Mechanisms of Labour

Labour = "products of conception expelled >24 weeks"

1st Stage of Labour

- **Cervical dilation**
  - **Latent 0-3cm**
  - **Active 3-10cm**
- 12-15h primip (1cm/2h), 7.5h multip (1cm/h)
- Painful regular rhythmic contractions (3-4 in 10min) ± membrane rupture
- Signs of 1st stage:
  - Regular painful contractions → progressive cervical dilation
  - "Show" (passage of blood stained mucus)
  - Rupture of membranes
- Fetal head descends into pelvis
- Complications
  - Passenger: cephalopelvic disproportion, fetal malpresentation
  - Passage: fibroids/ cervical stenosis
  - Power: primary uterine interia
- Interventions: prostaglandin gel (to precipitate initiation of labour), artificial rupture of membranes (for cervical dilation), oxytosin (for contractions)

2nd Stage of Labour

- **Expulsion of the fetus**
- 45-120min primip, 15-45min multip
- **Mechanism**
  1. **Flexed fetus descends:** head very flexed on spine. Descends and engages.
  2. **Internal rotation:** whole fetus internally rotates (until its facing towards maternal back – head at level of ischial spines)
  3. **Extension of head:** head extends around pubic symphysis until delivered
  4. **Restitiution (external rotation):** after head delivered, fetus rotates back to its original position i.e. shoulders AP (comes out sideways)
  5. **Delivery of shoulders:** anterior shoulder comes out first, then rest in pelvic axis (i.e. anteriorly)
- First sign is desire to bear down
- Complications (dystocia = "difficulty in labour")
  - Secondary uterine interia
  - Persistent occipito-posterior position
  - Narrow mid-pelvis
- Intervene when: maternal/fetal distress, incomplete internal rotation causing failure to progress
- Interventions: instrumental delivery, C-section

3rd Stage of Labour

- **Expulsion of the placenta**
- Around 5-10min with syntometrine (30min-1hour without)
- Syntometrine given when head born to reduce time and PPH risk
- Signs of 3rd stage:
  - Gush of blood (50-100ml)
  - Lengthening of cord
- Managed by controlled cord traction
- Haemostasis occurs due to criss-cross pattern of uterine muscle fibres (squeeze vessels)
- Complications
  - Post partum haemorrhage
    - Primary (>500ml in <24h) = TTTT = Tone↓, Tension (of slightly invasive placenta), Trauma to perineum, Thrombosis
    - Secondary (>500ml >24h) = retained tissue/ clot
  - Retained placenta
  - Inversion of uterus

Other Points

- **Pelvic anatomy** e.g.
  - Pelvic inlet (brim) = sacral prominence, arcuate and pectineal lines, upper margin of pubic symphysis
  - Pelvic outlet = coccyx tip, sacrotuberous ligament, ischial tuberosities, pubic arch

    - False (greater) pelvis = part of pelvis above pelvic brim
    - True (lesser) pelvis = part of pelvis below pelvic brim
- **Female pelvic features (compared to male)**
    - wider & shallower
    - round/oval pelvic inlet (male is heart shaped)
    - larger pelvic outlet
    - pubic arch >100˚ (male is <90˚)
    - wider greater sciatic notch
    - curved sacrum
- **Common fetal orientations**
    - Lie:
        - longitudinal
        - transverse
        - oblique
    - Presentation:
        - cephalic
        - breech
    - Position (denominator (bony prominence of presenting part) relative to pelvic rim):
        - left/right occipito-anterior (LOA most common)
        - left/right occipito-transverse
        - left/right occipito-posterior

Also see OSCEstop notes on performing a delivery