

# Cesarean Section



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# Overview


- A fetal delivery through an open abdominal incision (laparotomy) and an incision in the uterus (hysterotomy).
- The cesarean delivery rate rose from 5% in 1970 to 31.9% in 2016
- Safe CS rate as defined by WHO is 15%
- There has been an emphasis decreasing the number of first-time cesareans, as many women who have one cesarean delivery will ultimately have the remainder of their children via cesarean.
- Maternal mortality 4 times that of vaginal delivery



# Indications

- Maternal
- Prior cesarean delivery
- Maternal request
- Pelvic deformity or cephalopelvic disproportion
- Previous perineal trauma
- Prior pelvic or anal/rectal reconstructive surgery
- Herpes simplex or HIV infection
- Cardiac or pulmonary disease
- Cerebral aneurysm or arteriovenous malformation
- Pathology requiring concurrent intraabdominal surgery
- Perimortem cesarean

<b>Uterine/Anatomic Indications</b>	Abnormal placentation (such as placenta previa, placenta accreta)	Placental abruption	Prior classical hysterotomy	Prior full-thickness myomectomy
History of uterine incision dehiscence	Invasive cervical cancer	Prior trachelectomy	Genital tract obstructive mass	Permanent cerclage

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- Fetal
  - Nonreassuring fetal status (such as abnormal umbilical cord Doppler study) or abnormal fetal heart tracing
  - Umbilical cord prolapse
  - Failed operative vaginal delivery
  - Malpresentation
  - Macrosomia
  - Congenital anomaly
  - Thrombocytopenia
  - Prior neonatal birth trauma

# Types

- According to site:

1. Lower segment cesarean section:

Transverse incision over the lower segment of the uterus

2. Upper segment/Classical:

Vertical incision over the body or fundus of the uterus

# Indications for a classical CS:

1. Lower segment is abnormally vascular/ cannot be identified due to adhesions
2. Postmortum delivery
3. Hysterectomy is to follow the procedure
4. Rapid delivery is needed
5. Transverse fetal lie that cannot be corrected
6. Cervical cancer
7. Anterior placenta previa

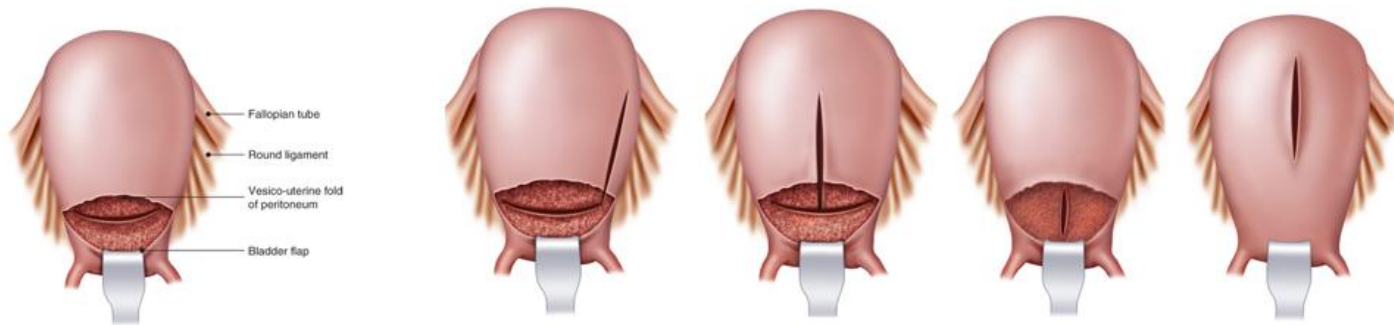
# Cesarean Section: Uterine Incisions

## Low Transverse

- Less blood loss
- Easier to repair
- Site less likely to rupture in subsequent pregnancies
- ↓ Bowel/omental adhesions to incision site

## Classical

- More blood loss
- Harder to repair (multiple layers)
- ↑ risk of uterine rupture in subsequent pregnancies



A. Lower segment transverse incision.  
Source: G. D. Posner, Jessica DY, A. Black, G. D. Jones: Human Labor & Birth, 6th Edition  
www.obgyn.mhmedical.com  
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**Low Transverse**

B. J incision.  
Source: G. D. Posner, Jessica DY, A. Black, G. D. Jones: Human Labor & Birth, 6th Edition  
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C. T incision.

D. Lower segment vertical incision. E. Classical (upper segment vertical) incision.  
Source: G. D. Posner, Jessica DY, A. Black, G. D. Jones: Human Labor & Birth, 6th Edition  
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**Classical**



# Types

According to timing:

1. Elective CS

2. Urgent CS

- Elective delivery should be conducted after 39+0 weeks of gestation.
- If elective CS is conducted before 39 weeks, dexamethasone for fetal lung maturity should be administered .
- All women undergoing urgent CS should receive thromboprophylaxis.
- Antibiotics should be administered before making the skin incision in women undergoing both types of CS.

# Types

- According to urgency:

## RCOG Good Practice Guideline

**Figure 1. A classification relating the degree of urgency to the presence or absence of maternal or fetal compromise**

Urgency	Definition	Category
Maternal or fetal compromise	Immediate threat to life of woman or fetus	1
	No immediate threat to life of woman or fetus	2
No maternal or fetal compromise	Requires early delivery	3
	At a time to suit the woman and maternity services	4



# Complications

- Intraoperative:
  1. Anesthesia complications
  2. Hemorrhage
  3. Bladder/bowel injury
  4. Fetal injury
  5. Fetal respiratory distress

# Postoperatively:

## ➤ Early:

1. VTE
2. Paralytic ileus
3. Wound infection/puerperal sepsis
4. Chest infection

## ➤ Late:

1. Hernia
2. Rupture of uterine scar
3. Abnormal Placentation
4. Infertility

# How to decrease the rate?

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- Educate women about Cesarean section
- Encourage operative vaginal delivery
- Encourage vaginal birth after CS (VBAC)



# VBAC

- Candidate:
  1. A singleton pregnancy
  2. Cephalic presentation
  3. Term baby: at 37+0 weeks or beyond
  4. Have had a single previous lower segment caesarean delivery

# Contraindications:

1. Previous uterine rupture
2. Classical caesarean scar
3. Women who have other absolute contraindications to vaginal birth that apply irrespective of the presence or absence of a scar (e.g. major placenta praevia).

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- Women should be informed that planned VBAC is associated with an approximately 1 in 200 (0.5%) risk of uterine rupture.
  - Women should be informed that the success rate of planned VBAC is 72–75%



## Signs of uterine dehiscence/Rupture

1. Nonreassuring/pathological CTG (Most common/early)
2. Vaginal bleeding
3. Pain between contractions
4. Pain at the site of previous scar
5. Loss of station of the presenting part
6. Maternal collapse

# Factors that increase the likelihood of success

- Women with one or more previous vaginal births
- Particularly previous VBAC, is the single best predictor of successful VBAC
- Associated with a planned VBAC success rate of 85–90%.
- Previous vaginal delivery is also independently associated with a reduced risk of uterine rupture.