

MEASURING BLOOD PRESSURE

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Introduction

High blood pressure (hypertension) is one of the most important preventable causes of premature morbidity and mortality in the UK. Hypertension is a major risk factor for ischaemic and haemorrhagic stroke, myocardial infarction, heart failure, chronic kidney disease, cognitive decline and premature death. Untreated hypertension is usually associated with a progressive rise in blood pressure. The vascular and renal damage that this may cause can culminate in a treatment-resistant state. At least one quarter of adults (and more than half of those older than 60) have high blood pressure.

Taking blood pressure involves measuring the force of blood exerted against the arterial walls to establish baseline values or detect deviations. Blood pressure should be recorded on admission and thereafter if high/low levels are recorded or if the Individual is taking hypertensive drugs until stabilised.

Procedure

Before commencing, consider the following:

-  select a limb which is free from any form of injury/intravenous infusion to prevent discomfort and disruption to circulation
-  check the baseline recording, if available, to ensure that any difference in recording is detected swiftly
-  check the frequency and timing of the recordings to ensure accurate monitoring

The following equipment is required:

-  digital blood pressure monitor
-  cuff of correct size

Proceed as follows:

-  explain the procedure to the Individual and gain consent
-  If lacking the capacity to give consent refer to the Mental Capacity Act 2005 Code of Practice
-  When measuring blood pressure, standardise the environment and provide a relaxed, temperate setting, with the person quiet and seated, and their arm outstretched and supported
-  If lying or sitting, the Individual should remain in the position for three minutes
-  If standing, the Individual should remain in the position for one minute
-  if sitting, place a pillow under the Individual's arm to reduce the risk of arm movement, which may interfere with recordings
-  measure cuff/bladder: the correct sized cuff should be used or else recordings will be incorrect
-  remove clothing from limb where cuff is to be applied
-  position forearm to be level with the heart, if the arm is above the heart level the blood pressure will be falsely low
-  If the arm is below heart level, blood pressure will be falsely high
-  position the tube over the middle of the inside of the arm just above the antecubital fossa
-  The pressure when the cuff is inflated should be directly over the artery
-  secure cuff firmly, a loose cuff leads to falsely high recordings
-  position arm slightly flexed at elbow and support the arm for the Individual or rest it on a surface

-  If the Individual supports their own arm, muscular contraction can raise diastolic pressure by as much as ten per cent
-  ensure cuff is at the level of the heart to ensure an accurate recording
-  place the digital blood pressure monitor at eye level
-  press start button and follow the manufacturer's instructions for the type of equipment used
-  read display and document in individual's care plan/ observation chart

Staff taking blood pressure measurements must have adequate initial training and periodic review of their performance. Because automated devices may not measure blood pressure accurately if there is pulse irregularity (for example, due to atrial fibrillation), palpate the radial or brachial pulse before measuring blood pressure. If pulse irregularity is present, measure blood pressure manually using direct auscultation over the brachial artery.

Regular checks are carried out to ensure that devices for measuring blood pressure are properly validated, maintained and regularly recalibrated according to manufacturers' instructions. In people with symptoms of postural hypotension (falls or postural dizziness):

-  measure blood pressure with the person either supine or seated
-  measure blood pressure again with the person standing for at least 1 minute prior to measurement.

Further Guidance
NICE guidelines [CG127] Published date: August 2011