The obstetrics examination

Exposure / permission / introduction:

Always start the examination by introducing yourself and your examiner to the patient and ask for her permission to examine her. Exposure is as for any surgical cases i.e. from the nipple/ bra-line downwards, just exposing a little pubic hair for inspection (some LSCS scar can be very low down, therefore adequate exposure is vital). This exposure is adequate for any obstetrics examination. It is more courteous to ask the patient to roll down her clothes for you.

Inspection:

Findings on inspection are best presented in form of a running commentary. Demonstrate your findings to the examiner to show that you actually understand what you are presenting.

a. The most obvious finding would be an abdomen distended by a gravid uterus. To support that the abdomen is actually distended by a gravid uterus, look for the cutaneous evidence of pregnancy i.e. linea nigra and striae gravidarum. Striae gravidarum is actually caused by stretching of the abdomen and an increase of cortisol level during pregnancy resulting in collagen breakdown. Some striae are very obvious due to pigmentation (same reason as for linea nigra) while others are not. Linea nigra is usually a midline subumbilical line due to hyperpigmentation as a result of an increase in ACTH level during pregnancy (ACTH has a MSH-like properties). Also comment on the abdominal distension i.e. whether the abdomen looks larger or smaller than date (visually compare the size of the uterus to the POA of the patient).

b. Other findings to look for includes:

- Comment on the umbilicus i.e. the location (central or not- central meaning the position of the umbilicus is central between the xiphisternum and the symphysis pubis- this is important since only a centrally located umbilicus can be used as a reference point for clinical estimation of the fundal height). Also comment on the condition of the umbilicus whether it is inverted/ everted (especially in cases where the abdomen is grossly distended e.g. polyhydramnios) / flat.
- Look for surgical scars (make sure to demonstrate to the examiner that you are actually looking for the specific scars). Describe the scar i.e. the length (approximation) whether the scar is new/old/ whether the scar is well healed / healed with hypertrophy / keloid / any scar tenderness (this is important only when the patient is very near term especially at the onset of labour since scar tenderness may indicate impending scar rupture/ scar dehiscence when the uterine contraction becomes more established).

![Diagram of scar locations]

Features of scar dehiscence/ impending rupture:
- Scar tenderness
- Persistent lower abdominal pain (especially in between contractions).
- Maternal tachycardia and or hypotension
- Abnormal PV bleeding / haematuria
- Fetal bradycardia/ fetal distress
- Progress of labour delayed

Note: Impending rupture warrants emergency LSCS (ELSCS).

- Distended veins (may indicate IVC compression)
- Fetal movement (mention only when you see fetal movements, do not conclude that there is no fetal movement detected since by doing so you are actually suggesting IUD (intra-uterine death). Note: Quickening (1st fetal movement felt by the mother) is at 16-18 weeks in multiparous patients and at 18-20 weeks in nulliparous patients.
- If there are no other obvious abnormalities, simply comment: otherwise, the abdomen looks normal.

**Palpation/ percussion**

a. Start by doing soft palpation in all 9 quadrants of the abdomen to detect any tenderness (guarding/ rebound tenderness) or any uterine irritability (evidenced by uterine contraction on palpation).

b. The next step would be to estimate the clinical fundal height. The fundal-height is defined as the uppermost part of the uterine fundus. This is done by palpation and measurement of the symphysio-fundal height. The fundal height corresponds to the period of gestation.
Clinical palpation:

Note: If you find that the axis of the uterus is not in the midline (evidenced by fullness of one side of the hypochondrial region and as outlined during palpation), then the ‘fundal height’ (the highest point of the uterus in the midline) is not reliable since the real fundus is usually in the hypochondrium due to the rotation of the uterus. Therefore, the uterine axis need to be corrected by pushing the uterus to the midline and supporting it with one hand while the other hand marks the fundal height (as illustrated below).

Percussion:
If on palpation, you find it difficult to outline the fundus, you should proceed to percuss for the borders of the fundus (as illustrated below).
Note: You can only start palpating for fundal height from 12 weeks onwards (just palpable above the pelvic brim, suprapubic region).

Note: At 38 weeks, the presenting part started engaging and the fundal height goes down from its position at the xyphisternum at 36 weeks. This also happens to be the height of a 34 weeks uterus. At 38 weeks, there is fullness of the flank and on palpation; there is fullness of the subcostal recession or the right and left hypochondrium on inspection.
Measurement of the symphysio-fundal height:

Measurement of the symphysio-fundal height is in cm (turn the tape on the inch side while measuring to prevent you from being biased and changing the measurement while presenting). Show the examiner your measurement as soon after you finish measuring. The symphysio-fundal height is measured from the fundus to the symphysis pubis (demonstrate that you are actually palpating for the bony prominence of the symphysis pubis).

Uterus corresponds/ larger/ smaller than date

Determine whether the fundal height corresponds to the age of gestation (POA) OR smaller/larger than date. The clinical fundal height i.e. by palpation is mainly used to determine whether or not the uterus corresponds to date. A significant discrepancy to determine a smaller or larger than date uterus (between the fundal height and the POA) is taken as 2-4 weeks (2 weeks can either be counted as significant or a high normal. Difficulty rises when the POA is 4 weeks (+) and the uterine size could actually be equal to date. 4 weeks is clear-cut significant). Any discrepancy between the clinical fundal height and the measured symphysio-fundal height (>4 weeks) may also indicate a smaller or larger than date uterus.

c. Palpating the fetal parts

The main aim in palpating for the fetal parts is to determine the:

1. Number of fetus: determine the number of fetus by determining the number of fetal poles. Presence of more than 2 poles indicates multiple pregnancy.
2. Lie: The relation between the long axis of the fetus to the long axis of the gravid uterus.

Longitudinal: Note that however the position of the other fetal parts, as long as the presenting part is overlying the pelvic inlet, the lie is considered as longitudinal.
Oblique: the head or breech is usually in either the RIF/LIF.

Transverse: the head/breech usually occupies both iliac fossas (RIL/LIF)

3. Presentation: The pole of the fetus, which lies over the pelvic inlet. As a rule this only applies for longitudinal lie since for oblique or transverse lie there are no fetal parts present over the pelvic inlet. Feel for the poles over the pelvic inlet and describe its features:
   - Head (cephalic presentation): rounded/hard/ballotable (because the neck is an atlanto-axial joint)
   - Breech (breech presentation): lobulated/relatively softer compared to the head/not ballotable

4. Location of the fetal back:

   Longitudinal/oblique: facing maternal right/left side.

   Transverse: facing the maternal xiphisternum/symphysis pubis.
5. Engagement: Descent of the widest part of the presenting part (again only valid for longitudinal lie) into the pelvic inlet i.e. the biparietal diameter (BPD) for cephalic presentation or bitrochanteric diameter for breech presentation.

![BPD and BTDO](image)

For cephalic presentation, to determine engagement, divide the head to approximately 5 parts. The head is considered engaged when only 2/5 of the head is palpable per abdomen. A head that is not engaged is very mobile—tested by Paulik’s grip, which should only be performed by an experienced hand since it may cause considerable pain to the patient.

![Engagement Diagram](image)

6. Liquor volume: Estimate the liquor volume whether it is adequate/excessive (polyhydramnios)/inadequate (oligohydramnios)

<table>
<thead>
<tr>
<th>Polyhydramnios</th>
<th>Oligohydramnios</th>
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<tr>
<td>Features:</td>
<td>Features:</td>
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<tr>
<td>- Grossly distended</td>
<td>- Uterus smaller than date</td>
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<tr>
<td>abdomen, skin</td>
<td>- Fetal parts easily palpable</td>
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<td>stretched with</td>
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<td>fullness of the flank</td>
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<td>and the RHC/LHC</td>
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<tr>
<td>- Uterus larger than</td>
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<td>date</td>
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<tr>
<td>- Difficulty in</td>
<td></td>
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<tr>
<td>palpating fetal parts</td>
<td></td>
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<tr>
<td>- Positive fluid thrill</td>
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<tr>
<td>(must be demonstrated</td>
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<td>to the examiner)</td>
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<td>- Muffled heart sound</td>
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7. Estimation of fetal weight: Fetal macrosomia (big baby) is defined as a weight >3.8 kg (this can only be diagnosed after delivery).

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<tr>
<td>10 x + 0.2</td>
<td>28 weeks: 1.0 kg</td>
<td>34 weeks: 2.0 kg</td>
<td>36 weeks: 2.4 kg</td>
<td>Term: 3.2 kg</td>
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![Weight Growth](image)
Technique of examination

1. Lateral grip: Determine the lie/number of fetus (number of poles detected per abdomen)/fetal back.

2. Fundal grip: Determine the content of the fundus: empty (suggest either an oblique or transverse lie)/breech or cephalic (to suggest longitudinal lie)/determine the presentation in longitudinal lie (if the breech is in the fundus, the presentation is cephalic).

3. Pelvic grip: Determine the presenting part (head-cephalic, breech-breech) & if the presenting part is cephalic, determine engagement.

Note: Use both hands to trace the fetal back in transverse lie

Note: Fetal parts begin to be felt from around 26 weeks
Coincidental finding of a pelvic mass:

- Upon finding a coincidental pelvic pathology during examination, the mass MUST NOT be neglected. The mass must also be presented—preferably after finishing the obstetrics presentation. Present the mass as for any gynaecological cases (refer notes on gynae short cases).
- The mass is often felt separate from the gravid uterus. However, in the case of a red degeneration of a uterine fibroid, which usually occurs during pregnancy, the mass is usually felt as soft and is usually inseparable from the gravid uterus. A clue to the diagnosis of a pelvic pathology would be the area of tenderness. A gravid uterus with no concomitant pathology is almost always non-tender (a fetal part should not be tender). It is also not uncommon to find an ovarian cyst especially benign during pregnancy (most of the time a physiological luteal cyst). The cyst can be either tender or non-tender due to the various complication of a cyst i.e. torsion (although not very common since the pelvic cavity is occupied by the gravid uterus giving very little space for the cyst to undergo torsion), haemorrhage into the cyst, rupture of the cyst, infected cyst, and although rare a malignant transformation of the cyst. Also remember that a concomitant pelvic pathology may also cause fetal malpresentation / abnormal lie.

Auscultation

Finish your examination by requesting to the examiner to listen to the fetal heart. You will usually not be asked to do so. You will then be asked for the best position for auscultating the fetal heart and the answer would be over the anterior shoulder. Do not forget to demonstrate the exact position on the patient’s abdomen depending on the fetal lie.

Example:

If the fetus is >24 weeks, fetal heart can be auscultated using a Pinard stethoscope. Fetal heart activity can usually be detected by 12-14 weeks but before 24 weeks, this can only be detected using a Daptoine (hand-held Doppler U/S apparatus).

Normal range of fetal heart rate: 110 -160 beats per minute.
The obstetrics script (example): Start with, introduction and ask permission.

Dating the pregnancy
The EDD is on the (date) and she is currently at _________ weeks (POA).

Inspection:
1. The abdomen is distended by a gravid uterus as evidenced by the presence of cutaneous signs of pregnancy i.e. linea nigra and striae gravidarum. The umbilicus is centrally located (or otherwise) and it is (flat/inverted/ everted). Plus: There is a (new/old) (location/type) scar measuring about _________ cm, which is (well-healed/healed with keloid/ hypertrophy) and it is (tender/non-tender). There is also _________ (Other findings etc.). If none of the above is present otherwise the abdomen looks normal.

Palpation/percussion:
2. The abdomen is soft and non-tender and the uterus is not irritable (or otherwise).
3. The fundal height corresponds to _________ weeks of gestation. Therefore, the uterus (equals to date/ larger than date/ smaller than date). It measures about _________ cm.
4. Presenting fetal parts: Follow this sequence: number-lie-presentation-fetal back

   a. Long/single: There is a single fetus in longitudinal lie with breech/cephalic presentation. The fetal back is on the maternal right/left.
   b. Oblique/single: There is a single fetus in oblique lie. The fetal head is in the RIF/LIF/RHC/LHC and the breech is in the RIF/LIF/RHC/LHC. The fetal back is on the maternal left/right.
   c. Transverse/single: There is a single fetus in transverse lie. The fetal head is in the RL/LL and the breech is in the RL/LL. The fetal back is facing the xiphisternum/ symphysis pubis.
   d. Multiple pregnancy: I can feel multiple poles. One pole is in the (location), and it feels like the head/breech because (reason-features of head and breech). The other pole is in the _________

Note: The lie and presentation of a twin gestation is difficult to ascertain. However, the presentation of the first twin (the fetus with the fetal pole overlying the pelvic brim is usually the one going to engage first thus being delivered first) can be felt quite easily.

5. The head (for cephalic only) is x/5 palpable and is engaged/ not engaged.
6. The liquor volume is adequate/ excessive and this is evidenced by a positive fluid thrill/ inadequate.
7. I estimate the fetal weight to be around _________ kg. Note: for multiple pregnancy, estimate combined fetal weight.

Auscultation:
I would like to finish my examination by listening to the fetal heart using a Pinard stethoscope/ Daptone. I would listen over the anterior shoulder of the fetus, which is about here (show the location to the examiner).