STANDARD OPERATING PROCEDURE

Sheffield Clinical Research Facility

Measuring Blood Pressure

SOP CRF.C103 Version 1.3
Blood Pressure Measurement
19/04/2011
Page 1 of 4
This SOP has been written to give general guidance to study personnel on how to obtain a participant blood pressure reading. There are no GCP Guidelines concerning obtaining participant’s blood pressure readings.

**Background**

It is important that all clinical staff working in the Clinical Research Facility use the same procedure to obtain participants blood pressure readings as specified in the trial protocol, to ensure continuity and consistency in recordings.

Blood pressure is measured for two reasons:
1. To determine the participants blood pressure at the start of a trial as a base for comparing future trial measurements.
2. To monitor fluctuations in blood pressure.

**Definition**

Blood pressure is defined as the volume of blood flowing through a vessel at a given time from the heart. (Marieb & Hoehn 2007 Cited in The Royal Marsden Hospital Manual of Clinical Nursing Procedures 7th ed, 2008 p504)

Normal Blood Pressure generally ranges from 100/60 to 140/90 mmHg
Systolic Blood Pressure is the maximum pressure of the blood against the wall of the vessel following ventricular contraction.
Diastolic Blood Pressure is the minimum pressure of the blood against the wall for the vessel following ventricular relaxation.

**Procedure**

1. The investigator is responsible for ensuring the blood pressure is recorded according to protocol. This duty can be delegated to other appropriately qualified members of the research team as recorded on the Project Delegation Log.

2. The investigator or delegated person will refer to the protocol to ensure specific requirements for obtaining a blood pressure reading are identified. If nothing is specified in the protocol then the investigator or delegated person should follow the procedure below.

3. The investigator or delegated person will explain the procedure to the participant.

4. The participant will be asked to get into the position specified in the protocol or ask the participant to rest in a comfortable sitting position.

5. The investigator or delegated person will ensure participants comfort.
6. The participant should be allowed to rest for the time specified in the protocol. If the time is not specified in the protocol allow the patient to rest for 3 minutes if sitting or supine and for 1 minute if standing.

7. The investigator or delegated person should wash their hands according to STHFT Hand Hygiene Policy.

8. The Investigator or delegated person will where possible obtain the blood pressure recording under the same conditions each time and record the arm the blood pressure reading is taken from.

9. The investigator or delegated person must ensure the equipment is clean, all leads are attached and in good condition, and the equipment is plugged in if necessary.

10. The investigator or delegated person will position the arm to be used at participant’s heart level and ensure the arm is well supported with the palm of the hand facing upwards.

11. The investigator or delegated person will ensure all tight or restrictive clothing is removed from the arm.

12. The investigator or delegated person must ensure that a cuff which covers 80% of the circumference of the arm is used to take the blood pressure reading.

13. The investigator or delegated person must position the manometer 1 metre from patient at the investigator or delegated persons eye level.

14. The investigator or delegated person must check the valve on the hand pump to ensure it is closed prior to taking the blood pressure reading.

15. The investigator or delegated person must feel for the radial pulse and inflate cuff using the hand pump until radial pulse can no longer be felt to provide an estimate of systolic pressure.

16. The investigator or delegated person must deflate cuff completely and wait 15-30 seconds before continuing measurement.

17. The investigator or delegated person will re inflate the cuff 30mmHg higher than the estimated systolic pressure.

18. The investigator or delegated person should place the diaphragm of the stethoscope over the brachial artery.

19. The investigator or delegated person will deflate the cuff at 2-3 mmHg per second whilst observing the manometer.

20. The investigator or delegated person must note when two clear tapping sounds are heard, this is the systolic pressure.

21. The investigator or delegated person must continue to observe the manometer and note when the tapping sounds can no longer be heard, this is the diastolic pressure.
22. The investigator or delegated person must ensure the cuff is fully deflated and removed from participant.

23. The investigator or delegated person should wash their hands according to STHFT Hand Hygiene Policy.

24. The investigator or delegated person will record the blood pressure reading on the relevant study source documents, STHFT observation SHEWS chart or in the participant’s medical notes.

25. The accepted range for a systolic blood pressure is 101 to 199 mmHg (Sheffield Hospitals Early Warning Score SHEWS). If the systolic blood pressure reading is outside of this range the investigator or delegated person must ensure the study medic is aware and implement the SHEWS assessment chart.

26. Once the blood pressure measurement is complete the investigator or delegated person should clean the equipment, according to STH Policy for the Decontamination of Hospital Equipment & Medical Devices, and return to the appropriate storage place.

Reference:

Related Documentation

<table>
<thead>
<tr>
<th>Document Name</th>
<th>File path</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Delegation Log</td>
<td>S:\Admin\Clinical Governance\Logs checklists and templates\Site File\Project Delegation Log V2.0.doc</td>
<td>CRF</td>
</tr>
<tr>
<td>STH Hand Hygiene Policy</td>
<td><a href="http://nww.sth.nhs.uk/STHcontDocs/STH_Pol/ClinicalGovernance/HandHygienePolicy.doc">http://nww.sth.nhs.uk/STHcontDocs/STH_Pol/ClinicalGovernance/HandHygienePolicy.doc</a></td>
<td>STH Infection Control Team</td>
</tr>
<tr>
<td>Sheffield Infection Control Guidelines</td>
<td>S:\Admin\Trust Policies\SheffieldInfectionControlGuidelines.doc</td>
<td>STH Infection Control Team</td>
</tr>
</tbody>
</table>

1 Where a referenced document is unavailable electronically a hard copy may be requested from the document’s author or by contacting Sheffield Clinical Research Facility, O Floor, Royal Hallamshire Hospital, Glossop Road, Sheffield, S10 2JF, Tel: 0114 2713339.