

PERINATAL EDUCATION PROGRAMME
MEASURING BLOOD PRESSURE AND PROTEINURIA
SKILLS WORKSHOP 3

OBJECTIVES

When you have completed this skills workshop you should be able to:

1. Measure the blood pressure.
2. Measure the amount of protein in the urine.

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MEASURING BLOOD PRESSURE

3-A THE STANDARDISED METHOD OF MEASURING BLOOD PRESSURE.

The following are important if you want to measure the blood pressure accurately:

1. The right upper arm is used.
2. The arm must be taken out of the sleeve.
3. The patient should lie on her right side with a 30 degree lateral tilt or sit in a chair.
4. Take the blood pressure after a 5 minute period of rest.
5. The cuff must be applied correctly. If the patient is sitting in a chair, the blood pressure apparatus must be at the same level as her upper arm.
6. The systolic blood pressure is taken at Korotkoff phase 1.
7. The diastolic blood pressure is taken at Korotkoff phase 5.

THE PATIENT SHOULD LIE ON HER RIGHT SIDE OR SIT WHEN HER BLOOD PRESSURE IS MEASURED

3-B USE THE RIGHT ARM.

The examination couches in most clinics stand with their left side against a wall as it is most convenient for a right handed person to examine the right side of the patient. The lower arm (i.e. the right arm if she is lying on her right side) should be used, as the upper arm will give false low readings as it is above the level of the heart. The arm must be fully undressed so that the cuff can be correctly applied.

3-C THE PATIENT MUST NOT LIE ON HER BACK.

The patient should lie down on her side or sit. Lying on her back may cause hypotension, giving a falsely low reading. She should also lie slightly turned onto her side. Lying on her back may cause the uterus to press on the inferior vena cava resulting in a decreased return of blood to the heart and a drop in blood pressure. A false low blood pressure may, therefore, be recorded.

3-D ALLOW THE PATIENT TO REST FOR 5 MINUTES BEFORE MEASURING THE BLOOD PRESSURE.

Anxiety and the effort of climbing onto the couch often increases the blood pressure. This will usually return to a resting value if the patient can lie down and relax for 5 minutes.

3-E HOW TO APPLY THE CUFF.

A standard size cuff (width of 14,5 cm) is usually used. If the arm is very fat, then use a wide cuff (17,5 cm) to get a correct reading. The cuff must be applied firmly around the arm, not allowing more than 1 finger between the cuff and the patient's arm.

3-F LISTENING TO THE PULSE.

The cuff should be pumped up with a finger feeling the brachial or radial pulse. Only when the pulse can no longer be felt, should the stethoscope be put over the brachial pulse and the pressure released slowly.

3-G RECOGNISING THE KOROTKOFF PHASES 1 AND 5.

The Korotkoff phases are times when the sound of the pulse changes during the measurement of the blood pressure:

PHASE 1 is the first sound which you hear after the cuff pressure is released. This indicates the systolic pressure.

PHASE 5 is the time when the sound of the pulse disappears. Usually the sound gets softer before it disappears but sometimes it disappears without first becoming softer. However, in all cases the diastolic blood pressure must be read when the sound of the pulse disappears.

MEASURING PROTEINURIA

3-H MEASURING THE AMOUNT OF PROTEINURIA.

The amount of protein in a sample of urine is simply and easily measured with a plastic, reagent strip.

3-I GRADING THE AMOUNT OF PROTEINURIA.

Using a reagent strip the amount of proteinuria is graded as follows:

- 1+ = 0,3 g/l
- 2+ = 1,0 g/l
- 3+ = 3,0 g/l
- 4+ = 10 g/l

Remember that a trace (0,1g/l) of protein is not regarded as significant proteinuria and may occur normally.

3-J THE USE OF A REAGENT STRIP TO MEASURE THE AMOUNT OF PROTEINURIA.

1. Collect a fresh specimen of urine.
2. Remove a reagent strip from the bottle and replace the cap.
3. Dip the strip into the urine so that all the test areas are completely covered, then immediately remove the strip.
4. Wait 60 seconds.
5. Hold the strip horizontally and compare with the colour blocks on the side of the bottle. Hold the strip close to the bottle to match the colours but do not rest it on the bottle as the urine will damage the colour chart. The darker the colour of the reagent strip, the greater is the amount of proteinuria.

3-K REAGENT STRIPS CAN GIVE A FALSE READING.

Reagent strips may incorrectly assess the degree of proteinuria if the urine is very concentrated or very dilute. Do not use the first urine passed in the morning as it may be concentrated and, therefore, give a falsely high reading.