

**UNIVERSITY OF LEICESTER, LOUGHBOROUGH UNIVERSITY
&
UNIVERSITY HOSPITALS OF LEICESTER NHS TRUST
JOINT RESEARCH SUPPORT OFFICE
STANDARD OPERATING PROCEDURES**

**Research Space SOP 5004
v1.1 November 2017**

**Standard Operating Procedure for Blood Pressure
and Heart Rate Measurement using the
Welch Allyn Spot Vital Signs LXi 45**

PGC Registration: C77/2017

OFFICE BASE

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1. Background

Research Space supports many clinical studies that require staff to undertake a clinical recording of blood pressure (BP) or pulse. Standardisation of this process is essential to ensuring the quality of the recording and accuracy of the readings.

2. Purpose

This Standard Operating Procedure (SOP) describes the correct procedure for using the Welch Allyn Spot Vital Signs LXi 45 to measure participant BP and/or pulse.

3. Scope

This SOP applies to all staff using the Spot Vital Signs LXi for the measurement of BP and/or pulse readings within Research Space. This SOP should be used in conjunction with the manufacturer's instructions and study protocol.

4. Responsibilities

Staff using the Spot Vital Signs LXi monitor clinically within Research Space must:

- ensure they are adequately trained in its use and have familiarised themselves with this SOP
- ensure the monitor and cuff are decontaminated after each use
- ensure the monitor is returned to its designated location after each use
- report any equipment faults or damage to the administration team

The Research Space administration team are responsible for:

- ensuring equipment is adequately maintained
- arranging repairs/replacement in the event of a fault or breakdown

The Research Space housekeeping staff are responsible for:

- routine cleaning of equipment

5. Procedure

- Ensure the subject/patient is in a warm environment. Three minutes of lying or sitting, or one minute of standing is recommended prior to initiating a recording
- Explain procedure to subject/patient and inform them of the minor discomfort that may be felt and the number of recordings required


5.1. Positioning

- Position the subject/patient sitting, lying or standing as per study protocol (sitting or lying makes no difference to BP readings provided the arm is correctly positioned)
- Remove tight or restrictive clothing from the forearm
- Position and support the subject/patient's arm horizontally on a level with the mid-sternum



5.2. Application of the cuff

- Only cuffs approved by Welch Allyn must be used with this monitor
- Size the cuff according to the arm circumference:
 - Small cuff: 20-26cm
 - Standard cuff: 25-34 cm
 - Large cuff: 32-43cm
- The cuff may be fitted over thin clothing as long as it does not constrict blood flow
- Fit the cuff around the subject/patient's arm so the white mark is located over the brachial artery and 2-3 cm above the antecubital fossa. The tube should run down the centre of the arm


5.3. Preparation of the monitor

- Check the date and time displayed on the monitor are accurate
- Connect the air tube to the air inlet port (on the left side of the device)
- Press the on/off button  ; all the symbols on the display will light up

5.4. Measurement

- To begin recording press the 'Blood Pressure Start/Stop' button: 
- The monitor will inflate the cuff to the appropriate level and automatically release the air once measurement has been completed. The systolic and diastolic blood pressures and heart rate will be displayed on the screen
- The results can now be transcribed into the study source documentation.
- Press the on/off button  to turn the monitor off. If not used, the monitor will automatically turn itself off after two minutes.

5.5. Storing measurements

- Measurements can be stored by pressing the Tick button: 
- The reading will be displayed
- Press the tick button again to save the reading, otherwise use the arrow keys to select 'Clear'. The monitor will store the last 40 measurements; these are not deleted even when the monitor is turned off. However, if the batteries are allowed to run down, these measurements will be lost.

6. Maintenance

6.1. Cleaning

- Equipment must be cleaned after use according to the UHL Cleaning and Decontamination policy and manufacturer's instructions
- Never use abrasive or acid cleaners as these can damage the surfaces
- Do not immerse the cuff in water; stains can be carefully removed by using a soapy cloth

6.2. Calibration

- Once a year, calibration of the monitor should be undertaken by the Medical Physics Department to ensure it is functioning correctly and accurately
- If internal configuration is required, please refer to the manufacturer's operation manual

6.3. Fault reporting

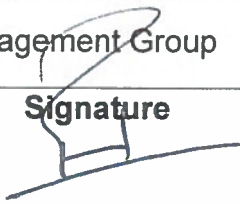
- Faults or damage should be reported immediately to the administration team, who will organise repair/replacement

7. Related documents

- Welch Allyn Spot Vital Signs LXi 45 NEO operations manual
- RS-SOP 5001- Housekeeping within Research Space, LRI
- UHL B5/2006 - Cleaning and Decontamination for infection prevention

8. List of Appendices: N/A

9. Approval and sign off

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