

PRETERM LABOUR

Definition

Preterm labour (PTL):

Regular uterine contractions **with cervical change** between **24+0 and 36+6 weeks**.

Cervical dilatation ≥ 2 cm OR

Progressive cervical shortening/effacement

Contractions without cervical change = **Threatened preterm labour**

Classification of Preterm Birth

Category	Gestational Age
Extremely preterm	<28 weeks
Very preterm	28–31+6
Moderate preterm	32–33+6
Late preterm	34–36+6

Epidemiology

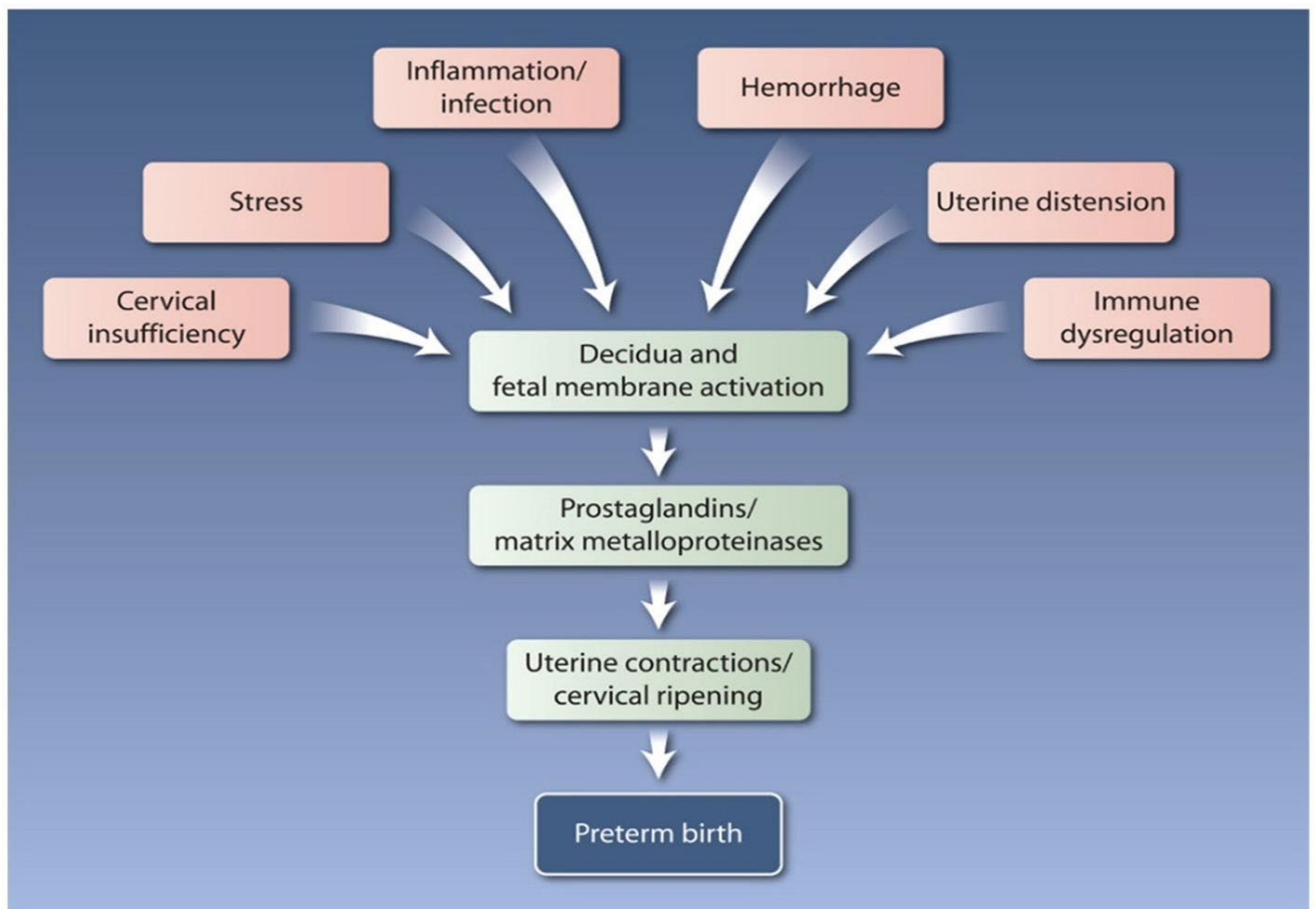
- Occurs in 8–12% of pregnancies globally
- It is the Leading cause of neonatal mortality
- Responsible for ~70% of neonatal deaths (excluding congenital anomalies)

Etiology & Pathophysiology

Preterm labour is a **syndrome**, not a single disease.

Main mechanisms:

1. Infection/inflammation (most common cause <30 weeks)
2. Decidual hemorrhage
3. Uterine overdistension (twins, polyhydramnios)
4. Cervical insufficiency
5. Maternal stress & endocrine activation



Risk Factors

Strongest Predictor:

Previous spontaneous preterm birth

Other risk factors:

- Short cervix (<25 mm before 24 weeks)
- Multiple pregnancy
- PPROM
- Uterine anomalies
- Smoking
- Low BMI
- IVF pregnancy
- Infection (UTI, Bacterial vaginosis)

Diagnosis :

A. Clinical Assessment

- Contractions frequency ≥ 4 contractions in 20 minutes or ≥ 8 in 60 minutes
- Cervical change on speculum or digital exam
- Speculum exam first (avoid digital exam if < 37 weeks unless necessary)

B. Investigations

1. Transvaginal ultrasound: For Cervical length
2. Fetal fibronectin (positive \rightarrow increased risk)
3. CTG for fetal wellbeing
4. Urine test (rule out UTI)

Transvaginal Ultrasound (TVS)

Gold standard for cervical length.

Cervical Length	Interpretation
≥ 25 mm	Low risk
< 25 mm	Increased risk
< 15 mm	High risk

Fetal Fibronectin (fFN): is a glycoprotein “adhesive protein” found at the maternal–fetal interface (between the chorion and decidua). helping attach the fetal membranes (chorion) to the uterine lining (decidua) so act biological glue.

Normally present in:

- Early pregnancy (< 22 weeks)
- Late pregnancy (> 34 – 35 weeks)
- Abnormal finding:
 - Presence in cervicovaginal secretions between 22–34 weeks suggests:
Disruption of the maternal–fetal interface
Increased risk of preterm labour

Used between 22–34 weeks if:

- Contractions present
- Cervix < 3 cm dilated

Negative fFN → Very low risk of delivery within 7 days

Positive fFN → Increased risk (not diagnostic)

Management :

Management depends on:

- Gestational age
- Membrane status
- Infection
- Fetal condition

Step 1: Admit & Assess

- Confirm gestational age
- CTG monitoring (>26–28 weeks)
- Exclude chorioamnionitis
- Exclud fetal distress
- Urine analysis
- GBS status

Step 2: Antenatal Corticosteroids

Indication:

24+0 to 33+6 weeks

Consider 34–36+6 if high risk within 7 days

Regimen:

Betamethasone 12 mg IM × 2 doses 24 hours apart
OR

Dexamethasone 6 mg IM × 4 doses 12 hours apart

Benefits:

- ↓ Respiratory distress syndrome
- ↓ Intraventricular hemorrhage
- ↓ NEC
- ↓ Neonatal mortality

Single repeat course may be considered if >7 days since first course and still high risk (<34 weeks).

Step 3: Tocolysis

Purpose:

Delay delivery 48 hours (to allow steroids & transfer)

First-line:

Nifedipine (calcium channel blocker)

Alternative:

- Atosiban
- Indomethacin (<32 weeks only)

NOT recommended:

- Routine maintenance tocolysis
- β -agonists (due to maternal side effects)

Contraindications to Tocolysis

- Chorioamnionitis
- Severe preeclampsia
- Significant bleeding
- Fetal distress
- IUFD
- Advanced labour

Step 4: Magnesium Sulfate (Neuroprotection)

Indication:

<30–32 weeks (depending on guideline)

Benefit:

Reduces cerebral palsy risk
Given if birth expected within 24 hours.

Step 5: Antibiotics

Only if:

- PPROM
- GBS prophylaxis
- Confirmed infection

NOT recommended in intact membranes without infection.

When to Deliver? Deliver if:

- Advanced cervical dilation (>4–5 cm progressive)
- Fetal compromise
- Chorioamnionitis
- Severe maternal disease
- ≥ 34 –37 weeks (individualized)

Mode of delivery:

- Vaginal preferred unless obstetric indication for CS
- Breech <32 weeks → consider CS

Prevention Strategies

1. Progesterone

Indicated if:

- Previous spontaneous PTB
- Short cervix (<25 mm before 24 weeks)

2. Cervical Cerclage

Indicated in:

- History of second-trimester loss
- Cervical length <25 mm + prior PTB

3. treat infection

4. Smoking cessation

Complications

Neonatal:

- RDS
- IVH
- NEC
- Sepsis
- Long-term neurodisability

Maternal:

- Infection
- Operative delivery
- Psychological impact

