

Labour Management

Clerkship Seminar Week 1
University of Western Ontario

Labour Characteristics

Uterine Activity

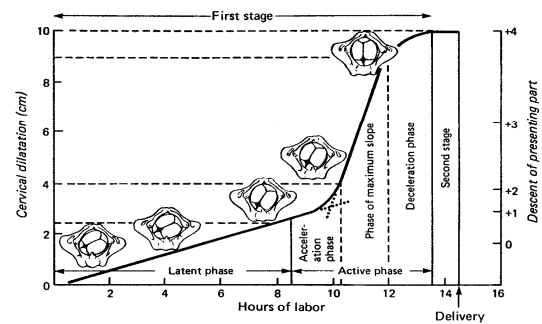
- amplitude
- frequency
- duration



Prelabour Preparation

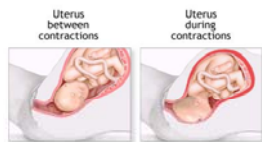
- **Braxton Hicks contraction**
 - painless tightenings, no cx change, start ~ 28 wks
- **Cervical effacement**
 - softening, thinning
- **Engagement**
 - ~2 weeks prior to labour in primip
 - Fetal head fixed in pelvis

Labour and Birth



First Stage of Labour

- **Definition:**
 - Onset of labour → full dilatation
- Latent phase: 0-4 cm
- Active phase: 4-10 cm



#ADAM

Describe FHR Patterns

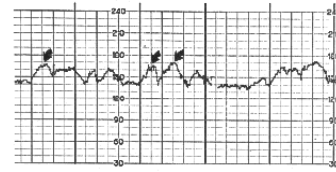
Heart rate

- **Baseline**
 - Normal 120-160 beats per minute (bpm)
 - Tachycardia >160 bpm
 - Bradycardia <120 bpm
- **Accelerations**
 - > 10 bpm from baseline
- **Decelerations**
 - > 10 bpm from baseline
- **Type of decelerations**
 - Early, late, variable or mixed-pattern decelerations
- **Baseline variability**
 - + or - 5 bpm

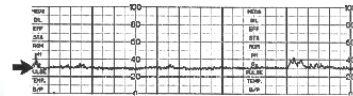
First Stage of Labour

- Fetal Heart Rate (FHR) Monitoring
 - Intermittent:
 - q 15 min 1st stage / q 5 min 2nd stage
 - Continuous:
 - Meconium staining of amniotic fluid
 - High risk – Preeclampsia, bleeding, abN FHR
 - Induction / Augmentation – Syntocinon
 - VBAC (Vaginal Birth After Ceasarian)

Fetal Wellbeing in Labour

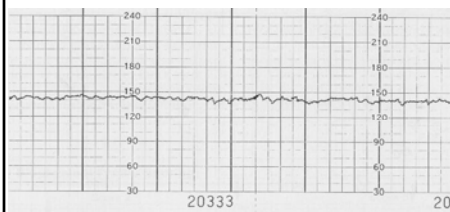


- Baseline
- Accelerations
- Decelerations
- Type of decelerations
- Baseline variability

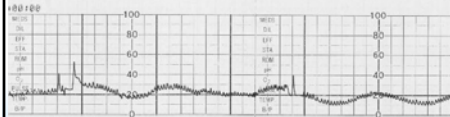


- Contractions
- Frequency
- Amplitude
- Duration
- Baseline tone

Intrapartum Fetal Monitoring 1

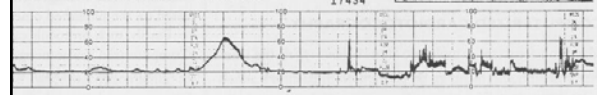
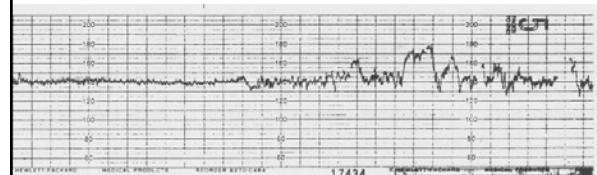


- Baseline
- Accelerations
- Decelerations
- Type of decelerations
- Baseline variability

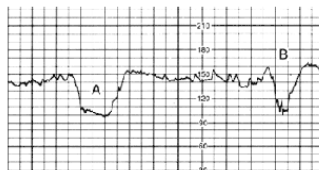


- Contractions
- Frequency
- Amplitude
- Duration
- Baseline tone

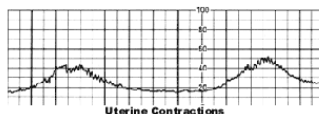
Intrapartum Fetal Monitoring 2



Intrapartum Fetal Monitoring 3

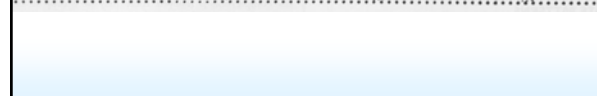
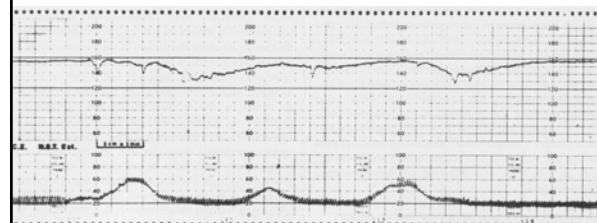


Fetal Heart Rate

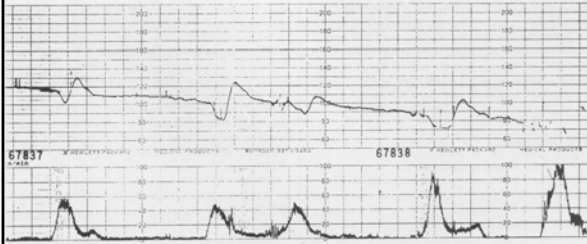


Uterine Contractions

Intrapartum Fetal Monitoring 4



Intrapartum Fetal Monitoring 5



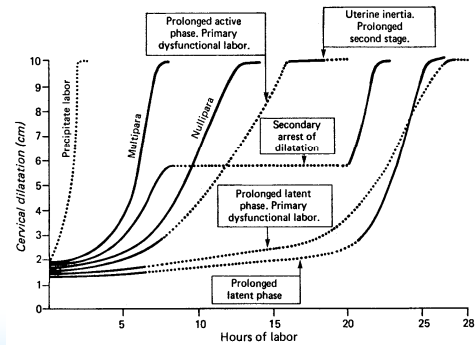
Assessment of Uterine activity

- Contractions
 - yes/no
- Frequency of contractions
 - Optimally every 2-3 min
- Amplitude
 - 40-60 mmHg
- Duration
 - 60-90 seconds
- Baseline tone
 - <15 mmHg

Progress in First Stage of Labour: Monitoring

- **Contractions:**
 - by palpation – q 30 min early
 - Tocometer – in high risk or slow progress
- **Cervical change:**
 - Q 2 hours in early labour
 - Sooner based on patient symptoms, FHR
 - Assess dilation, effacement, station

Friedman Curve



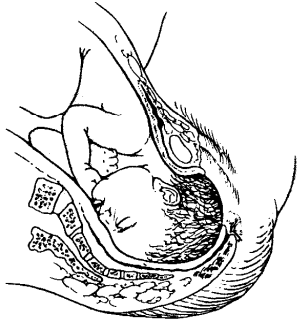
Friedman Curve (1967)

- Normal curves of progress of labour
- Not strict rules, but guideline
- **First stage**
 - 6 - 18 hrs primip / active phase 1.2 cm/hr
 - 2 - 10 hrs multip / active phase 1.5 cm/hr

Labour Dystocia (Failure to progress)

- Most common cited reason for C/S
1. Passage – Abnormal pelvis
 2. Passenger – LGA fetus
 3. Powers
 - poor contraction pattern
 - poor pushing

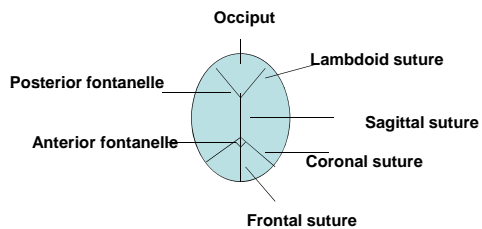
Labour and Birth Second stage



Second Stage of Labour

- **Definition:**
 - Full dilatation → delivery of fetus
- **Friedman:** 30 min – 3 hrs primip
5 min – 30 min multips
- **Progress monitored by station**
 - 0 = ischial spines
 - 1-5 cm (or thirds) of total distance

Fetal Position

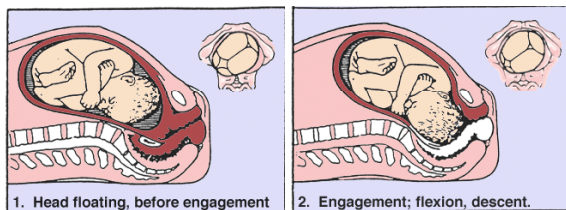


Labour and Birth

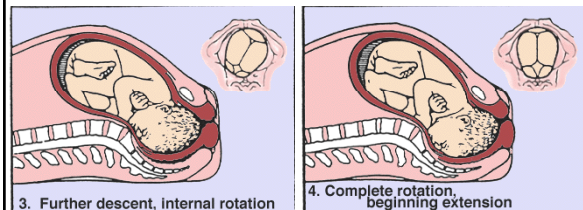
Mechanism of Normal Labour (Cardinal movements)

- Engagement
- Descent
- Flexion
- Internal rotation
- Extension
- External rotation
- Expulsion

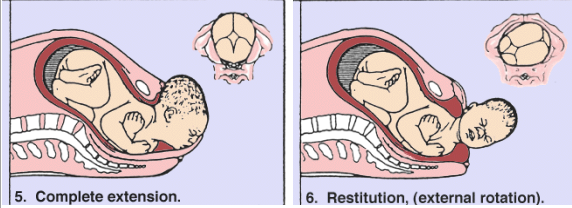
Cardinal Movements



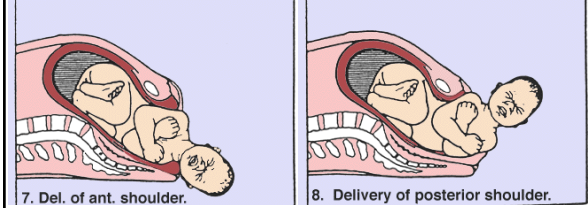
Cardinal Movements



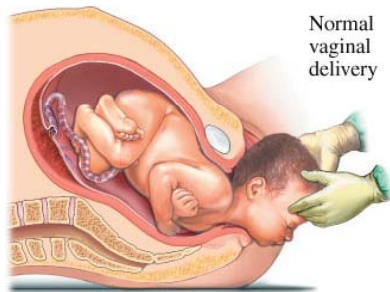
Cardinal Movements



Cardinal Movements



Vaginal Delivery

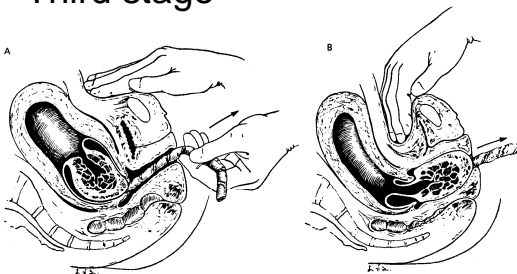


Second Stage of Labour

- Pelvic architecture issues:
- Best outcomes with gynecoid & android
- Cardinal movements may be inhibited by narrow or flat pelvis
- Trial of labour is only true test of pelvic adequacy

Labour and Birth

Third stage



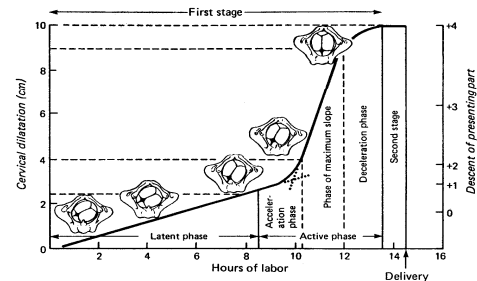
Third Stage of Labour

- **Definition:**
 - delivery of fetus → expulsion of placenta
- Timeline – 2 – 30 min
- Active management – WHO / SOGC
 - Uterotonic agents (Syntocinon / Misoprostil)
 - Gentle traction on cord
 - Fundal massage

Third Stage of Labour

- Signs of separation
 1. New onset bright bleed
 2. Lengthening of cord
 3. "balling up" of fundus
- Uterine involution – oxytocin mediated
- Inspection and repair of lacerations

Labour and Birth Summary



Analgesia

- Natural supported labour
- Narcotics
- Nitrous/Oxygen inhalation
- Regional analgesia (Epidural)

Induction

- Indications:
 - Post dates
 - Preeclampsia
 - Diabetes Mellitus
 - Maternal disease (cardiac)
 - PROM / IUGR

Induction

- Methods
 - Syntocinon – synthetic oxytocin
 - Prostaglandins – Cervidil, Prostin gel, Misoprostol
 - ARM – artificial rupture of membranes, may be enough to initiate labour

Augmentation

- Failure to progress
- Oxytocin infusion
- Titrate to good contraction pattern and cervical change
- Intrauterine pressure catheter (IUPC)

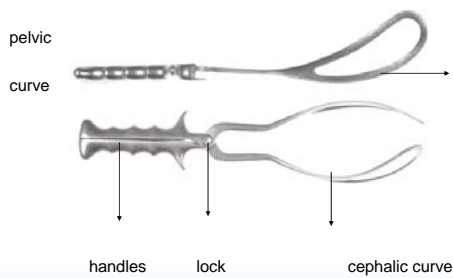
Operative Vaginal Delivery: Indications

- **Maternal**
 - Congenital Heart Disease – short 2nd stage
 - Pulmonary compromise
 - Exhaustion
 - Prolonged second stage – not advocated unless extreme protraction

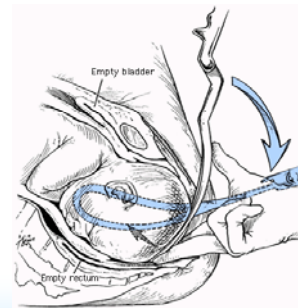
Forcep/Vacuum Indications

- **Fetal**
 - Nonreassuring FHR
 - Abruption
 - Malpresentation – OT/OP

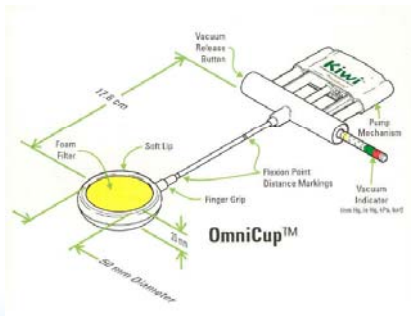
Forcep Anatomy



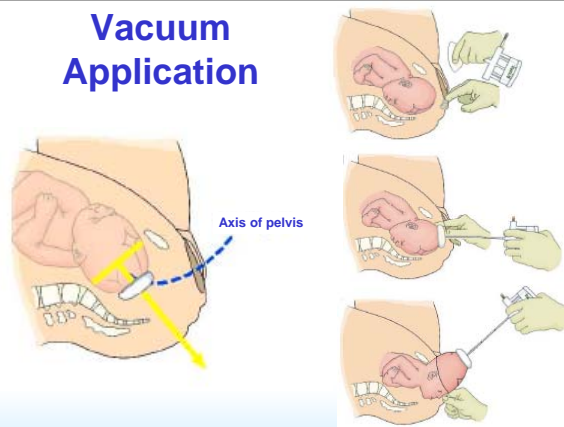
Forcep Application



Vacuum Anatomy



Vacuum Application



Caesarian Section

- **Indications**

1. Failure to progress
2. Non-reassuring FHR status
3. Previous caesarian section
4. Fetal malpresentation – breech, transverse

- **Responsible for 70% of sections**



Labour Dystocia (Failure to Progress)

- **Most common cited reason for C/S**

1. Passage – Abnormal pelvis
2. Passenger – LGA fetus
3. Powers – poor contraction pattern
- poor pushing

C/S Technique

- **Vertical Skin Incision**

- Faster, less blood loss
- Emergency, previous scar, obese patient, bleeding abN

- **Pfannensteil Skin Incision**

- Low transverse, more cosmetic, less stress?
- Standard for most C/S

C/S Technique



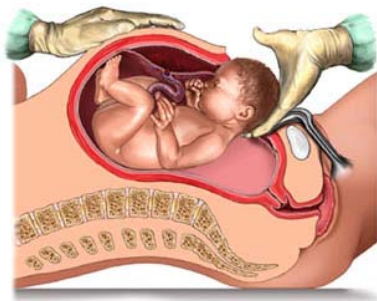
- **Standard Uterine Incision**

- Lower uterine segment
- Transverse
- Low risk of rupture in subsequent labour (0.5%)

- **Vertical (Classical), or “T” Incision**

- High risk of rupture in subsequent labour (5%)

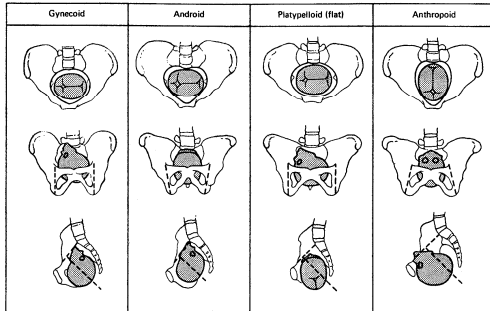
Cesarean delivery



Reference Slides

Labour and Birth

Pelvic architecture:



Caesarian Section

- **Other indications**
 1. Abnormal placentation – previa, vasa previa
 2. Mechanical obstruction – fibroid, teratoma
 3. Maternal Infection – HSV, HIV
 4. Multiple gestations
 5. Cervical cancer
 6. Fetal congenital anomalies