



Preterm labour

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Learning objectives

- ☐ What is preterm labour ?
- ☐ What is the importance of PTL?
- ☐ What are the causes of PTL?
- ☐ How can we prevent PTL ?
- ☐ How to manage PTL ?



Definition of preterm labour

- Labour resulting in birth at less than 37+0 weeks of gestation (after 23+6)
- In practice - Labour contractions strong enough to cause cervical changes occurring before completed 37 weeks
- Other related situations
 - Preterm birth
 - Threatened preterm labour
 - PPROM



Importance of preterm labour

- Most important determinant of adverse infant outcome
- Infant death
 - Infant mortality in UK
 - 4.2/1000 (cf. 5/1000 overall)
 - Preterm labour → Infant deaths
 - Incidence 1.4% → 51% of infant deaths



Importance of preterm labour

- Infant morbidity
 - Important cause of neuro-development disability
- Psycho-social and emotional effects on the family – Short term and long term
- Huge financial burden on the system



Causes of PTL

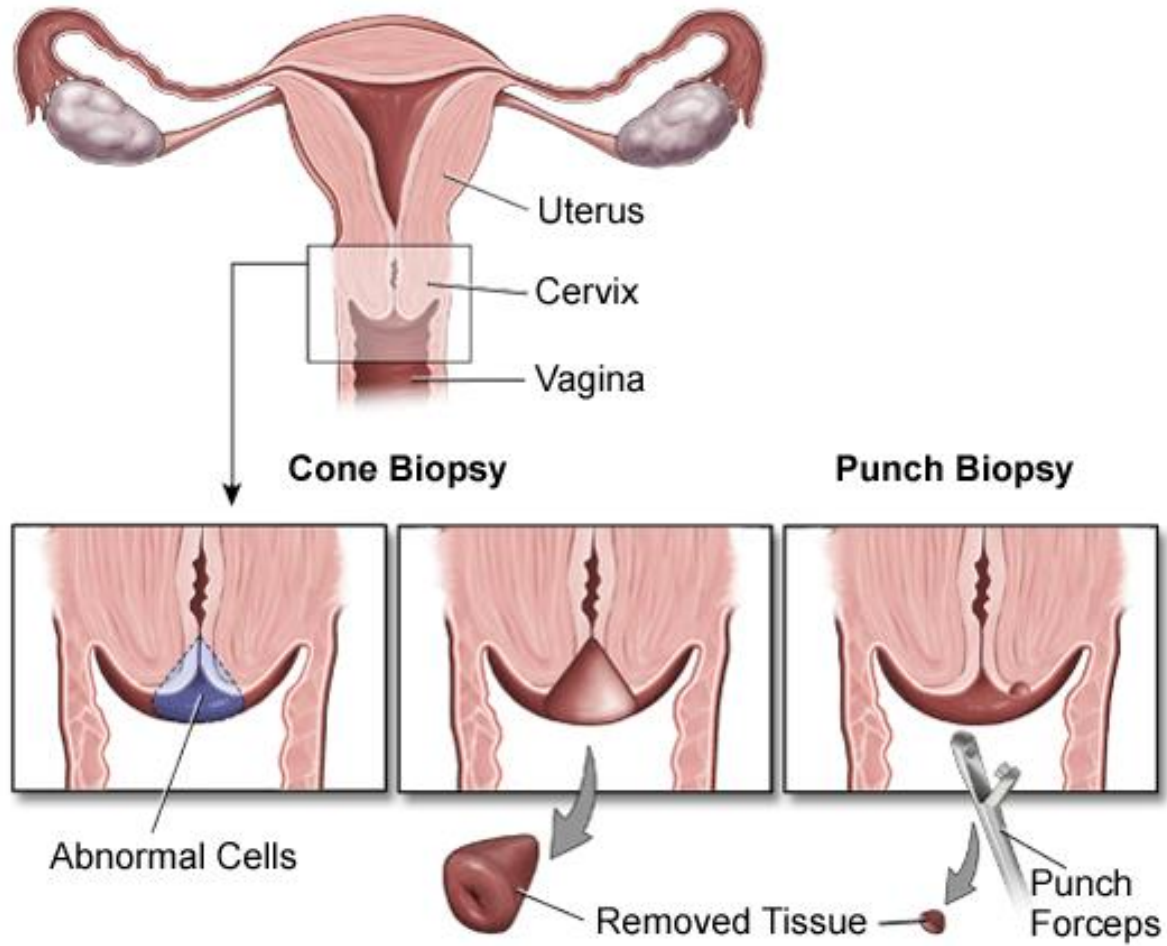
- ☐ Infection
 - ☐ Local – BV
 - ☐ Systemic – UTI, HIV, Malaria
- ☐ PPRM
- ☐ Multiple pregnancy
- ☐ Cervical dysfunction
- ☐ APH
- ☐ Stress
- ☐ Malnutrition
- ☐ Smoking
- ☐ Low BMI
- ☐ Social factors – Lower social class



Mechanisms of PTL

- ❑ Inflammatory response
 - ❑ Inflammatory – vaginal infection, systemic infection
 - ❑ APH causing uterine irritation
- ❑ Over distension of the uterine muscle
 - ❑ Multiple pregnancy
 - ❑ Polyhydramnios
- ❑ Cervical incompetence
 - ❑ Congenital
 - ❑ Iatrogenic – Cone biopsy, Repeated LLETZ procedures

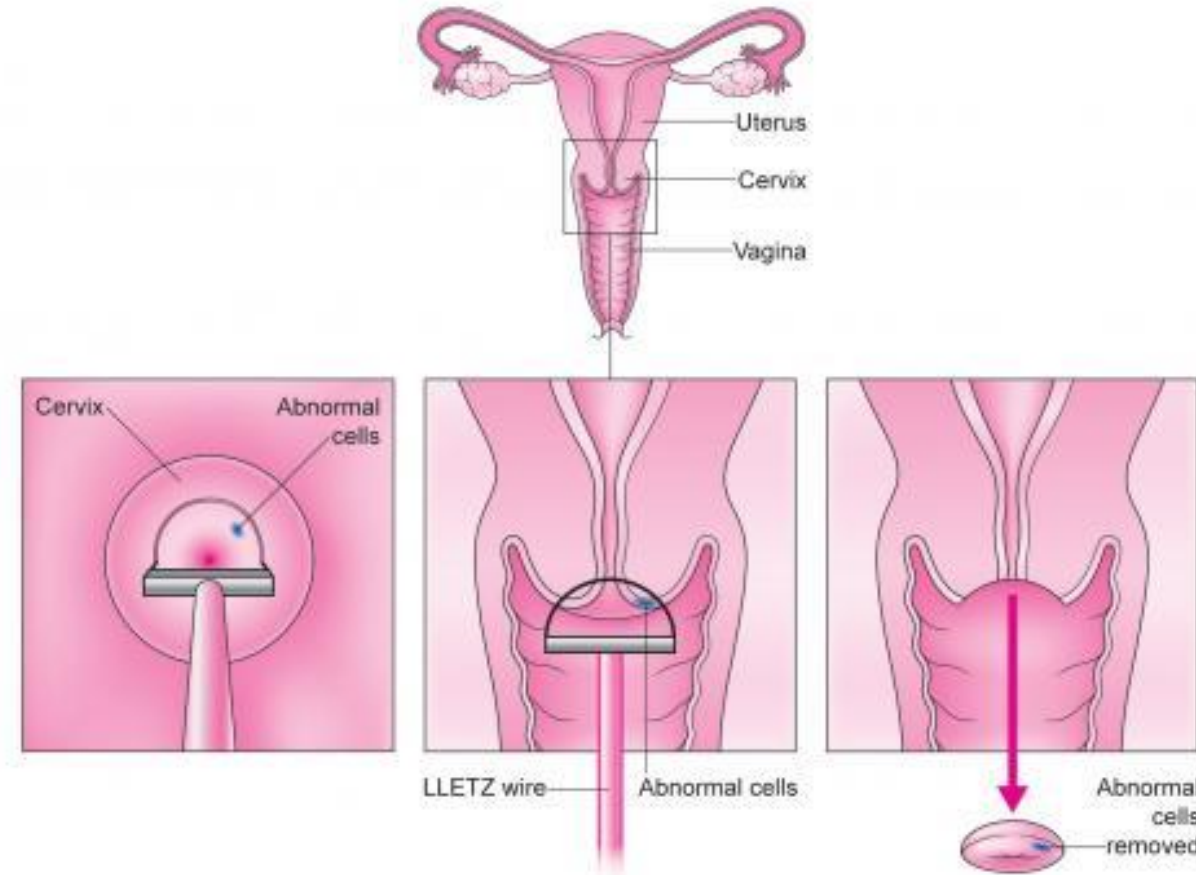
Types of Cervical Biopsies



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iatrogenic – Cone biopsy, Repeated LLETZ procedures



Risk identification

- ☐ Pre-pregnancy
 - ☐ Previous PTL
 - ☐ Extremes of maternal age (<17 or >35 yrs)
 - ☐ Low socio-economic status
 - ☐ Low pre-pregnancy weight
 - ☐ Other risk factors – Smoking,

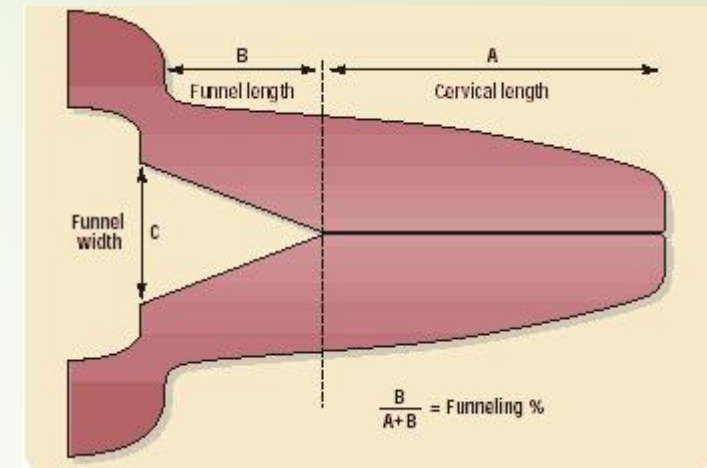


Risk identification

- ☐ During pregnancy
 - ☐ Infection screening
 - ☐ Cervical morphology
 - ☐ Fetal fibronectin (fFN) testing

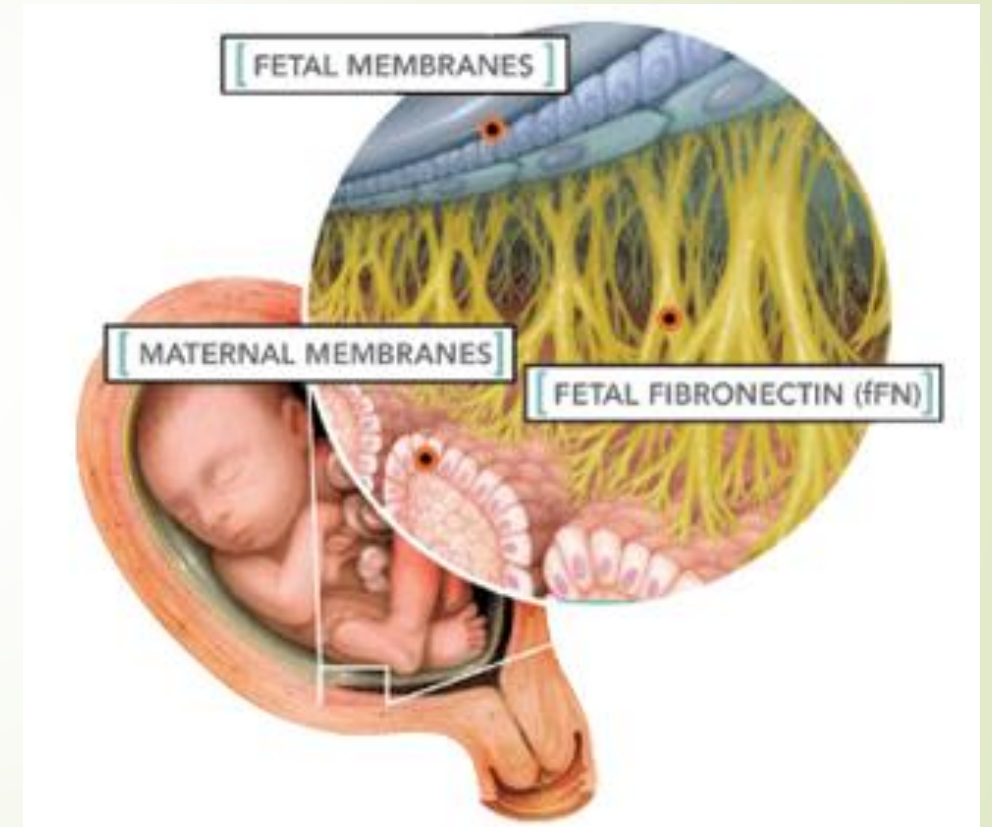
Cervical morphology

- Early pregnancy and serial measurements
- Short Cx or shortening Cx
- Shape – Funneling
- Or 4.5 times with above
- NNT is high
- Can be used in high risk populations.



Fetal fibronectin

- A basement membrane protein binding placental membranes to decidua
- Useful in prediction of PTL for next 2 weeks.
- Very high NPV
- Low PPV





Consequences of PTL

- Infant mortality

Neonatal survival

- ☐ 23 wks - 17%
- ☐ 24 wks - 39%
- ☐ 25 wks - 50%
- ☐ 26 wks - 80%
- ☐ 27 wks - 90%
- ☐ 28-31 wks - 90-95%
- ☐ 32-33 wks - 95%
- ☐ 34 wks - similar to term



Consequences of PTL

- Infant mortality

Short term problems

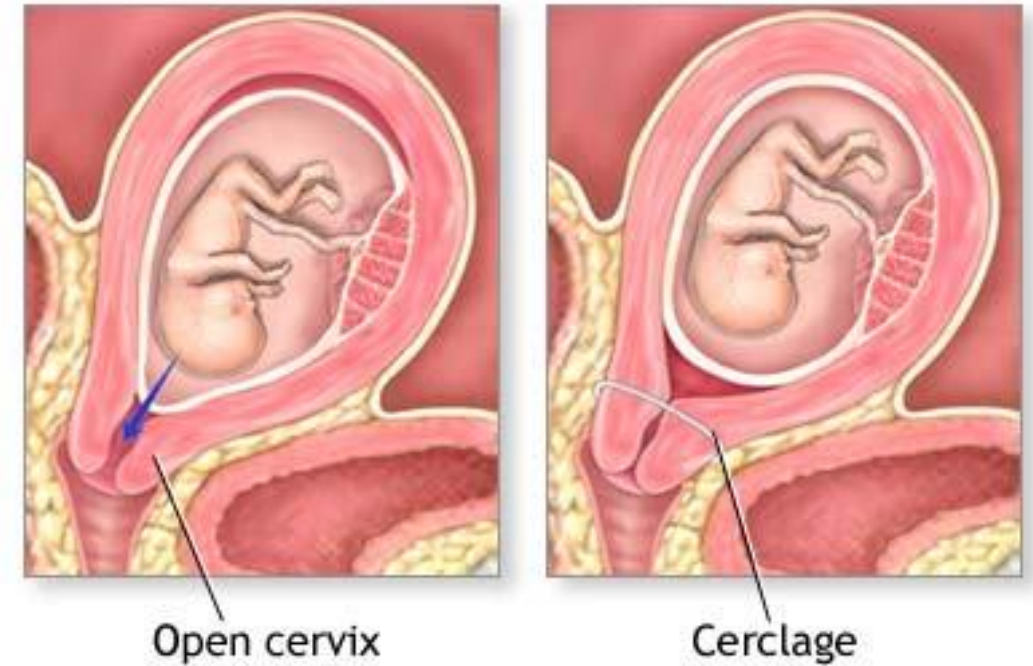
- ☐ Hypothermia
- ☐ Hypoglycaemia
- ☐ Necrotizing enterocolitis
- ☐ Infection
- ☐ Jaundice
- ☐ Retinopathy of prematurity
- ☐ Respiratory distress

Long term problems

- ☐ Neuro-developmental abnormalities
- ☐ Growth impairment
- ☐ Impaired lung function
- ☐ Adult onset illness
 - ☐ Insulin resistance
 - ☐ Hypertension
 - ☐ Decreased fertility

Prevention of PTL

- Avoid modifiable risk factors
 - Smoking, alcohol, drugs
- Prevent multiple pregnancies
- Progesterone therapy
 - Still at research level
- Cervical cerclage in CI





Management of PTL

- Most instances we are unable to prevent labour and birth
- Management aim is to
 - Optimise conditions for the newborn
 - Lung maturity
 - Delivery at a place where baby can be cared for
 - Delay delivery till above is achieved



Achieve fetal lung maturity

- ☐ With corticosteroid given to the mother
- ☐ Dexamethasone or Betamethasone
- ☐ 24 mg given within 24 hours IM
- ☐ Maximum effect in 24 hours after 2nd dose
- ☐ Given up to 34+6 wks



Delivery at a place suitable

- ☐ Different units can accommodate different gestations
- ☐ In utero transfer is always preferred
- ☐ Risk of delivery on transit

- ☐ fFN testing
 - ☐ Useful in deciding if interventions required



Tocolysis to delay labour

- ☐ Can delay labour but cannot prevent
- ☐ Till corticosteroids take effect or till a transfer is done
- ☐ Can use either Nifedipine or atosiban
- ☐ Given up to 48 hours
- ☐ Has shown benefit only in the above indications
- ☐ Contraindicated when pregnancy is risky
 - ☐ Infection, placental abruption, fetal compromise



Other interventions

- ☐ MgSO₄ for neuroprotection
 - ☐ In extreme premature births (<30 weeks)
- ☐ Mode of delivery
 - ☐ Less traumatic delivery
 - ☐ More LSCS
 - ☐ Avoid ventouse delivery (<34 weeks)