

The NIHR Southampton Biomedical Research Centre (BRC) has a tight quality assurance system for the writing, reviewing and updating of Standard Operating Procedures. As such, version-controlled and QA authorised Standard Operating Procedures are internal to the BRC.

The Standard Operating Procedure from which information in this document has been extracted, is a version controlled document, managed within a Quality Management System. However, extracts that document the technical aspects can be made more widely available. Standard Operating Procedures are more than a set of detailed instructions; they also provide a necessary record of their origination, amendment and usage within the setting in which they are used. They are an important component of any Quality Assurance Framework, but in themselves are insufficient and need to be used and interpreted with care.

Alongside the extracts from our Standard Operating Procedures, we have also made available here an example Standard Operating Procedure and a word version of a Standard Operating Procedure template. Using the example and the Standard Operating Procedure template, institutions can generate their own Standard Operating Procedures and customise them, in line with their own institutions.

Simply offering a list of instructions to follow does not assure that the user is able to generate a value that is either accurate or precise so here in the BRC we require that Standard Operating Procedures are accompanied by face-to-face training. This is provided by someone with a qualification in the area or by someone with extensive experience in making the measurements. Training is followed by a short competency assessment and performance is monitored and maintained using annual refresher sessions. If you require any extra information, clarification or are interested in attending a training session, please contact Dr Kesta Durkin (k.l.durkin@soton.ac.uk).

This document has been prepared from Version 2 of the BRC Standard Operating Procedure for making circumference measurements of infants. It was last reviewed in June 2015 and the next review date is set for June 2017. The version number only changes if any amendments are made when the document is reviewed.

NIHR Southampton Biomedical Research Centre

Procedure for MAKING CIRCUMFERENC MEASUREMENTS OF INFANTS

BACKGROUND

This procedure is to be used for making circumference measurements of infants (under 12 months). For infants over the age of 12 months use the procedure for circumference measurements of children.

PURPOSE

To ensure correct and uniform measurement of infant circumferences.

SCOPE

This procedure applies to any study that requires taking circumference measurements of infants, within the BRC.

RESPONSIBILITIES

It is the responsibility of the measurer to ensure they are competent and follow this procedure when making circumference measurements of infants. It is the responsibility of the principle investigator to ensure that staff members who are working on specific studies have adequate experience/training to do so.

PROCEDURE

Abdomen Circumference

1. Wash your hands and explain the procedure to the parent.
2. Pass the tape around the baby's bare skin at the level of the umbilicus.
3. Ensure the nappy is not obstructing or constricting the area. If so, it will be necessary to adjust or remove the nappy.

4. If the umbilicus protrudes too much and it is not possible to measure at this level, then the reading should be taken immediately above the umbilicus.
5. Pass the tape around the abdomen at the position described above. Take the reading at the end of expiration (when the abdomen is relaxed).
6. Make three measurements of abdomen circumference.
7. Record all three measurements and the mean (average) by adding the values together and dividing by three.

Mid Upper Arm Circumference

1. Wash your hands and explain the procedure to the parent.
2. Make the measurement on the left arm.
3. Remove the infant's top and/or vest so that the left shoulder and arm are fully exposed.
4. Palpate for the acromion and mark using a water-soluble marker.
5. With the infant's arm flexed at 90°, palpate for the olecranon (tip of the elbow) and mark.
6. Using a tape measure, measure the distance between the mark at the acromion and the mark at the olecranon. Whilst still holding the tape in place, make a short horizontal line at the mid-point. This line marks the middle of the upper-arm.
7. Ensure that the infant is as relaxed as possible with their arm hanging by their side. A very different reading may be obtained if the arm is not fully relaxed.
8. Place the tape around the upper arm, with the upper border of the tape on the mark. Ensure that the tape is horizontal all round.
9. Make sure the tape is not pulled too tight. It should rest on the skin, but not indent it.
10. Make three measurements of mid upper arm circumference.
11. Record the mean (average) measurement by adding the values together and dividing by three.

Head Circumference

1. Wash your hands and explain the procedure to the parent.
2. Ensure that you are able to make an accurate measurement of head circumference by taking out any hair clips, plaits or ponytails.
3. Pass the tape around the head to obtain a circumference measurement around the most anterior protuberance of the forehead and the most

posterior protuberance. Your aim is to place the tape and measure over the largest circumference.

4. Record three measurements of head circumference.
5. Record the mean (average) measurement by adding the values together and dividing by three.

Infant Chest Circumference

1. Wash your hands and explain the procedure to the parent.
2. Fully remove the baby's clothes to expose the mid & lower chest.
3. Feel for the xiphisternum where the ribs meet the sternum and mark the base of the xiphisternum.
4. Pass the tape around the lower chest so that the mark is at the upper border of the tape.
5. Record three measurements of chest circumference.
6. Record the mean (average) measurement by adding the values together and dividing by three.