Cesarean Section
(C/S)

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Abdominal Incisions
Laparotomy

• The layers we need to incise before reaching the uterus:
  - skin
  - subcutaneous layer
  - fascia
  - rectus muscles
  - peritoneum
Types of Incisions:

• **Vertical Incision:**
  - midline infraumbilical incision

• **Horizontal/Transverse Incision:** (common)
  - Pfannenstiel (more common)
Vertical Incision:

Indications

• Extreme maternal obesity.
• Suspicion of other intrabdominal pathology necessitating surgical intervention.
• Access to the uterine fundus may be required.
• Transverse incision is not possible.
• Provides greater access to the pelvic and intra-abdominal organs and may be enlarged more easily.
Vertical Incision Advantages:

• Easier examination of the upper abdomen
• If there are significant intra-abdominal adhesions from previous operations, may provide easier access and better visualization.
Transverse Incision:

• Usually less painful
• Smaller risk of developing an incisional hernia
• Preferred cosmetically
• Excellent visualization of the pelvis
Pfannenstiel Incision:

- The skin and SC tissues are incised using a transverse curvilinear incision 2 fingerbreadths above the symphysis pubis extending from and to points lateral to the lateral margins of the abdominal rectus muscles.
Pfannenstiel Incision:
Uterine Incisions:

- Low-segment horizontal
- Low-segment vertical
- Classical
Lower uterine – transverse:
In the Lower uterine segment .. noncontractile portion of the uterus.

- Used in 95% of cases due to:
  - Ease of repair
  - Reduced blood loss
  - Low incidence of dehiscence or rupture in subsequent pregnancies.
Classical:
A longitudinal incision in the anterior fundus

- **Indications:**
  - Lower uterine segment obscured by fibroids.
  - Lower segment covered with dense adhesions.
  - Placenta previa, fetal abnormality (e.g., conjoined twins), C/S in the presence of a carcinoma of the cervix, preterm breech, planned hysterectomy to follow the C/S.
**Low Transverse**

**Advantages**
- Unlikely to rupture during a subsequent birth
- Makes VBAC possible for subsequent pregnancy
- Less blood loss
- Easier to repair
- Less adhesion formation

**Disadvantage**
- Limited ability to extend laterally to enlarge the incision

**Low Vertical**

**Advantage**
- Can be extended upward to make a larger incision if needed

**Disadvantages**
- Slightly more likely to rupture during a subsequent birth
- A tear may extend the incision downward into the cervix

**Classic**

**Advantage**
- May be the only choice in these situations:
  - Implantation of a placenta previa on the lower anterior uterine wall
  - Presence of dense adhesions from previous surgery
  - Transverse lie of a large fetus with the shoulder impacted in the mother’s pelvis

**Disadvantages**
- Most likely of the uterine incisions to rupture during a subsequent birth
- Eliminates VBAC as an option for birth of a subsequent infant
<table>
<thead>
<tr>
<th></th>
<th>Classical</th>
<th>Low transverse</th>
<th>Low vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site</strong></td>
<td>Longitudinal incision in the anterior fundus</td>
<td>Lower uterine segment noncontractile portion of the uterus.</td>
<td>It's a vertical incision begins in the noncontractile lower segment but usually extends into the contractile upper segment.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk of rupture</th>
<th>High risk</th>
<th>Lower risk</th>
<th>In between</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk of complications</strong></td>
<td>High risk of bleeding, rupture, adhesions and other complications</td>
<td>Lower risk of bleeding and other complications</td>
<td></td>
</tr>
<tr>
<td><strong>When to use it</strong></td>
<td>Invasive cervical cancer, myomas or transverse lie of baby</td>
<td></td>
<td>when a transverse incision is not feasible</td>
</tr>
<tr>
<td><strong>How frequent</strong></td>
<td>Infrequently</td>
<td>Most common type of incision</td>
<td>Inbetween</td>
</tr>
<tr>
<td><strong>Closure</strong></td>
<td>Difficult muscular fundus</td>
<td>Easier (thin muscles of lower segment)</td>
<td>Inbetween</td>
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</tbody>
</table>
Cesarean Section Complications
Intraoperative complications:

- **Haemorrhage**
  - Haemorrhage may be a consequence of:
    - 1- damage to the uterine vessels
    - 2- or may be incidental as a consequence of uterine atony or placenta praevia.
  - In patients with an anticipated high risk of haemorrhage (e.g. known cases of placenta praevia), blood should be routinely cross-matched.
  - There are many manoeuvres to manage haemorrhage; these range from:
    - oxytocin infusion
    - administration of prostaglandins (they induce powerful uterine contractions)
    - to the more radical, but life-saving, hysterectomy.
• **2) Placenta praevia**
  
  The proportion of patients with a placenta praevia increases almost linearly after each previous caesarean section, and as the risk of such a complication increases with increasing parity.

• **3) Bowel damage**
  
  Bowel damage may occur during a repeat procedure or if adhesions are present from previous surgery.
Instruments types

**Forceps**
Obstetric forceps are metal instruments used to provide traction, rotation, or both to the fetal head

**Indications:**
Prolonged second stage
Fetal heart rate patterns suggest fetus isn't tolerating labor
Breech presentation
Conditions in which pushing efforts may be hazardous (cardiac, pulmonary, neurological disorders)

**Complications:**
Lacerations to the vagina, cervix and uterus
Soft tissue compression or cranial injury caused by incorrectly placed forceps blades
Vacuum extractor

It’s a cuplike instrument that is held against the fetal head with suction. Traction is thus applied to the fetal scalp, which along with maternal pushing efforts results in descent of the head leading to vaginal delivery. The cups may be metal or plastic, rigid or soft.

A vacuum extractor has some advantages over forceps:
- Precise knowledge of fetal head position is not essential
- It doesn’t occupy space adjacent to fetal head
- Lacerations are fewer

It has also some disadvantages over forceps
- Excessive traction can lead to sudden decompression as the cup suction is released
- Scalp trauma: scalp skin injury and lacerations are common

The indications of a vacuum extractor are similar to those of forceps.
Thank you for your attention!