm horizontally at the level of their heart

Systolic Blood Pressure Estimation
- Palpate their brachial pulse (above the antecubital fossa) with index and middle finger
- While palpating the brachial pulse, inflate the blood pressure cuff until the pulse disappears
- Systolic blood pressure estimate = the sphygmomanometer pressure when the brachial artery pulsation can no longer be palpated
- Deflate the sphygmomanometer cuff quickly by fully opening the valve

Measurement
- Palpate their brachial pulse (above the antecubital fossa) with index and middle finger to identify and remember the point of maximal pulsation
- Inflate the sphygmomanometer to 30mmHg above the ‘systolic blood pressure estimate’
- Place the diaphragm or bell of the stethoscope over the point of maximal pulsation of the brachial artery (previously identified)
- Slowly deflate the sphygmomanometer cuff (2-3mmHg/s)
  - Systolic blood pressure = the sphygmomanometer pressure at which the first Korotkoff sound is heard (not when the sphygmomanometer dial starts to pulsate – ignore this)
  - Diastolic blood pressure = the sphygmomanometer pressure when the Korotkoff sounds disappear
- When the diastolic pressure has been identified, deflate the sphygmomanometer cuff quickly by fully opening the valve

To complete
- Remove the sphygmomanometer cuff
- Thank patient and ask them to get dressed
- Document procedure and result in patients notes

Hypertension Grades
Mild: 140-159 / 90-99
Moderate: 160-179 / 100-109
Severe: ≥180 / ≥110

Hypertension Investigation
- Urine for protein
- 12 lead ECG (check for LVH)
- Blood glucose, U&Es, eGFR, total & HDL cholesterol

Hypertension History & Exam
- History: renal disease, stroke, IHD
- Exam: renal bruits, radio-femoral delay, retinopathy

Hypertension Drug Treatment
1. <55y → ACEI
2. ≥55y or Afrocaribbean → Ca channel blocker
3. Add Thiazide-like diuretic (i.e chlortalidone or indapamide)
4. Add spironolactone or α- or β-blocker

© 2013 Dr Christopher Mansbridge at www.OSCestop.com, a source of free OSCE exam notes for medical students' finals OSCE revision