

**King Saud University Medical City**  
**Department of Obstetrics & Gynecology**  
**Course 482**

# **INDUCTION OF LABOUR**

# INTRODUCTION

**DEFINITION** → Induction of labour is defined as an intervention designed to artificially initiate uterine contractions leading to progressive dilatation and effacement of the cervix and birth of the baby. This includes both women with intact membranes and women with spontaneous rupture of the membranes but who are not in labour.

# INDICATIONS

- Post-term pregnancy ➔ most common
- PROM
- IUGR
- Non-reassuring fetal surveillance
- Maternal medical conditions ➔ DM, renal disease, HPT, gestational HPT, significant pulmonary disease, antiphospholipid syndrome
- Chorioamnionitis
- Abruptio
- Fetal death

## RISKS of IOL

- ↑ rate of operative vaginal deliveries
- ↑ rate of CS
- Excessive uterine activity
- Abnormal fetal heart rate patterns
- Uterine rupture
- Maternal water intoxication
- Delivery of preterm infant due to incorrect estimation of GA
- Cord prolapse with ARM



# CONTRAINDICATIONS

## (Contraindications to labor or vaginal delivery)

- Previous myomectomy entering the cavity
- Previous uterine rupture
- Fetal transverse lie
- Placenta previa
- Vasa previa
- Invasive Cx Ca
- Active genital herpes
- Previous classical or inverted T uterine incision
- 2 or more CS

# PREREQUISITES

## To assess the following

- Indication / any contraindications
- GA
- Cx favourability (Bishop score)
- Pelvis, fetal size & presentation
- Membranes status
- Fetal heart rate monitoring prior to IOL
- Elective induction should be avoided due to the potential complications

# Cx ripening prior to IOL

**Indication** ➔ if the Bishop score is  $\leq 6$

- The state of the Cx is an important predictor of successful IOL

## Methods :

- **Intracervical PGE2 gel** ➔ 0.5 mg/6hrs----3 doses

- **Intravaginal PGE2 gel** ➔ 1-2 mg/6hrs----3doses

PGE2 gel ↓ the rate of not being delivered in 24 hrs

↓ the use of oxytocin for augmentation of labor

PGE2 gel ↑ the rate of uterine hyperstimulation

- **Misoprostol** ➔ Should not be used for term fetuses

- **Mechanical methods**



# Cx ripening prior to IOL

## Mechanical methods

### Foley Catheter

- It is introduced into the cervical canal past the internal os, the bulb is inflated with 30-60 cc of water
- It is left for up to 24 hrs or until it falls out
- Contraindications ➔ Low laying placenta, antepartum Hg, ROM, or cervicitis
- No difference in operative delivery rate, or maternal or neonatal morbidity compared to PG gel

### Hydroscopic dilators (Eg.Laminaria tents)

- Higher rate of infections



# IOL

## 1-Oxytocin with Amniotomy

- IV
- Half life 5-12 min
- A steady state uterine response occurs in 30 min or >
- Fetal heart rate & uterine contractions must be monitored
  
- If there is hyperstimulation or nonreassuring fetal heart rate pattern ➔ D/C infusion
  
- Women who receive oxytocin were more likely to be delivered in 12-24 hrs than those who had amniotomy alone & less likely to have operative delivery

# IOL

## 2-PGE2

- For women with favorable Cx ➔ PGE2 ↓ the rate of operative delivery & failed IOL when compared to Oxytocin
- PGE2 ➔ ↑ GIT side-effects, pyrexia & uterine hyperactivity

## 3-Sweeping of the membranes

- Vaginally the examining finger is placed through the os of the Cx & swept around to separate the membranes from the lower uterine segment
  - ➔ ↑ local PGF2  $\alpha$  production & release from decidua & membranes ➔ onset of labor
- ↑ the rate of delivery in 2-7 days
- ↓ the rate of post-term
- ↓ the use of formal induction methods
- If there is urgent indication for IOL sweeping is not the method of choice

# Specific circumstances or indications

## Prelabor SROM at term

- 6-19%
- IOL with oxytocin → ↓ risk of maternal infections (chorioamnionitis & endometritis) & neonatal infections
- PG also → ↓ maternal infections & neonatal NICU admissions

## IOL after CS

- PG should not be used as it can result in rupture uterus
- Oxytocin or foley catheter may be used