

- Giving Birth
- 4235 Summer 08
- Learning Objectives
- Describe maternal and fetal response to labor
- Explain how components of birth process affect course of labor
- Explain premonitory signs of labor
- Compare true vs. false labor
- Compare stages and phases of labor
- Describe nursing assessment of labor client
- Apply nursing process to care of the woman and her family during labor
- Identify nursing priorities when assisting the woman to give birth under emergency circumstances

- Concepts
- Safety
- Communication
- Oxygenation/Perfusion
- Comfort/Pain
- Introduction

- Birth not just a physical event
 - Has deep personal and social significance for family

- Birth of child a pivotal event
 - Family roles and relationships never the same
- Nursing measures increase clients sense of control, helps to empower family by supporting their choices related to childbirth

- Terminology
- Gravida - # of pregnancies in lifetime; includes pregnancy in progress
- Para - # of pregnancies that ended after 20 weeks
- TPAL system - substitutes for para
- Prime – pregnant/delivered first time
- Multip – pregnant/delivered second time or more

- Physiologic Effects of Birth Process

- Maternal response
 - Changes in several systems
 - Reproductive
 - Contractions : coordinated, involuntary, intermittent
 - Cycle: increment, acme, decrement
 - Characteristics: frequency, duration, strength or intensity
 - Mild like tip of nose
 - Moderate like chin
 - Strong like forehead

- Physiologic Effects of Birth Process
- Uterine body
 - Upper 2/3 contracts, pushes fetus down
 - Lower segment and cervix passive; no resistance allows fetal head to descend
 - Muscle in upper uterus remain shorter at end of contraction, uterine wall becomes thicker
 - Lower segment become longer with each contraction, uterine wall becomes thinner
 - These actions allow fetal body to straighten and directs it downward in pelvis
- Cervical changes
 - Effacement
 - 2 cm long before labor
 - Contractions force fetal head against cervix as also pulls cervix up over fetal head
 - Cervix becomes shorter and thinner, becomes part of lower uterine segment
 - Estimated in percentages
 - Dilation
 - As pulled upward and fetus pushed downward cervix opens
 - Measured in centimeters
 - 10 centimeters is full dilation
 - Actions of effacement and dilation like tennis ball being pushed out of sock
-

- Cardiovascular
 - With each contraction, blood flow to placenta decreases
 - Results in increase in circulating blood volume
 - Increases BP and decreases pulse
 - Keep mom off back to avoid supine hypotension
- Respiratory
 - Depth and rate increases
 - May result in hyperventilation
- Gastrointestinal
 - Gastric motility reduced
 - Not hungry, but thirsty with dry mouth
 - Limit food to reduce risk of aspiration
 - Ice chips, popsicles or hard candy ok
- Urinary
 - Reduced sensation, unaware bladder full
 - Can inhibit fetal descent
 - Natural diuresis after delivery, bladder fills rapidly
- Fetal response
 - Placental circulation
 - Most exchange happens between contractions since blood flow greatly reduced with contractions

- Components of the Birth Process
- The 4 "Ps"
 - The powers
 - The passage
 - The passenger
 - The psyche
 - Problems with any one of these can disrupt birth process
- The Powers
 - Contractions primary force during first stage of labor
 - Maternal pushing efforts added to contraction force during second stage
- Passage
 - Maternal pelvis and its soft tissues
 - Bony pelvis most important
 - Divided into inlet, midpelvis and outlet
- The Passenger
 - The fetal head
 - Five major bones of head not fused but connected by sutures composed of flexible tissue
 - Fontanelles wide spaces at intersections of sutures
 - Sutures and fontanelles allow bones to move slightly
 - Permits fetal head to adapt to size and shape of pelvis by molding
 -

- Variations in the passenger
 - Fetal Lie
 - Orientation of the long axis of fetus to long axis of mother
 - Longitudinal or transverse
 - Attitude
 - Relationship of fetal body parts to each other
 - Normal is flexion
 - Presentation
 - Based on what fetal part that enters the maternal pelvis first
 - Three categories
 - Cephalic
 - Breech
 - Shoulder
 - Breech and shoulder associated with prolonged labor and other problems, more likely to end in C/S
 - Cephalic presentation
 - Most favorable
 - Largest part first, smaller parts follow
 - Head can gradually change shape to adapt to size and shape of maternal pelvis during labor
 - Fetal head is smooth, round, hard; makes excellent part to help dilate cervix
 - Four variations of cephalic presentation
 - Vertex – fetal head flexed, presents smallest diameter of head into pelvis
 - Military – neutral position, neither flexed nor extended
 - Brow – partial extension
 - Face – complete extension
 - Breech presentation
 - Fetal buttock enter pelvis first

- Disadvantages
 - Not smooth and firm like head
 - Fetal head last to be born; largest, hardest part, cord compression
 - Head must be delivered quickly, no time for molding
 - Three variations
 - Frank – fetal legs in extension up towards shoulders
 - Full or complete breech – full flexion, buttocks present first
 - Incomplete or footling – one or both feet presenting
 - Shoulder
 - Cesarean almost always necessary
 - Position
 - Describes the location of a fixed reference point on the presenting part of the fetus as related to the four quadrants of the maternal pelvis
 - Abbreviations used to indicate relationship
- The Psyche
 - Anxiety, fear or fatigue decreases ability to cope with pain
 - Catecholamines secreted in response can inhibit contractions and placental blood flow
- Normal Labor
- Premonitory signs of labor
 - Body's preparation to give birth occurs gradually over last few weeks of pregnancy
 - Woman will typically notice some warning signs that labor is near

- Braxton Hicks contraction increase in frequency
 - Lightening or dropping, as fetus settles into pelvic inlet, primes sooner than multiples
 - Bloody show as cervix ripens
 - Energy spurt
 - Small weight loss
- True and False Labor
 - Several characteristics distinguish true from false
 - Best distinction between the two is that true labor causes progressive changes in the cervix, false labor does not
 - Mechanisms of Labor
 - Called cardinal movements
 - Occur as fetus moves thru pelvis
 - Fetus changes position to adapt to size and shape of mother's pelvis
 - Stages and Phases of Labor
 - Labor divided into 3 stages, table on Pg 355
 - First stage subdivided into phases
 - First Stage
 - Cervical effacement and dilation occur
 - Starts with onset of true labor

- Ends when cervix 10 cm dilated and 100% effaced
- Longest part of labor
 - Progress may be plotted on Friedman curve
- Each phases characterized by typical maternal behaviors
 - Behaviors vary with analgesia, anesthesia and coping skills

- Phases of First Stage Labor
- Latent
 - Lasts from start of labor until 3 cm of cervical dilation
 - Woman usually sociable and excited
- Active
 - Cervix dilates from 4-7 cm, quicker than in latent phase, effacement complete, fetus descends into pelvis
 - Discomfort increases
 - Woman becomes for anxious and feel helpless
 - Serious inward focus
- Transition
 - Cervix dilates from 8-10, fetus descends further
 - Short but intense phase
 - Tremors, N/V common, irritable, lose control

- Second Stage
- Begins with complete dilation, ends with birth of baby
- As puts pressure on rectum and pelvic floor, develop urge to push
- Pushing augments contractions

- May feel sensation of stretching or splitting with crowning
- May feel more in control because active participation in process
- Is intense effort to push baby out

- Third Stage
- Begins with birth of baby, ends with delivery of placenta
- Signs of placenta separation
 - Uterus has spherical shape
 - Uterus rises upward in abdomen as placenta descends
 - Cord descends further from vagina
 - Gush of blood appears
- Uterus must stay contracted to prevent bleeding

- Fourth Stage
- Stage of physical recovery for mom
- Begins with placental delivery, ends 1-4 hours after birth
- Immediately after birth uterus palpated thru abdominal wall at or below level of navel
- Discomfort usually from birth trauma or afterpains
 - Ice to perineum
 - Afterpains like menstrual cramps
 - Worse in multiples, breastfeeding women, over distension of uterus
- Mother exhausted, but excited
- Best time to bond, breast feed

- Duration of Labor
- Different for each woman
- In general however
 - Multips progress faster than primes
- Freidman Curve

- Nursing Care During Labor and Birth
- Nursing responsibilities during admission
 - Assess condition of mother and fetus
 - Establish therapeutic relationship
 - Establishes tone of birth experience
 - Demonstrate friendliness, caring, interest and competence
 - Determine expectations about birth
 - Convey confidence about woman's ability to give birth and partner's ability to support her
 - Use touch for comfort if client approves
 - Respect cultural values

- Admission Assessments
- Obtain record of prenatal care
 - Verify and update information

- See assessment guide on pages 359-364 for woman without prenatal care
- Initial assessment in L & D is focused first, comprehensive second, opposite of usual
 - Focused Assessment is priority
 - Fetal assessment – Assess for ROM, FHR
 - Maternal vital signs
 - Impending birth
 - If focused assessment normal and birth not imminent, then complete comprehensive database
- Database Assessment
 - Basic information
 - Forms guide questions nurses need to ask
 - Fetal Assessments
 - Position of fetus, FHR
 - Labor status
 - Dilation, effacement, station
 - Contraction pattern
 - Determine if ROM
- Admission Procedures
- Notify doctor or CNM
- Obtain consent forms
- Obtain lab tests

- Establish IV access
- Subsequent Assessments
- Need regular assessments based on risk status and interventions
 - Fetal assessment
 - FHR either electronically or with Doppler, fetoscope
 - Amniotic fluid
 - Assess FHR for 1 minute after ROM
 - Assess characteristics of fluid
 - Color, odor, amount
 - Should be clear with flecks of vernix
- Subsequent Assessments
 - Maternal assessments
 - Vital signs
 - Hourly BP, P, R, T q 4 hours unless ROM or increased, then q 2
 - Contractions
 - Labor progress
 - Limit vaginal exams
 - Intake and output
 - Check bladder q 2 hours for distension
 - Response to labor
 - As she withdraws, needs more nursing presence and reassurance
 - Support persons response
 - Nurse encourages his presence and support as may feel anxious, helpless

- Nursing Care for the Laboring Woman
- Fetal oxygenation
 - Assessment
 - FHR, Contractions, amniotic fluid, maternal VS
 - Intervention
 - Promote placental function
 - Any position but supine, or place roll under hip
 - Assess/observe for conditions associated with fetal compromise
- Maternal Discomfort
 - Assessment
 - See previously mentioned table on 359-364
 - Interventions
 - Lighting – soft, indirect
 - Temperature – labor hot work, keep cool washcloth on face and neck, use electric fan, wear socks if cold feet
 - Cleanliness – clean sheets, gown, underpad, cleanse perineum
 - Mouth care – ice chips, popsicles, suckers, brush teeth, rinse mouth
 - Bladder – empty bladder q 2 hours
 - Positioning – assume position that most comfortable, frequent changes to reduce discomfort
 - Water – whirlpool, shower, tub
- Teaching
 - First stage
 - Labor progress
 - Involuntary pushing before complete dilation can cause cervical edema, laceration

- Second stage
 - Labor down – not push unless urge
 - Avoids reducing fetal oxygen flow with repeated and prolonged breath holding, vaginal lacerations, maternal fatigue
 - Positions – can push in any position if not affected by epidural
 - Gravity is our friend
 - Provide encouragement – praise her and partner
 - Give of self – nurse’s presence crucial as labor support, give suggestions, answer questions
 - Offer pharmacologic measures
 - Care for birth partner
 - Observe for crowning
 - If delivery imminent and physician or CNM not available, stay with client

- Nursing Care During and After Birth

- Nurse’s responsibilities during birth may include
 - Preparation of table with sterile gowns, gloves and drapes
 - Cleansing of perineum just before birth
 - Initial care and assessment of newborn
 - Use of gloves and gown until after first bath
 - Administration of medications

-

-

- Nurse's responsibilities after birth may include
 - Care of infant
 - By supporting cardiopulmonary function
 - Apgar score, suction
 - By supporting thermoregulation
 - Drying, placing under warmer, place skin to skin
 - Identifying the infant
- Nursing Care During and After Birth
- Nurse's responsibilities after birth may include
 - Care of the mother
 - Checking vital signs q 15 min x 1 hour
 - Rising pulse early sign of excess blood loss
 - Blood pressure falls after significant loss
 - Low urine output
 - Palpate fundus
 - Assess firmness, height and position q 15 min x 4
 - Should be firm, in midline and at or below navel
 - If soft (boggy) then massage, baby to breast
 - Assess bladder
 - Affects uterine position
 - Check voided amount first 2 times
 - Assess lochia – color and amount
 - Saturation of one pad in 1 hour normal
 - Assess for presence of clots
 - Assess for bright bleeding with firm uterus
 - Assess underpad

- Relief discomfort
 - Ice packs
 - Assess perineum for hematoma
 - Offer analgesics
 - Provide warm blankets as needed
- Promote attachment in first hour
 - Assess attachment behaviors – fingertips, talking