Perinatal Manual of Southwestern Ontario

Southwestern Ontario Maternal, Newborn, Child & Youth Network (MNCYN)

Perinatal Outreach Program

Chapter 11

ABDOMINAL PALPATION (LEOPOLD'S MANOEUVRES)

"Abdominal examination can be conducted systematically employing the four maneuvers described by Leopold and Sprolin in 1894. The mother should be supine and comfortably positioned with her abdomen bared. These maneuvers may be difficult to perform and interpret if the patient is obese, if there is excessive amniotic fluid, or if the placenta is anteriorly implanted." [1]

Method

1. Prior to abdominal palpation, ask the woman to empty her bladder.

2. Have the woman lie on her back, with a pillow under her head and her knees slightly bent, arms at her side. Be alert for symptoms of supine hypotension. Turn the woman on her side if she experiences dizziness, faintness, nausea, or pallor. The woman's abdomen should be completely exposed from below the breasts to the symphysis.

3. The examiner's hands should be washed and warmed.

4. Standing on the woman's right side, inspect the abdomen for uterine shape. A low and broad uterus will be an indication of transverse lie.

5. Using a tape measure, measure the symphysis/fundal height in centimeters. After 20 weeks gestation the fundal height in centimeters should approximate the weeks of gestation $\pm$ 4 centimeters in a singleton pregnancy.

6. In palpating the abdomen, use the pads of the fingers rather than the fingertips in a deep, smooth movement instead of a sudden pressure or rough manipulation.

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1 Cunningham et al, *Williams Obstetrics*, 22nd edition, 2005, p412

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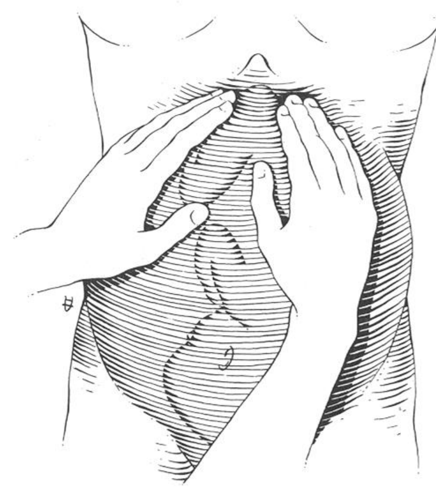
7. **First Manoeuvre**–(figure 1 **Fundal Grip**)–to determine what is in the fundus. If either the head or breech of the fetus are in the fundus then the fetus is in a vertical lie. Otherwise the fetus is is most likely in transverse lie

    i. Face the patient's head
    ii. Use both hands to palpate the fundus
    iii. A mass is felt – is it head or buttocks?

Figure 1



Consider:

- Consistency – the head is harder than the buttocks
- Shape – the head is round
- Mobility – the head moves independent of the trunk
  -the breech moves with the trunk

8. **Second Manoeuvre**–(figure 2 **umbilical grip**)–establish the location of the spine and extremities

    i. Face the patient's head
    ii. Use the palms of both hands, one on either side of the abdomen, so that one hand steadies the uterus while the other palpates using a slight circular motion from the top of the uterus to the lower segment, feeling for fetal outline
    iii. Palpate the other side, reversing the functions of the hands

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Figure 2

Consider:

- The back will feel smooth and hard
- The knees and elbows will have numerous angular nodulations

9. **Third Manoeuvre** – (figure 3 **1st pelvic grip**) – to determine what is lying in the pelvic inlet and to determine its mobility (most important because the findings aid in diagnosing presentation, position, and engagement)
    i. Face the patient's head
    ii. Gently grasp the lower portion of the abdomen just above the symphysis pubis, using the thumb and fingers of one hand
    iii. If the presenting part is unengaged, a moveable body part will be noted which may be gently ballotted

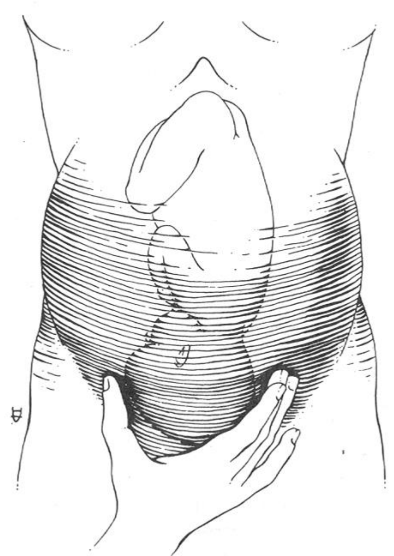

Figure 3

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10. Fourth Manoeuvre–**(figure 4** 2nd pelvic grip**)–to locate the cephalic prominence to assist in diagnosing descent into the pelvis**

i. Face the patient's feet
ii. The fingers of both hands are used to apply deep pressure in the direction of the axis of the pelvic outlet down the sides of the uterus toward the pubis
iii. The cephalic prominence is located on the side where the greatest resistance is felt

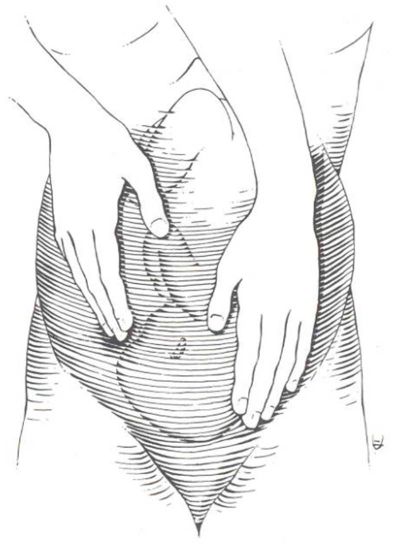

Figure 4

Consider:

- If the prominence is located on the opposite side from the fetal back, the head is said to be well flexed
- If the prominence is located on the same side as the back, the head is said to be extended (face presentation)

To assess the degree of engagement of the presenting part, while the woman is slowly exhaling, the fingers are directed further down into the pelvis. (see figure 5).

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Figure 5

$\frac{5}{5}$	$\frac{4}{5}$	$\frac{3}{5}$	$\frac{2}{5}$	$\frac{1}{5}$	$\frac{0}{5}$
Sinciput & Occiput above the brim	Sinciput prominent Occiput descending	Sinciput rising Occiput can be tipped	Sinciput not so prominent	Sinciput Occiput not felt	Head on pelvic floor

Brim

Abdominal palpation in fifths to determine descent of the fetal head.

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References

1. Robin J. Evans RN PhD PNC(C) (Author), Marilyn K. Evans RN MN PhD (Author), Yvonne M.R. Brown RN MCEd (Author), Susan A. Orshan PhD RN BC (Author), Canadian Maternity, Newborn, and Women's Health Nursing Hardcover second edition – 2014

Figures 1 through 4 reprinted with permission

2. Harry Oxorn, *Human Labour & Birth,* 5th ed., Appleton & Lange, Norwalk, 1986, pp. 77-79.

Figure 5 reprinted with permission

3. Margaret F. Myles, *Textbook for Midwives*, 10th ed., Churchill Livingstone Inc., New York, 1985, p. 135.

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