

433 Teams

OBSTETRICS & GYNECOLOGY

OPERATIVE VAGINAL DELIVERIES AND CAESAREAN SECTION (C.S)

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Objectives

- Identify the incidence of operative delivery.
- Mention the indications for operative deliveries including the prerequisites to be fulfilled before applying forceps or ventouse.
- Identify the rate of caesarean deliveries ,their mortality and fetal and maternal morbidity.
- Discuss the types of caesarean deliveries and their complications
- Indicate when a trial of normal labor may be offered after caesarean section delivery.
- Describe the measures to reduce caesarean section rates.
- Describe common measures for prevention of infections, deep vein thrombosis and other complications of operative delivery.
- List the key components of post-operative care.

1st OPERATIVE VAGINAL DELIVERIES

Definition: It is the delivery of the fetus using an instrument through the vaginal route. Instruments could be: **Forceps** (provide traction and rotation of the fetal head). **OR Vacuum.**

Incidence: 3.5 % (about 10% to 15% in the United States)

Trial of instrumental delivery: Should be performed in **O.R** with anesthetist present + pediatrician to resuscitate.

All teams ready to proceed to C.S. in case failed instrumental delivery.

Indications of operative delivery: (Could be maternal or fetal causes)

MATERNAL	FETAL
Prolonged or arrested 2 nd stage	Fetal distress
Poor maternal effort or to shorten the second stage of labor for maternal benefit. Maternal conditions such as hypertension, cardiac disorders, or pulmonary disease, in which strenuous pushing in the second stage of labor is considered hazardous	Prematurity (Forceps only)
Maternal cardiac disease	Certain mal-positions
Retinal detachment or post op for similar ocular conditions	

Cont. OPERATIVE VAGINAL DELIVERIES

Pre-Requisite for forceps and ventouse:

- Cervix has to be fully dilated.
- Membranes ruptured.
- Head has to be engaged.
- Vertex presentation.
- Head position known (forceps can be applied on the head for cephalic presentation or after coming head for breech presentation)
- Ventouse can only be applied on the head (it must never be used for delivery of fetuses presenting by the face or breech) Conditions to be fulfilled:
 - Adequate analgesia
 - Empty bladder
 - Adequate episiotomy
- The vacuum extractor is contraindicated in preterm delivery.
- With Ventouse flexion of the fetal head must be maintained to provide the smallest diameter to the maternal pelvis by placing the posterior edge of the suction cup 3 cm from the anterior fontanelle squarely over the sagittal suture.

Cont. OPERATIVE VAGINAL DELIVERIES

Complications of instrumental deliveries:

MATERNAL	FETAL
Genital tract lacerations, Cervix, vagina, Hemorrhage	Skull fractures
Extensions of episiotomy	Cephalohematoma is a traumatic subperiosteal haematoma that occurs underneath the skin, in the periosteum of the infant's skull bone.
Sphincter lacerations	Caput succedaneum refers to the swelling, or edema, of a newborn's scalp soon after delivery.
Fecal and flatus incontinence or injury to rectal mucosa	Facial Palsy
	Scalp laceration
	Intracranial haemorrhage
	Infant death

Cont. OPERATIVE VAGINAL DELIVERIES

COMPARISON OF FORCEPS AND VACUUM DELIVERY:

Understanding the potential advantages and disadvantages of each operative vaginal delivery instrument allows the operator to counsel the mother appropriately and choose the device that is best suited for the particular clinical situation.

Forceps have a higher overall success rate for vaginal delivery. The **failure rate for forceps is 7%**, whereas the **failure rate for vacuum extraction is 12%**. In general, **forceps deliveries cause higher rates of maternal injury, and vacuum extraction causes higher rates of fetal morbidity.**

2nd Caesarean Section

Rate: ≈ 25%

Maternal mortality: 5 – 6 per 100,000 C/S

Perinatal mortality: 3/1000 USA 7/1000 U.K

Perinatal and neonatal mortality and significant neonatal morbidity have been shown to improve from 5.0% for those breeches delivered vaginally to 1.6% for those delivered by cesarean.

C. S. Could be:

- Elective C/S → Planned and timed
- Emergency C/S → Unplanned during labor or before the onset of labour.

DIFFERENT METHODS OF PERFORMING DIFFERENT TYPES OF C/S :

SKIN INCISION	UTERINE INCISION
Low transvers	Upper Segment (Classical) transverse vertical
Midline	Lower segment :transverse-vertical

Cont. Caesarean Section

COMPLICATIONS OF UPPER SEGMENT C/S:

- Bleeding ↑↑
- Organ injury → Bowel - Bladder – Ureter.
- Adhesions formation.
- Rupture scar in future pregnancy higher than lower segment scar.
- More difficult to repair.

COMPLICATIONS OF LOWER SEGMENT:

- Haemorrhage.
- Extension of incision → lateral **or** downwards.
- Organ injury → bladder – Bowel – Ureter.
- Rupture scar.
- Abnormal placentation in future pregnancy ex:Low lying placenta
Accreta, increta, perceta.
- Adhesions specially bladder.

Cont. Caesarean Section

The common indications for a **classic cesarean delivery** include the **preterm breech** with an **undeveloped lower uterine segment**, **transverse back-down fetal position**, poor access to the lower segment due to **myomas or adhesions**, or a **planned cesarean hysterectomy**.

The advantages of **lower transverse cesarean delivery** include **decreased rate of rupture of the scar** in a subsequent pregnancy and a **reduced risk for bleeding, peritonitis, paralytic ileus, and bowel adhesions**.

COMMON POST OP. COMPLICATIONS:

- Atelectasis
- Infection → Endometritis
 - Wound
 - UTI
 - Pneumonia
- DVT & PE

When can a trial of labor be offered after c.s ??

1. VBAC (vaginal birth after cesarean) can be offered for non recurrent indications e.g., fetal distress, cord prolapse, placental abruption, breech presentation.
2. Pelvic adequacy is confirmed by proper clinical radiological methods as needed.
3. Lower Segment scar.
4. Placental localization.
5. Scar integrity is assured by taking proper post op history.
6. Standard of care is to offer VBAC after one previous C/S and not multiple
7. Safe set up: Tertiary care center which can perform emergency C.S as needed.
8. Patients approval

The overall success rate of VBAC is about 70%

Measures to reduce C.S. RATE

- Proper antenatal care for early detection and management of conditions that lead to ↑ C.S. rate
 - e.g. controlling macrosomia in diabetes
 - early detection of HTN.
 - Post term ...
- Performing ECV for breeches.
- Prevent infections: Prophylactic Ab + Aseptic technique
- Prevention of anemia
- prevent DVT. : TEDS stocking
 - Thromboprophylaxis
 - Early ambulation

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