“YET ANOTHER WAY TO GET OUT!”

Caesarean section

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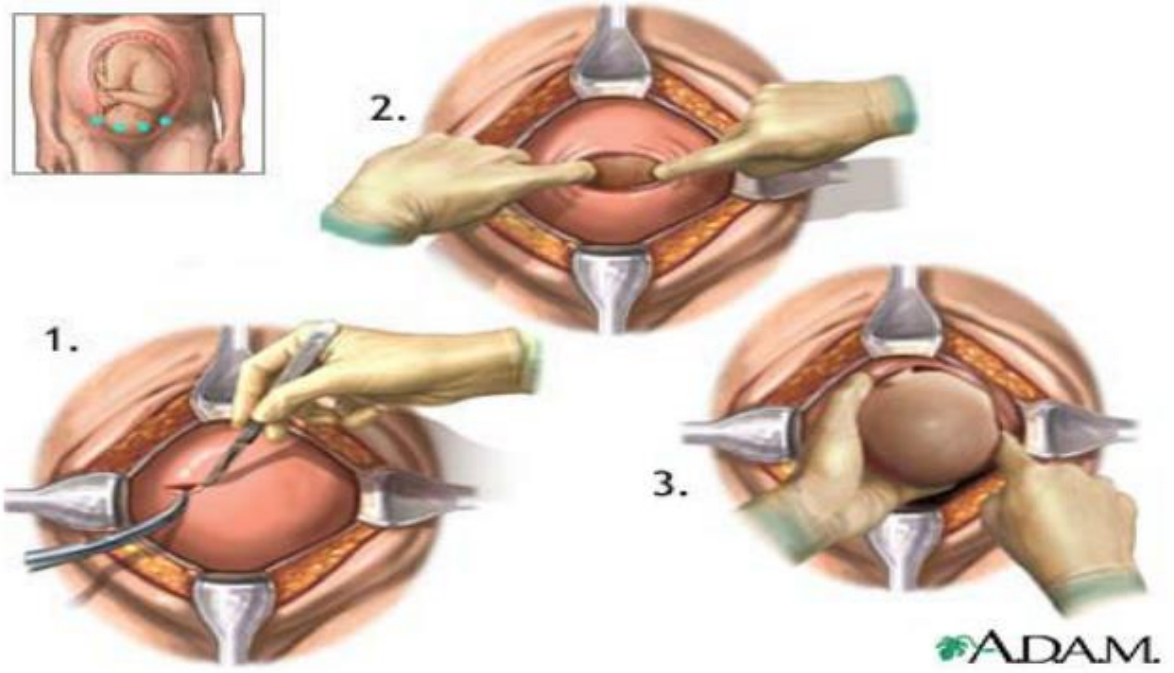
AIIMS, RAIPUR

Cesarean Section is delivery of a fetus from the uterus by abdominal and uterine incisions, after 24 weeks of pregnancy (age of viability).

•It is called hysterotomy, if removal is done before 24 weeks of pregnancy.

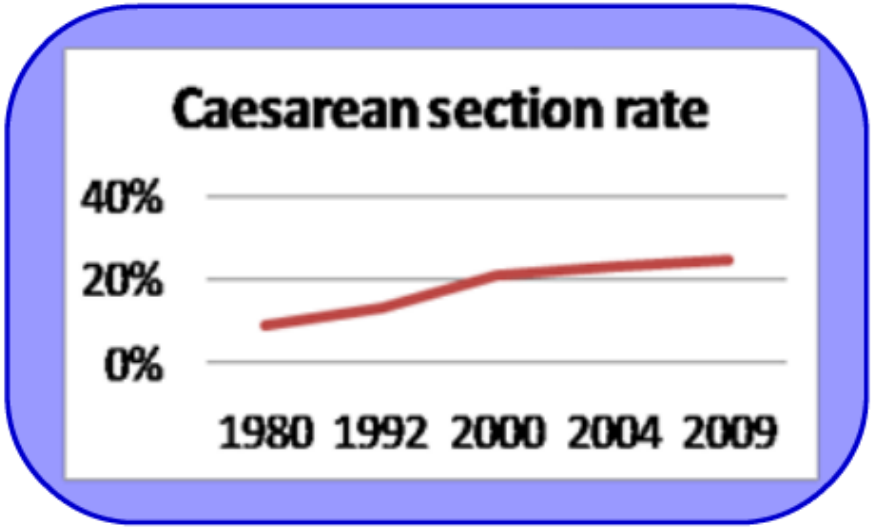
- The word caesarean is derived from caesarean law introduced in 200bc, which forbade the burial of a dead pregnant woman unless her child had been removed from abdomen and buried separately.
- Section comes from a Latin verb **sectio** which means to cut.



Epidemiology

- Caesarean section accounts for 20–25% of births in the UK.

Who rate is 10-15%.



The incidence of caesarean section in tertiary care hospitals of Pakistan is very higher than 30-30% because a very high no: of unbooked cases and in emergency after having been mismanaged outside

- 40% of caesarean sections are planned.
- 60% are unplanned procedures
- 70% of unplanned caesarean sections are a result of dystocia (prolonged labour), suspected fetal compromise, fetal Malpresentation and previous caesarean birth .

Factors associated with rising rate of c-section

- Procedures as high forceps and difficult mid forceps are abandoned in favor of Caesarean Section (C.S.)
- Increased C.S delivery in breech presentation.
- Destructive operations are abandoned in favor of C.S.
- Decreased morbidity and mortality due to C.S encourages its use.
- Increased repeated C.S due to increased primary C.S.

INDICATIONS OF C- SECTION

C-Section are grouped into **four categories** depending on the urgency of the procedure

Category 1 or Emergency C section

There is immediate threat to the mother or the fetus ideally C-section done within the next 30 minutes

- Abruption
- Cord prolapse
- Scar rupture
- Prolonged FHR deceleration below 80 bpm

Category 2 or urgent C-section

- There is maternal or fetal compromise but it is not immediately life threatening
- **Delivery should be completed within 60 to 75 minutes**
- Example is FHR abnormalities

Category 3 or schedule C-Section

The mother needs early delivery but currently there is no maternal or fetal compromise

There is concern that continuation of pregnancy is likely to affect the mother or fetus in hours days e.g.

- Failure to progress
- Growth restricted fetus
- Pre-eclampsia

Category 4 or elective C-S

The delivery is timed to suit the mother and staff e.g.

- Placenta previa (with no active bleeding)
- Malpresentation (brow presentation)
- Past history of repair of vesico-vaginal or recto vaginal fistula

Advantages of elective C.S.

* Pre - operative good preparation as regard sterilisation and antiseptic measures, fasting and bowel preparation.
* The risk of puerperal sepsis is minimised.
* The operation is scheduled and working is in ease.

Disadvantages of elective C.S.

* The risk of immaturity of the fetus or its lung is present.
* Higher incidence of respiratory distress syndrome.
* The lower segment may be not well formed.
* Postpartum hemorrhage is more liable to occur.
* Imperfect drainage of lochia as the cervix is closed so it should be dilated by the index finger introduced abdominally through the uterine incision.

Contraindications of c- section

1.Dead fetus: except in;

- Extreme degree of pelvic contraction.
- Neglected shoulder.
- Severe accidental hemorrhage.

2. Disseminated intravascular coagulation: to minimize blood loss.

3.Extensive scar or pyogenic infection in the abdominal wall e.g. in burns.

Decision-to-delivery interval for unplanned caesarean section

Decision-to-delivery intervals should **ONLY** be used as audit standards not to judge performance

Category 1	**immediate threat to the life of the woman or fetus**	**Audit standard 30 minutes**
Category 2	**maternal or fetal compromise which is not immediately life-threatening**	**both 30 minutes and 75 minutes**
Category 3	**no maternal or fetal compromise but needs early delivery**	**N/A**
Category 4	**delivery timed to suit woman or staff**	**N/A**

Types of Caesarean Section

- According to timing
- According to site of uterine incision
- According to no of operations.
- According to opening the peritoneal cavity

- **According to timing**

a. Elective caesarean section: The operation is done at a pre-selected time before onset of labour, usually at completed 39 weeks.

b. Selective caesarean section: The operation is done after onset of labour.

- **According to number of the operation**

a. Primary caesarean section: for the first time.

b. Repeated caesarean section: with previous caesarean section(s).

- **According to opening the peritoneal cavity**

a. **Transperitoneal:** The ordinary operation where the peritoneal cavity is opened before incising the uterus.

b. **Extraperitoneal**: The peritoneal cavity is not opened and the lower uterine segment is reached either laterally or inferiorly by reflecting the peritoneum of the vesico-uterine pouch . It is indicated in case of infected uterine contents as chorioamnionitis.

According to site of uterine incision

- **Lower segment caesarean section**

Transverse incision in the lower uterine segment, it is considered as the safest and widely used type of c-section worldwide

- **Upper segment caesarean section**

it is performed by giving a midline vertical incision in upper segment. These days the classical c-section is performed only for few indications. That is :-

i. postpartum c-section

ii. Fibroid in the lower uterine segment

iii. Extensive bladder adhesions in the lower segment

iv. Cervical carcinoma in pregnancy

v. fetal malpresentation

vi. placenta praevia

vii. Poorly formed lower uterine segment

- **Modified classical (De-lee) c-section**

Vertical incision but not taken up to the fundus of uterus and finishes at the level of insertion of round ligaments.

Indications .poorly formed lower segments (PTL,HYSTEROTOMY)

Advantages: easier access to the baby than lscs and less bleeding than classical incision

Dis advantages: higher chances of bladder damage.

Advantages of the lower segment:

- The wound is extra peritoneal so less risk of infection.
- Healing scar is better.
- The risk of rupture of the scar is less.
- Hemorrhage is less.
- Placenta is away from the incision.

Disadvantages of the lower segment:

- The operation requires more skill and experience.
- The incision may extend down to the bladder.

Disadvantages of classical operation:

- More liable to chest infection.
- More liable to intestinal distension.
- The scar is more liable to rupture.

FEATURES	LSCS	UPPER SEG: C-SECTION
·Incision	Trans :incision	vert: midline
·Muscle damage	less	More
·Haemorrhage	less	More
·Suturring	Holds better	Holds with diff:
· Technical difficulty	more	Less
· bladder injury	More common	Less common
·immediate post op: recovery	quick	May be delayed as oozing from incision line
·long term consequences	Less adhesions	More adhesions

PREOPERATIVE PREPARATION:

- Preoperative visit by the anesthesiologist to assess the patient's anesthesia status and risk for untoward events during and after surgery.

- Patients scheduled for elective procedure should be kept fasting for at least 8 hours. Plans to decrease potential morbidity associated with aspiration of gastric contents should be carried out in non-elective procedure including administration of oral antacid (Magnesium Citrate within 1h of start of anesthesia).

- A large intravenous line is begun prior to the anesthetic administration and an infusion of crystalloid solution started.

- A recent Hb and Hct is checked and blood type and screen is done.
- Blood should be available in high risk parturient.
- Urinary bladder should be empty, either by a catheter or allowing the woman to empty her bladder immediately before operation.
- Preparation of the abdominal and perineal area include shaving just prior to surgery, 5-min scrubbing with a suitable detergent (hexachlorophene, povidone-iodine, and chlorhexidine) and covered with a sterile draping.
- The operating team should comply with all phases of universal precautions to avoid exposure to infectious agents

Preparation in Theater

- Supine position or left lat: tilt at 15 degree
- Oxygen to mother at 100% conc:until delivery of baby
- Pediatrician must be called in O.T at every c-section.
- B4 draping and cleaning the pt: ensure that baby is alive and the indication is still valid as during transportation from labor to O.T a baby under fetal distress may have died or malpresentation may have corrected itself
- When mother is awake during surgery (epidural/spinal anesthesia) her choice about holding the baby must be asked and arrangements made.

Timing of antibiotic administration

- Offer prophylactic antibiotics before skin incision
- Choose antibiotics effective against endometritis, urinary tract and wound infections
- Do not use co-amoxiclav before skin incision

Anesthesia

- General anesthesia
- Regional block (spinal/epidural)
- Local infiltration



General anesthesia indications

- Maternal request
- Urgent delivery e.g.: placental abruption , cord prolapse .
- Severe hemorrhage. It gives better cardiovascular stability than a regional block b/c sympathetic block is avoided,
- Cardiac disease like pul: or aortic stenosis and cyanotic cong: heart disease behave badly with regional block and general anesthesia is preferred
- Anatomical problems like kyphoscoliosis and spina bifida and paraplegia make regional block unsuitable
- Coagulopathy whether congenital, or acquired as seen in PIH , Placental abruption or anticoagulant therapy is a contraindication to the regional block b/c of its association with haematoma formation.

Regional anesthesia

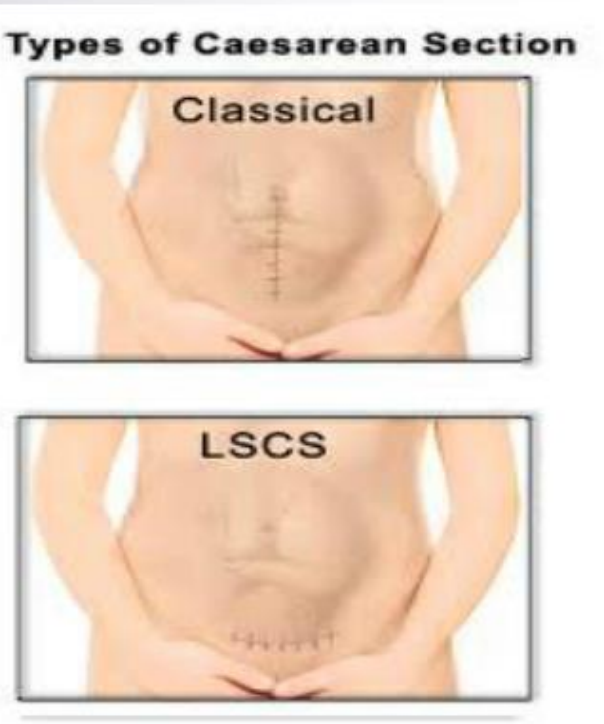
- Reasons for its popularity

1. Mother stays awake and still feels a part of process of child birth
2. Safe: no risk of aspiration of gastric contents and failed intubations and possibility of fetal sedation is eliminated, regional anesthesia is associated with risk of hypotension which can be effectively avoided with preanesthesia hydration and maintaining the left lat: tilt.
3. Regional anesthesia is associated with less blood loss possibly b/c of avoidance of volatile anesthetic agents
4. Post operative recovery is quick
5. Block can be continue in postoperative period to minimize the postoperative pain.

Local anesthesia

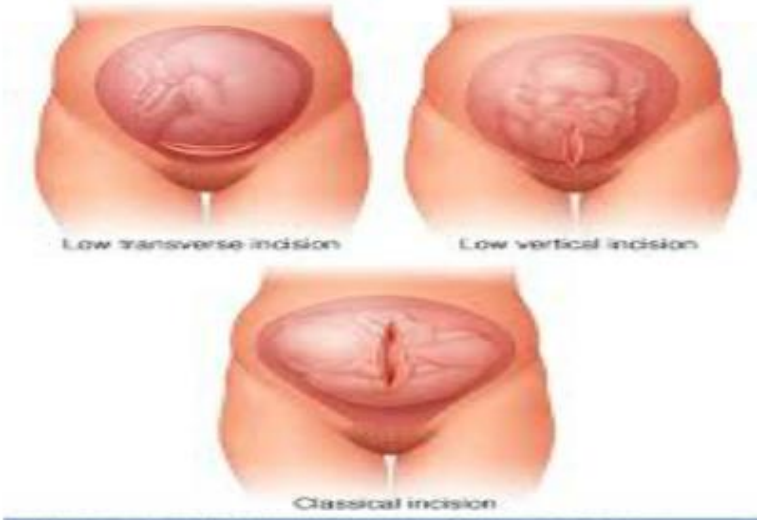
- a field block of abd: cutaneous nerves can be performed by subcutaneous inj: towards the ant: edges of ribs 8-11 bilaterally
- Give additional infiltration over the incision site
- After the incision, infiltrate as you go into the retro-pubic space, rectus sheath and peritoneum across the lower segment of the rectus
- The maximum safe dose of lignocaine with adrenaline (1 in 200,000) for an average woman is 5ooug which is contained in 25 ml of 2% lignocaine and that finishes quickly.

Technique of LSCS

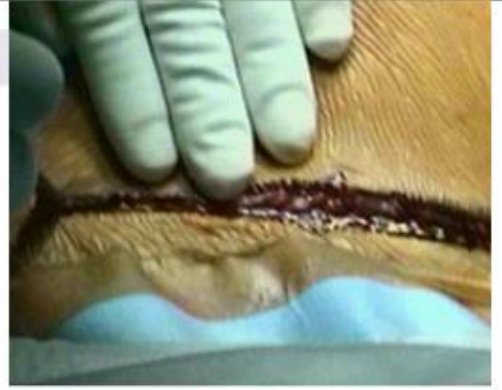


- ABDOMINAL INCISIONS

1. Vertical midline
2. Vertical Para median
3. Pfannenstiel (low transverse) incisions

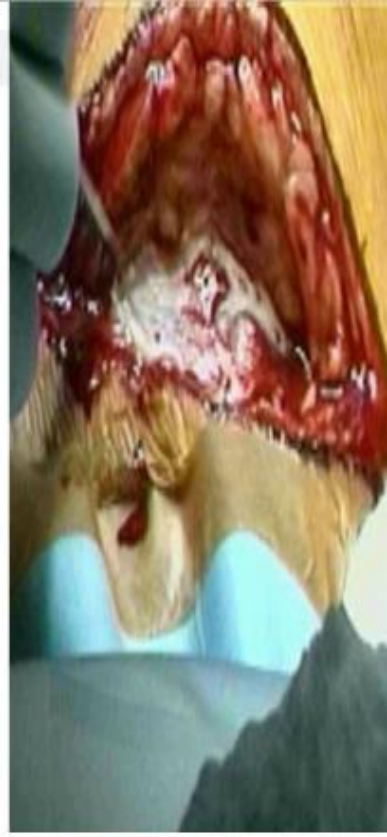


FEATURES	PFANNENSTIEL INCISION	VERTICAL MIDLINE INCISION
Operation time	>53 min	<45min
.Extendibility	Difficult to enlarg	East to enlarge
Exposure	limited	Superior
Wound breakdown	rare	8 times inc; risk of burst abd:
Post op: pulmonary:dysf	Breathing comfort	Inspiration restrict
Hematoma formation	more	Less
Cosmetic results	better	Poor
incisional hernia	rare	Common



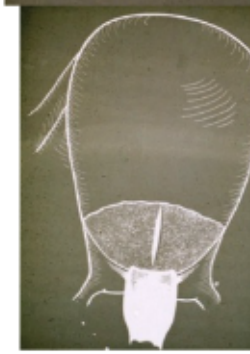
- vertical midline incision for lscs is now only used where extensive intraperitoneal adhesions are likely to hinder the access to the lower part of peritoneal cavity endangering the bladder or where the decision about type of uterine incision is in doubt
- During Pfannenstiel incision the rectus sheath is incised transversely and is separated from underlying rectum muscle superiorly and inferiorly by blunt dissection of the peritoneum. Large blood vessels encountered through the incision should be clamped.

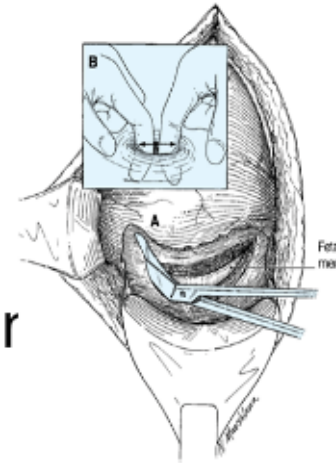
- **Parietal peritoneum**:
  - parietal peritoneum should be opened as high as possible preferably above the level of previous operation and after making sure that it is not adherent to any of the structures. It is done by holding the peritoneum b/w the two artery forceps, and the peritoneum in b/w the two is palpated with index finger and thumb for any of these contents and should be opened by small multiple and gentle strokes of knife. Where the bladder is palpable the peritoneum should be opened at least one inch above its upper border.



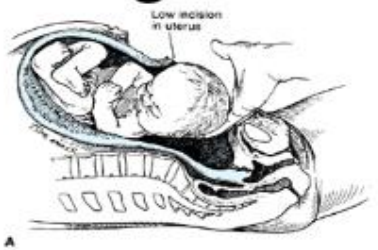
- **Abdominal packs: kept** especially in cases of **the meconium stained liquor,HIV,rh incompatibility** when meconium enter the peritoneal cavity cause bowel irritation and paralytic ileus. Abdominal packs are placed in the paracolic gutter to prevent their spillage into the general peritoneal cavity. On removal of these packs peritoneal cavity should be lavaged with normal saline to prevent peritonitis asnd paralytic ileus

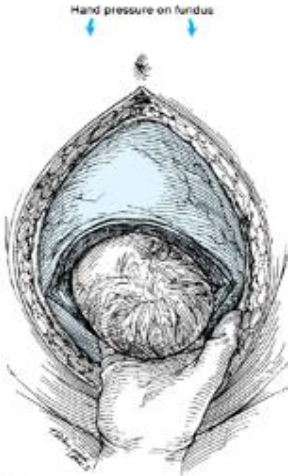
- **Uterine incisions**: the lower uterine segment is identified by the presence of loose peritoneum over it, which is differentiated from upper segment where the same peritoneum is attached firmly adherent. The loose peritoneum on the lower segment is then lifted and incised in the midline transversely just before it becomes adherent with upper segment, as soon after the incision, the peritoneum retract to allow uterine incision and the bladder away from the site of incision.
- Doyen's retractor is inserted to retract the bladder downwards.
- The lower uterine segment is incised transversely ir the midline 1-2 cm below the junction with upper segment using gentle featherweight strokes of the scalpel.s



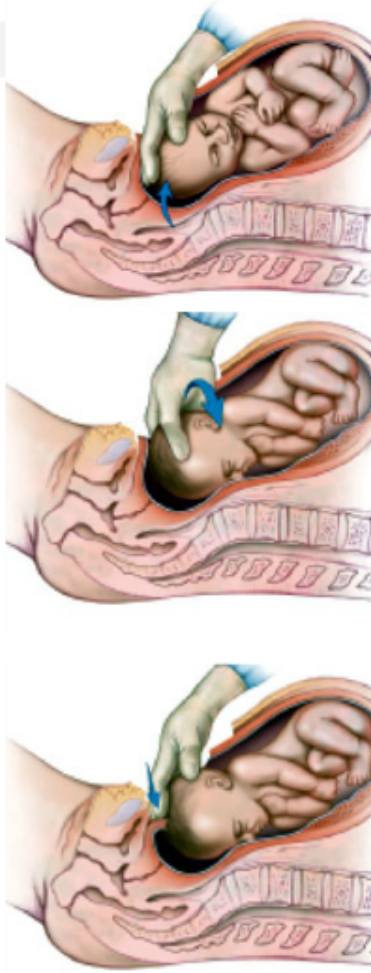


- Once the myometruim is incised the intact membranes bulges through the incision, once the membranes rupture, the uterus begins to contract down and the baby should be delivered within three min:
- Always remember to remove the doyen's retractor before starting to deliver the baby



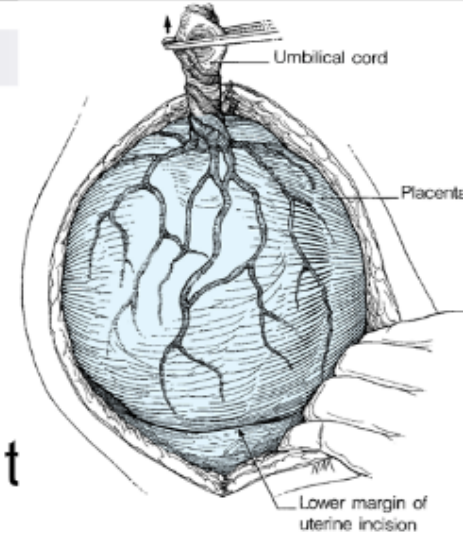


Delivery of the baby



- After membranes rupture a gush of liquor is drained which brings the head to lie under the incision line.
- When standing on the rt: side the right hand is inserted into the uterine cavity below the fetal head and any malposition of the head is corrected to occipitoant:. The delivery of head should be carried out gently. The head is then lifted up with fingertips to make it to apply to the uterine incision. the fingers are then withdrawn and the head is supported with fingertips at this stage assistant should be asked to apply gentle fundal pressure and not push in jerks.
- The assistant continues fundal pressure and the surgeon carefully guides the shoulder through the uterine incision.
- The baby is then handed over to the pediatrician after clamping and cutting the umbilical cord.

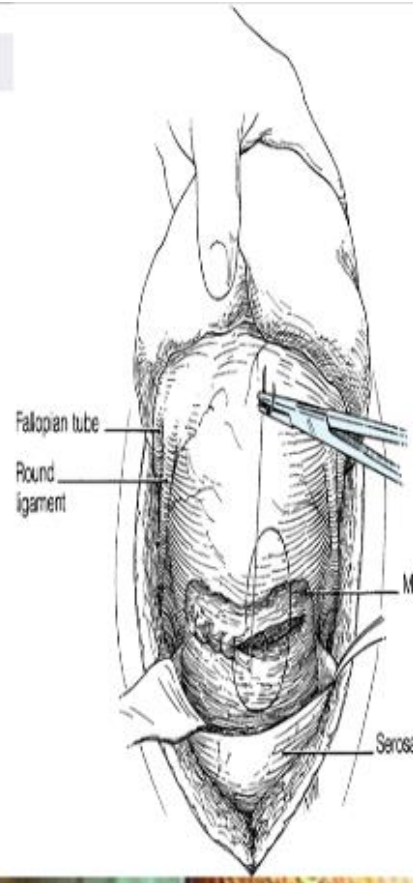
Delivery of placenta

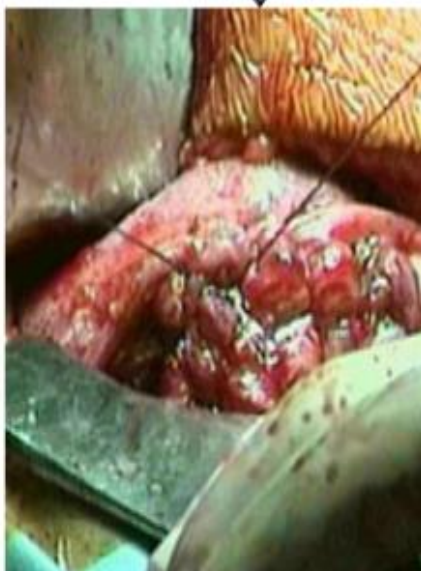


- 10 units of oxytocin are administered i/v at the t delivery of ant: shoulder.
- Once the baby is delivered the edges of the uterine incision are identified and grasped with the haemostatic green armytage forceps particularly at the corners and mid position where the large blood vessels are often encountered,
- The placenta is delivered by controlled cord traction , and green armytage forceps is removed temporarily to allow complete removal of membranes closer to the margins.
- Gently explore the uterine cavity to exclude retained placental tissues, membranes or clots.

Uterine closure

- Uterine incision can be sutured with interrupted or continuous suture, chromic catgut no:1 is commonly used . Bt in our setup chromic catgut no:2 is used.
- The suturing should be commenced well beyond the lateral edge to include the retracted blood vessels. The continuous sutures is generally placed at 1cm interval and ½ cm from the edges.
- The inclusion of decidua in the suture line is better avoided, as it hampers healing by fibrosis and makes a weak scar.
- A second continuous suture buries the first layer, ensuring the wound is watertight.





- The loose peritoneum fold of uterovesical peritoneum is then closed.
- Visceral peritoneal closure inc: the adhesion formation b/w the bladder and lower segment scar more than when it is left open and in most of the centers in west it is not sutured.
- The abdominal packs are then removed. And peritoneal lavaged carried out where indicated.
- The other pelvic organs i.e.: fallopian tubes and ovaries must be examined properly.

Complications of C-Section

- Intra-operative complications
- Post operative complications (early and delayed)
- Anesthesia complications
- Complications of blood transfusions.

Complications of Caesarean Section

Intra operative complications

a. Primary maternal mortality is 4 times that of vaginal delivery which may be due to:

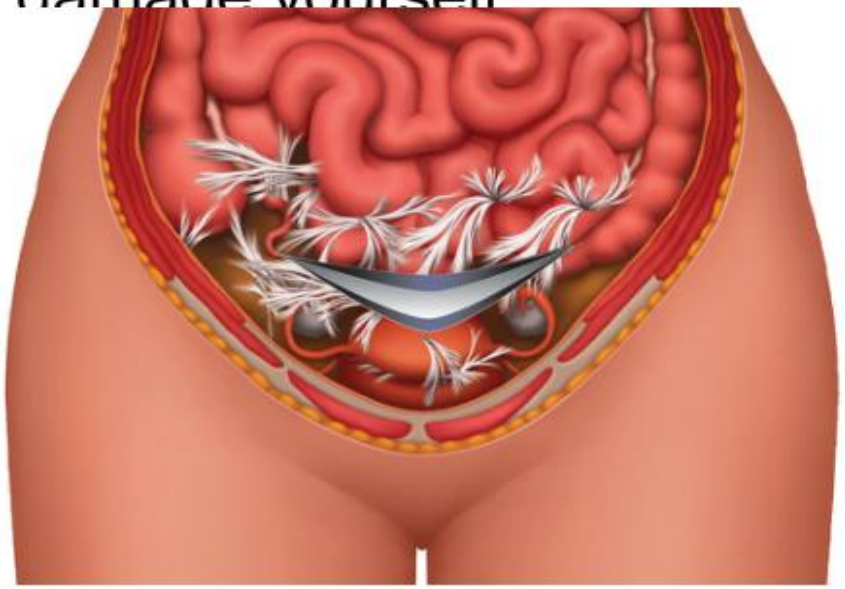
- shock .
- Anesthetic complications particularly Mendel son's syndrome
- Hemorrhage usually due to extension of the uterine incision to the uterine vessels, atony of the uterus or DIC.

b. . Fetal injuries.

C .Injuries to the bladder or ureter or gut injuries.

BOWEL INJURY

- The damage to the bowel is likely to occur when it is adherent to the uterus or abdominal wall because of the previous surgery. The damage can be avoided by taking care at the time of opening of the parietal peritoneum. Once damaged, it is better to seek help from a surgical colleague rather than attempting to repair the damage yourself



Urinary Tract Injury

- Urinary bladder is at a high risk of damage during the cesarean b/c of close proximity to the lower uterine segment, Bt fortunately the incidence of bladder trauma is as low as 0.3% b/c of inc: awareness about the problem.
- The risk is particularly high when

1.the risk is not anticipated

2.Bladder is not emptied preoperatively

3.The bladder is adherent the lower uterine segment because of previous caesarean sections.

4. The uterine incision is given very close to the urinary bladder.

- The damage can be minimized by putting in an indwelling catheter pre-operatively and dissecting the bladder away from the proposed site of incision. If bladder is damaged, its margins

should be identified and sutured in two layers with 3/0 Dexon exactly in the same fashion as the uterus is closed at caesarean section. The Foley's catheter is left in place for 7-10 days.

Early post operative complications

- Thrombosis and pulmonary embolism.
- Acute dilatation of the stomach and paralytic ileus.
- puerperal sepsis and burst abdomen.

Infections

- Genital tract infection. The endometritis is 10-20 times more common after caesarean section than after normal vaginal delivery.
- Urinary tract infection. The risk for infection after single catheterization is 2%.
- Chest infection. Occurs due to intubation at general anesthesia. More likely to occur in obese, smokers and the patients with pre-existing URTI.
- Wound infection. Incidence 1-9%.

- **Respiratory complications: due to inhibitory effects of pain, immobilization in post operative period and anesthesia.**
- **So**
  - **encourage deep breathing exercises.**
  - **teach the patient huffing and coughing (the abdomen must be supported by the patient's hands and/or towel)**
- **Excessive abdominal pain due to:**
  - Wound infection.
  - Hematoma.
  - Excessive localized edema.
  - Nerve entrapment syndrome (ilioinguinal or iliohypogastric nerve)
- **Deep venous thrombosis due to (hypercoagulability, decrease venous tone**

- Signs and symptoms of DVT: in about 50%

- Edematous limb.
- Erythrocyanotic appearance.
- Dilated superficial veins.
- Elevated skin temperature.

- Prophylactic role to prevent DVT:

- Application of compression stocking.
- Early ambulation.
- Avoidance of pressure under thighs and calves
- Avoidance of sitting with knees acutely flexed.
- Deep breathing exercises.

- Circulatory and leg exercises.

- **Dependent edema. (generalized retension of fluid) aggravated by decreased movements of the lower limb muscles.**

- **to prevent dependent edema:**

  - Vigorous foot and ankle exercises.
  - elevation of L.L.
  - If sever apply stoking and intermittent pressure.

delayed post operative complications

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> Rupture of the uterine scar.

- Incisional hernia.
- Pid
- Tubal block
- Risk of ectopic due to adhesions
- Chronic pelvic pain due to adhesions

Postoperative care: Regardless of the type of abdominal wound

- The incision should be covered with a compression dressing and should be checked when the vital signs are measured for signs of hemorrhage through the bandage. In general, the morning of the first postoperative day, bandages are removed whether skin clips, subcuticular closure, or mattress silk sutures have been used.
- Care is taken to assess for the development of hematomas, seromas, or wound infections. Areas of redness and palpable masses or extraordinary tenderness or induration are carefully assessed twice daily. Signs of cellulitis require cultures and antibiotic therapy.
- The notation of a watery discharge from the wound may herald impending wound dehiscence and should be treated as an emergency.

- With primary transverse CS, the skin clips and mattress sutures are removed on the fourth or fifth postoperative day or according to wound condition.
- As after any major surgical procedure, the potential for severe maternal postoperative complications is present. Because of the hypercoagulable state of pregnancy, the hazard of postoperative embolization is increased:
- * Patients are encouraged to ambulate on the first postoperative day and are made to turn, cough, and deep-breathe immediately after surgery.
- * The diet is progressed from clear liquids on the evening of the operative day if surgery was in the morning, usually beginning about 8 to 12 hours after surgery.
- * Adequate pain medication is an essential component of postoperative management.

MODE OF DELIVERY AFTER C-SECTION IN SUBSEQUENT PREGNANCIES

- The rule that "caesarean always caesarean" had been replaced since a long time by "caesarean always hospital delivery". If the cause of the previous section is not permanent as contracted pelvis, vaginal delivery can be tried.

How to Reduce rising rate of C-Section

- Education of All staff should be involved in management of parturient.
- Conduct trial of scar in women with Uncomplicated previous C-section done for non-Recurrent indication
- Routine amniotomy should be discouraged
- 30 minutes increments in oxytocin infusion regimen to prevent uterine hyperstimulation and fetal hypoxia
- Offer external cephalic version to women with uncomplicated singleton breech pregnancy
- Correct diagnosis of labour and correct Representation of data on cervicogragh
- Set Evidence based Guidelines, Protocols,to ensure optimal outcome for both Mother and Baby

caesarean section in difficult situations (complicated obstetrics)

Narrow uterine incision

Extension of the lower uterine segment incision may be done by:

* "J" shaped or hockey-stick incision: i.e. extension of one end of the transverse semi lunar incision upwards.
* "U"- shaped or trap-door incision: i.e. extension of both ends upwards.
* An inverted T incision: i.e. cutting upwards from the middle of the transverse incision. This is the worst choice because of its difficult repair and poor healing.

PREVIOUS CAESAREAN SECTION,

- dense adhesions may have formed between uterus and abdominal wall. They are less likely if omentum had been placed between uterus and abdominal wall, at the last operation.
- Excise the scar in abdominal wall with an elliptical incision. If the sides of this might be difficult to join up accurately, make some scratch marks across it and align them later.
- Open her parietal peritoneum as far as you can. Lift it between hemostats to stretch the adhesions, and divide them with the points of scissors directed at her uterus.
- If you find a plane of loose connective tissue, free it with a finger or swab. Cut fibrous bands. If dissecting the adhesions is very difficult (unusual), give up and make an upper segment incision.

IF THE INCISION IN UTERUS TEARS/EXTENDS

- during delivering the head, there will probably be a vertical tear in the corner which will run down behind her bladder, often with heavy bleeding.
- Identify the edges of the incision and the tear. Mobilize her bladder further downwards if necessary.
- If you cannot define the extent of the tear, carefully open broad ligament by cutting round ligament. This will let you feel the ureter, so that you can avoid it before you apply any clamps. Now apply Green Armytage forceps to the edges of the tear, and draw its angle into view.
- Apply direct pressure with a dry pack, find the bleeding vessels, and tie them. Use interrupted sutures in the area of the tear. They will be easier to unpick if you catch her bladder or her ureter by mistake.

- CAUTION ! After repairing a tear, check that ureter has not been caught in a stitch by mistake.

- If these measures fail, the only way to control bleeding may be to tie both uterine arteries (See "Stop Press') or her internal iliac artery on that side (3.5). If you are not able to repair her uterus, do a subtotal hysterectomy.

OBSTRUCTED LABOR WITH A CEPHALIC PRESENTATION

- , enter the abdomen just below the umbilicus so as to avoid her bladder.
- If catheterization before the operation was impossible, empty her bladder now with a needle and syringe. Much of the swelling will be edema, which will not go away. Mobilize her bladder free from her lower segment as usual.
- If an assistant is to push the baby's head up from below through her vagina, let him do so now before you open her uterus. If she waits until after you have opened it, the baby's shoulder may prolapsed into the incision and make delivery more difficult.
- Make a transverse incision in the lower segment. Choose its level carefully. If it is too high, delivery will be difficult; if it is too low, you may enter her vagina

- If delivering the head is difficult, especially when the uterus is tight around it. Take time to push back its wall from around the head, by inserting 2 fingers all round. You will then be able to apply forceps. If you still have difficulty, enlarge the wound upwards and laterally at its ends.
- CAUTION ! (1) Don't lever his head out with your whole hand, because this can cause vertical downward tears in the lower segment. (2) If her liquor was purulent or infected, clean her abdomen carefully, and wash out her pelvis with warm saline.

BREECH PRESENTATION

- delivery may be be more difficult than cephalic one. Feel for a leg, or better, both legs, and deliver him breech-first as if you were delivering his head.
- If, by mistake, you take hold of an arm, replace it. Then feel for a leg; recognize it by feeling for his heel.
- If an arm comes out and will not go back, you are in trouble (unusual). You may have to make an inverted "T' incision to get him out. When necessary, deliver his arms by a modified Lovset manoeuvre, and his head by a modified Mauriceau Smellie[nd]Veit manoeuvre.

TRANSVERSE LIE,

- the choice of incision is important. If she is in early labor, and her lower segment is poorly developed, with most of the baby in the upper segment, make a transverse incision in the upper segment and deliver him by breech extraction
- If she is in early labor, her lower segment is well developed, and her membranes are still intact, make a transverse incision in her lower segment, and deliver him by breech extraction.
- If labor is obstructed, and most of him is in the over distended lower segment, simple delivery through a transverse incision in the lower segment will cause large tears.

- If fetus is alive make a vertical incision in the lower segment, and extend the incision into the upper one until it is big enough to deliver him.
- If fetus is dead, make a transverse incision in the lower segment, decapitate or eviscerate him, and deliver him in any convenient way. If his hand is outside her vulva, separate his arm at the shoulder joint before Caesarean section starts.
- CAUTION ! (1) Don't try to deliver him intact, because this will tear her lower segment severely. (2) Don't make a classical or inverted "T' incision for a dead baby. If you have a LOT OF TROUBLE WITH BLEEDING during the operation, it is often helpful to bring the uterus out of the abdomen. You can then reach behind it with your hand and place the sutures at the angle of the incision. It is usually safe to put sutures beyond the end of the incision provided you suture only into the substance of the uterus.

PLACENTA PRAEVIA

- usually use the ordinary transverse lower segment incision.
- This is contraindicated if:
- (1) She has a poorly developed lower segment, which would not allow a transverse incision of adequate length.
- (2) She has a very vascular lower segment with large veins on it.
- (3) The presenting part is high, and fetus is lying transversely, indicating that the placenta previa is probably central. If so, mobilize her uterovesical fold, as for a lower segment operation. Make a low vertical midline (de Lee) incision. Deliver him as for a low classical section. If there is severe bleeding, quickly feel for a foot. His half breech will plug the bleeding area, and you will have the situation under control. Some surgeons make a vertical or transverse incision in the upper segment

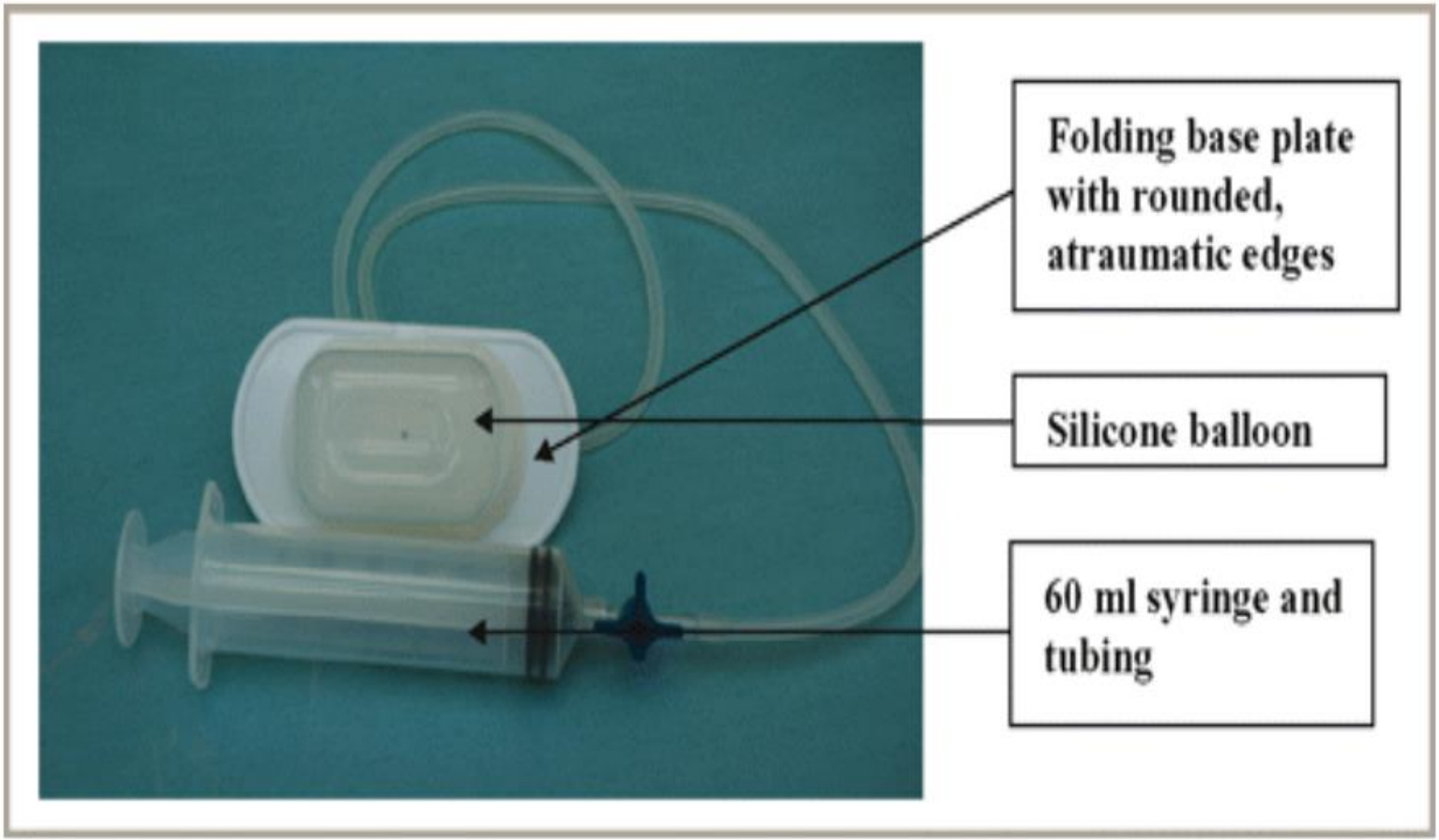
If PLACENTA IN THE INCISION:

- Peel it away from her uterine wall and enter her uterus from above it.
- If the edge of the placenta is too far away to allow this, cut through it quickly, and deliver him without delay through the hole that you have just made. If you meet his cord, clamp it before you deliver him, but don't waste time looking for it: you can clamp it immediately afterwards.
- Remember that a baby can easily bleed from an injured placenta,mother can also bleed, so if you see a large bleeding vessel in the placental bed (unusual), control it with a figure of eight suture.

- **CONTRACTION RING (Bandl's ring),** in her lower segment, or between the lower and the upper segment, deal with it like this: If her baby is entirely above the ring, make a transverse incision entirely above it. If it is round his neck, make a vertical incision across it.
- **FIBROIDS**, leave them unless they are pedunculated and removal is very easy. Otherwise, leave them: they may settle and atrophy. Removing a fibroid, at delivery, from within the wall of the uterus causes severe bleeding.
- **OVARIAN CYSTS OR TUMOURS**, remove them if they are [mt]5 cm. Ovarian cystectomy is possible, but removing the ovary and tube will be quicker and safer. Smaller functional luteal cysts will have usually disappeared spontaneously by the end of pregnancy.

- **If she has ADHESIONS**, you will have to separate them sufficiently to get good access to her uterus. Don't try to remove them from around her tubes and ovaries; they will ooze and form again.
- **If you have sewn up her uterus WITHOUT REMOVING HER PLACENTA**, it will probably be delivered vaginally in a few hours. The danger is that it might be retained and become infected. Even so, it is probably wise not to reopen her uterus and remove her placenta operatively. If necessary, remove it manually through her vagina.

OBSTRUCTED LABOUR
FETAL DISIMPACTING SYSTEM



- The Fetal Disimpacting System® is manufactured by Safe Obstetric Systems UK Ltd (Essex, UK).
- It consists of a base plate 11 cm long and 4.5 cm wide, foldable along the midline of the short axis towards the superior surface, to which a balloon is attached.
- The balloon is attached through a connector to a tube 80 cm in length that is, in turn, attached to a 60 ml syringe through a two-way connector.

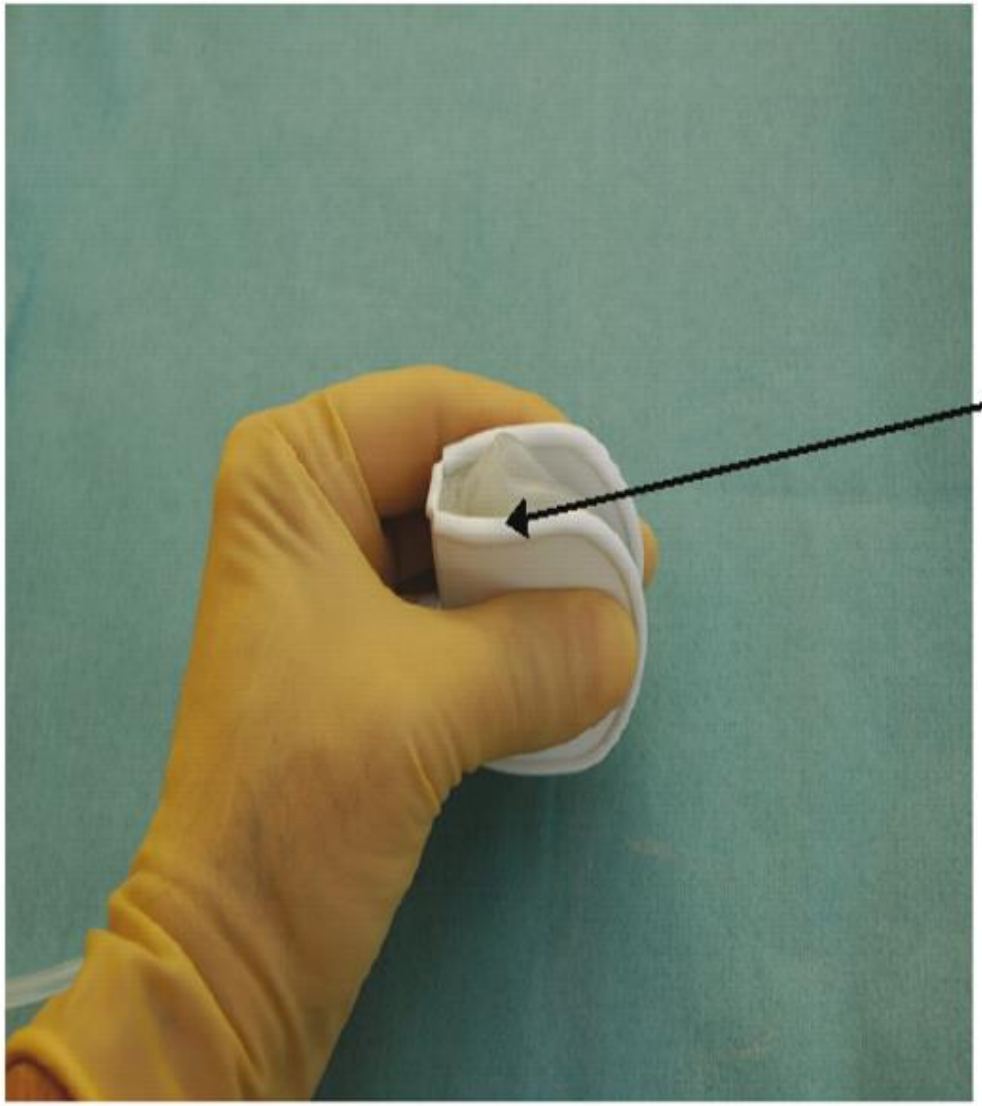
It is inserted vaginally below the fetal head at the time of inserting a Foley catheter or after a failed attempt at an instrumental delivery.

Before insertion, the device is filled with 40 ml of normal saline. The saline is aspirated along with any air in the system, then the device is ready for use.

It is folded along its short axis and aligned so that the fold of the device is in the anteroposterior diameter of pelvis, and inserted using a generous amount of obstetric cream (the process is no different from inserting a ventouse cup).

Once in the vagina, the device is placed posteriorly, like a ventouse cup for an occipitoposterior position.

- Once inserted, the woman's legs are straightened (this closes the vaginal opening and prevents the downward movement of the base plate) and she is prepared for caesarean section.
- The time taken for this manoeuvre is around 30 seconds. An assistant uses between 100–120 ml of saline to inflate the balloon using a syringe.
- The inflation is maintained only for a short time just before making the uterine incision.
- The base plate straightens and opens to become flat against the pelvic floor during the inflation process. The balloon inflates and gently elevates the fetal head 2–3 cm from its position, making it easier to deliver. As soon as delivery is achieved, the balloon is deflated and can be removed: the device can be gently pulled out using the attached tubing or by hooking a finger into the base plate.



Base plate folded along the hinges for insertion

Caesarean Hysterectomy

Hysterectomy is carried out after caesarean section in the same sitting for one of the following reasons:

* Uncontrollable postpartum hemorrhage.
* Unrepairable rupture uterus.
* Operable cancer cervix.
* Couvelaire uterus.
* Placenta accreta cannot be separated.
* Severe uterine infection particularly that caused by Cl. welchii.
*Multiple uterine myomas in a woman not desiring future pregnancy although it is preferred to do it 3 months later.

Caesarean Sterilization

- Tubal sterilization is usually advised during the third or fourth caesarean section.

Postmortem C.S

- It is done after mother's death, to save the life of a living fetus, It is done within 10 minutes of maternal death.


THANK"S