CAESAREAN SECTION

Procedure

ADONIA HADDAD

P.S: the pictures are from the internet, the lecture is from Obstetrics by Ten Teachers book, 20th Edition
INFORMED CONSENT

• Informed consent must always be obtained prior to surgery, ideally the possibility of caesarean section and the potential indications will have been discussed in the antenatal period

• The level of information provided in the acute setting must be commensurate with the urgency of the procedure, and a common sense approach is needed

• it is difficult to impart complete and thorough information when caesarean sections are performed as urgent procedures, women must understand what is being planned and why

• no other adult may give consent for another (although it is good practice to keep

• the birth partner fully informed)

• Where there is incapacity to consent (as may occur with conditions such as eclampsia), the doctor is expected to act in the woman’s best interests.
• The national consent forms require both the risks and benefits to be discussed with patients and recorded on the consent form

• Common medical practice is to highlight risks but not benefits. It is important to remember that the operation is being offered because of perceived benefits, both maternal and fetal in many cases
PREPARATION

• Most scheduled caesarean sections are performed under spinal anaesthesia with the mother awake and the partner present.

• If an epidural has been sited during labour, there is usually sufficient time to top-up the anaesthesia in preparation for emergency caesarean section.

• General anaesthesia is occasionally required where:
  1) regional anaesthesia is contraindicated or ineffective
  2) where general anaesthesia is preferred due to the degree of urgency.

The bladder should be emptied before the procedure commences and a urinary catheter is usually left in situ.
• A left lateral tilt minimizes aorto-caval compression and reduces the incidence of hypotension (with its consequent reductions in placental perfusion).

• The anaesthetic block is confirmed and the woman’s abdomen is cleaned and draped.

• Prophylactic antibiotics should be administered intravenously prior to the surgical incision.
ABDOMINAL INCISION

- The skin and subcutaneous tissues are incised using either:
  1) 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)
  2) a transverse suprapubic incision with no curve.

The Pfannenstiel incision is semicircular and is made slightly above the mons pubis for a length of about 12 cm. Care must be taken to ensure that hemostasis is complete prior to entering the peritoneal cavity. The rectus fascia is opened transversely.
• Subcutaneous tissues are separated by blunt dissection and the rectus sheath is incised transversely along the middle 2 cm.
• This incision is then extended with scissors before the fascial sheath is separated from the underlying muscle by further blunt dissection.
• Separation is performed cephalad to permit adequate exposure of the peritoneum in a longitudinal plane.
• The recti are separated, the peritoneum incised and the abdominal cavity entered.
• The transverse suprapubic incision has the advantages of
  1) improved cosmetic results
  2) decreased analgesic requirements
  3) superior wound strength.
• A vertical skin incision is indicated in cases of
  1) extreme maternal obesity,
  2) suspicion of other intra-abdominal pathology necessitating surgical intervention
  3) where access to the uterine fundus may be required (classical caesarean section).
• The lower midline incision is made from the lower border of the umbilicus to the symphysis pubis, and may be extended caudally toward the xiphisternum.
• Sharp dissection to the anterior rectus sheath is performed and is then freed of subcutaneous fat.
• The rectus sheath is then incised, taking care to avoid damage to any underlying bowel, and extended inferiorly to the vesical peritoneal reflection and superiorly to the upper limit of the abdominal incision.

• The vertical incision
  • Advantages:
    1) provides greater ease of access to the pelvic and intra-abdominal organs
    2) may be enlarged more easily;
  Disadvantages:
  the incidence of wound dehiscence is increased.
Vertical

**Advantages**
- Quicker to perform
- Better visualization of the uterus
- Can quickly extend upward for greater visualization if needed
- Often more appropriate for obese women

**Disadvantages**
- Easily visible when healed
- Greater chance of dehiscence and hernia formation

Pfannenstiel

**Advantages**
- Less visibility when healed and the pubic hair grows back
- Less chance of dehiscence or formation of a hernia

**Disadvantages**
- Less visualization of the uterus
- Cannot be done as quickly, which may be important in an emergency cesarean birth
- Cannot easily be extended to give greater operative exposure
- Re-entry at a subsequent cesarean birth may require more time
UTERINE INCISION

- A lower uterine segment transverse incision is used in over 95% of caesarean deliveries due to
  - 1) ease of repair,
  - 2) reduced blood loss
  - 3) low incidence of dehiscence or rupture in subsequent pregnancies

- The loose reflection of vesicouterine serosa overlying the uterus is incised and divided laterally
- The underlying lower uterine segment is reflected with blunt dissection,
- The developed bladder flap is retracted
- The lower uterine segment is opened in a transverse plane for a distance of 1–2 cm; the incision is extended laterally to allow delivery of the fetus without extension into the broad ligament or uterine vessels.
There are relatively few absolute indications for classical caesarean section (which incorporates the upper uterine segment in a vertical incision). These include:

1) a lower uterine segment obscured by fibroids
2) lower segment covered with dense adhesions, (both of which may make entry difficult)
3) placenta praevia,
4) transverse lie with the back down,
5) fetal abnormality (e.g. conjoined twins)
6) presence of a carcinoma of the cervix (so as to avoid damage to the cervix and its vascular and lymphatic supply).
Once the uterus is incised, the membranes are ruptured if still intact, and the operator’s hand is positioned below the presenting part.

If cephalic, the head is flexed and delivered by elevation through the uterine incision either manually or with forceps.

Fundal pressure is applied by the assistant to aid delivery; this should not commence until the presenting part is located within the incision – for fear of converting the lie from longitudinal to transverse.

Once the fetus is delivered, an oxytocic agent (5 IU Syntocinon™ IV) is administered to aid uterine contraction and placental separation.

The placenta is delivered by controlled cord traction; manual removal significantly increases the intraoperative blood loss and postoperative infectious morbidity.
Cesarean Section  
(C-Section)

1. The uterus is exposed through the abdominal wall. An incision is made in the uterine covering.

2. The muscles of the uterus are separated producing a hole for delivery of the infant.

3. The infant is delivered through the opening created in the uterine wall. Following delivery, the uterine wall is stitched closed.
CLOSURE

• Closure of the uterus should be performed in:
  1) single or double layers
  2) continuous or interrupted sutures
    ▪ The initial suture should be placed just lateral to the incision angle, and the closure continued to a point just lateral to the angle on the opposite side
    ▪ A running stitch is often employed and this may be locked to improve haemostasis
    ▪ A second layer is commonly used as a means to improve haemostasis and with the aim to improve the integrity of the scar.
    ▪ Once repaired, the incision is assessed for haemostasis and additional ‘figure-of-eight’ sutures can be employed to control any bleeding points
    ▪ Peritoneal closure is not routine and depends on the operator’s preference.
    ▪ Abdominal closure is performed in the anatomical planes with high strength, low reactivity materials, such as polyglycolic acid or polyglactin.

• The skin can be closed with either
  1) absorbable suture material
  2) non-absorbable suture material
  3) clips,
again depending on operator preference.
THANK YOU