

LABOR: Stage I—Active Phase

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As contractions increase to moderate intensity in the active phase, and as the cervix dilates from 4 to 8 cm, the client becomes more involved and focused on the labor process. The active phase lasts approximately 1–2 hr in the multipara and 3–4 hr in the nullipara. The fetus descends in the birth canal at approximately 2 cm/hr in the multipara and 1 cm/hr in the nullipara.

CLIENT ASSESSMENT DATA BASE

Activity/Rest

May show evidence of fatigue

Ego Integrity

May appear more serious and absorbed with labor process

Apprehensive about ability to control breathing and/or perform relaxation techniques

Pain/Discomfort

Contractions are moderate, occurring every 2.5–5 min and lasting 45–60 sec.

Safety

Fetal heart tones (FHTs) detected slightly below umbilicus in vertex position

FHR variability and periodic changes commonly noted in response to contractions, abdominal palpation, and fetal movement

Sexuality

Cervix dilates from approximately 4–8 cm (1.5 cm/hr multipara, 1.2 cm/hr nullipara).

Moderate amount of bloody show present.

Fetus descends to 11–12 cm below ischial spines.

NURSING PRIORITIES

1. Promote and facilitate normal progression of labor.
2. Support client's/couple's coping abilities.
3. Promote maternal and fetal well-being.

NURSING DIAGNOSIS:

May Be Related To:

Possibly Evidenced By:

DESIRED OUTCOMES/EVALUATION CRITERIA—CLIENT WILL:

Pain [acute]

Tissue dilation/muscle hypoxia, pressure on adjacent structures, stimulation of both parasympathetic and sympathetic nerve endings

Verbalizations, distraction behaviors (restlessness), muscle tension

Identify/use techniques to control pain/discomfort.

Report discomfort is minimized.

Appear relaxed/resting between contractions.

Be free of untoward side effects if analgesia/anesthetic agents are administered.

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ACTIONS/INTERVENTIONS

RATIONALE

Independent

Assess degree of discomfort through verbal and nonverbal cues; note cultural influences on pain response.

Assist in use of appropriate breathing/relaxation techniques and in abdominal effleurage.

Assist with comfort measures (e.g., back/leg rubs, sacral pressure, back rest, mouth care, repositioning, shower/hot tub use, perineal care, and linen changes).

Encourage client to void every 1–2 hr. Palpate above symphysis pubis to determine distension, especially after nerve block.

Provide information about available analgesics, usual responses/side effects (client and fetal), and duration of analgesic effect in light of current situation.

Support client's decision about the use or nonuse of medication in a nonjudgmental manner. Continue encouragement for efforts and use of relaxation techniques.

Time and record the frequency, intensity, and duration of uterine contractile pattern per protocol.

Assess nature and amount of vaginal show, cervical dilation, effacement, fetal station, and fetal descent.

Attitudes and reactions to pain are individual and based on past experiences, understanding of physiological changes, and cultural expectations.

May block pain impulses within the cerebral cortex through conditioned responses and cutaneous stimulation. Facilitates progression of normal labor.

Promotes relaxation and hygiene; enhances feeling of well-being. Note: Lateral recumbent position reduces uterine pressure on the vena cava, but periodic repositioning prevents tissue ischemia and/or muscle stiffness, and promotes comfort.

Keeps bladder free of distension, which can increase discomfort, result in possible trauma, interfere with fetal descent, and prolong labor. Epidural or pudendal analgesia may interfere with sensations of fullness.

Allows client to make informed choice about means of pain control. Note: If conservative measures are not effective and increasing muscle tension impedes progress of labor, minimal use of medication may enhance relaxation, shorten labor, limit fatigue, and prevent complications.

Helps reduce feelings of failure in the client/couple who may have anticipated an unmedicated birth and did not follow through with that plan. Enhances sense of control and may prevent/decrease need for medication.

Monitors labor progress and provides information for client. Note: Anesthetic agents may alter uterine contractile pattern. (Refer to CP: Dysfunctional Labor/Dystocia.)

Cervical dilation should be approximately 1.2 cm/hr in the nullipara and 1.5 cm/hr in the multipara; vaginal show increases with fetal descent. Choice and timing of medication is affected by degree of dilation and contractile pattern.

Provide safety measures; e.g., encourage client to move slowly, keep siderails up after drug administration, and support legs with position changes.

Assess BP and pulse every 1–2 min after regional injection for first 15 min, then every 10–15 min for remainder of labor. Elevate head approximately 30 degrees, alternate position by turning side to side and use of hip roll.

Monitor FHR variability.

Using alcohol pad or cotton swab on both sides of abdomen, assess and record level of sensation q 30 min.

Engage client in conversation to assess sensorium; monitor breathing patterns and pulse.

Assess for warmth, redness of large toe or ball of foot, and equal distribution of spinal medication if used.

Monitor FHR electronically, and note decreased variability or bradycardia.

Collaborative

Assist with complimentary therapies as indicated, e.g., acupressure/acupuncture.

Regional block anesthesia produces vasomotor paralysis, so that sudden movement may precipitate hypotension. Analgesics alter perception, and client may fall trying to get out of bed.

Maternal hypotension, the most common side effect of regional block anesthesia, may interfere with fetal oxygenation. Elevating head prevents block from migrating up and causing respiratory depression. Lateral positioning increases venous return and enhances placental circulation.

Agents such as bupivacaine (Marcaine) and fentanyl (Sublimaze) reportedly have little effect on FHR variability (but in practice may decrease variability); alterations should be investigated thoroughly. Note: Risks associated with caudal anesthesia include perforation of fetal scalp, as well as maternal rectum, and is rarely used.

Increasing loss of sensation following when epidural block indicates migration of anesthesia. Level above T-9 may alter respiratory function while loss of sensation at level of breastbone (approximately 7–6) increases risk of profound hypotension.

Systemic toxic responses with altered sensorium occur if medication is absorbed into the vascular system. Altered sensorium may also be an early indicator of developing hypoxia. Interference with respiratory functioning occurs if analgesia is too high, paralyzing the diaphragm.

Ensures proper placement of catheter for continuous block and adequate levels of anesthetic agent.

Decreased FHR variability is a common side effect of many anesthetics/analgesics. These side effects can begin 2–10 min after administration of anesthetic, and may last for 5–10 min, on occasion.

Some clients and healthcare providers may prefer a trial of alternative therapies to mediate pain before pursuing invasive techniques.

Administer analgesic such as butorphanol tartrate (Stadol) or meperidine hydrochloride (Demerol) by IV or deep intramuscular (IM) during contractions, if indicated.

Administer oxygen, and increase plain fluid intake if systolic pressure falls below 100 mm Hg or falls more than 30% below baseline pressure.

Obtain fetal scalp sample if bradycardia persists for 30 min or more per electronic monitor.

Administer IV bolus of 500–1000 ml of lactated Ringer’s solution just before administration of lumbar epidural block.

Assist with epidural or caudal block anesthesia using an indwelling catheter.

Administer emergency medications as indicated, e.g., nalaxone (Narcan) or ephedrine (Ephedra).

Succinylcholine chloride, and assist with intubation, as appropriate.

IV route is preferred because it ensures more rapid and equal absorption of analgesic. Medication administered by IM route may require up to 45 min to reach adequate plasma levels, and maternal uptake may be variable, especially if drug is injected into subcutaneous fat instead of muscle. Administering IV drug during uterine contraction decreases amount of medication that immediately reaches the fetus. Note: Stadol is used with caution when drug dependence is suspected, and is contraindicated for clients with opiate dependency because drug interaction may precipitate withdrawal in drug-dependent clients.

Increases circulating fluid volume, placental perfusion, and oxygen available for fetal uptake.

Prolonged fetal bradycardia may indicate need to determine pH for evaluation of hypoxia.

Increased circulating fluid level helps prevent side effects of hypotension associated with block.

Provides relief once active labor is established; reinforcement through catheter provides sustained comfort during delivery. Such analgesia does not interfere with uterine activity and/or Ferguson reflex. While it relaxes the cervix and facilitates the labor process, it may alter internal fetal rotation and diminish client’s ability to bear down when needed. Note: A new technique of ultra–low-dose epidural is being used to achieve pain control without negative effect on client’s ability to sense contractions and push effectively. With this approach, the client is not restricted to bedrest but may even be up walking as able.

Narcan is used to reverse opiate-induced respiratory depression. Adrenalin may be required for hypotensive episodes not responsive to IV fluid bolus.

Systemic toxic reaction to epidural anesthetic may alter sensorium or cause convulsions if medication is absorbed into the vascular system.

NURSING DIAGNOSIS:

Urinary Elimination, altered

May Be Related To:

Altered intake, fluid shifts, hormonal changes, mechanical compression of bladder, effects of regional anesthesia

Possibly Evidenced By:

Changes in amount/frequency of voiding, urinary urgency, urine retention, slowed progression of labor

DESIRED OUTCOMES/EVALUATION

Empty bladder appropriately.

CRITERIA—CLIENT WILL:

Be free of bladder injury.

ACTIONS/INTERVENTIONS**RATIONALE**

Independent

Palpate above symphysis pubis.

Detects presence of urine in bladder and degree of fullness. Incomplete emptying of the bladder may occur because of decreased sensation and tone.

Record and compare intake and output. Note amount, color, concentration, and specific gravity of urine.

Output should approximate intake. Increased output may reflect excessive fluid retention prior to the onset of labor and/or effects of bedrest; i.e., increased glomerular filtration rate and decreased adrenal stimulation. Specific gravity reflects kidney's ability to concentrate urine and the client's hydration status. Decreased output may occur with dehydration, hemorrhage, and pregnancy-induced hypertension (PIH). (Refer to CP: Intrapartal Hypertension.)

Encourage periodic attempts to void, at least every 1–2 hr.

Pressure of the presenting part on the bladder often reduces sensation and interferes with complete emptying. Regional anesthesia (especially in conjunction with IV fluid infusion and use of Stadol) also may contribute to voiding difficulties/bladder distension.

Position client upright, run water from the faucet, pour warm water over the perineum, or have client blow bubbles through a straw.

Facilitates voiding/enhances emptying of bladder.

Take temperature and pulse, noting increases. Assess dryness of skin and mucous membranes.

Helps monitor degree of hydration.

Collaborative

Catheterize as indicated.

An overdistended bladder can cause atony, impede fetal descent, or become traumatized by presenting part of the fetus.

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NURSING DIAGNOSIS:**Risk Factors May Include:****Anxiety, risk for**

Situational crisis, interpersonal transmission from other(s), unmet needs

Possibly Evidenced By:

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

DESIRED OUTCOMES/EVALUATION

Report anxiety minimized/manageable.

CRITERIA—CLIENT WILL:

Appear relaxed and/or in control.

Self-initiate breathing/relaxation techniques.

Follow instructions of partner/nurse.

ACTIONS/INTERVENTIONS

RATIONALE

Independent

Assess client's anxiety level through verbal and nonverbal cues.

Identifies level of intervention necessary. Excess anxiety increases pain perception and can have negative impact on the outcome of labor.

Provide continuous intrapartal professional support/doula. Inform client that she will not be left alone.

Fear of abandonment can intensify as labor progresses. The client may experience increased anxiety and/or loss of control when left unattended. Doulas can provide client with emotional, physical, and informational support as an adjunct to primary nurse.

Encourage use of breathing and relaxation techniques. Breathe with client/couple as necessary.

Assists in reduction of anxiety and of perception of pain within the cerebral cortex, enhancing sense of control.

Monitor FHR and its variability; monitor maternal BP.

Prolonged anxiety can result in endocrine imbalances, with excess release of epinephrine and norepinephrine, elevating BP and pulse. Note: Medications relaxing smooth muscle may reduce FHR variability and maternal BP.

Evaluate contractile pattern/progression of labor.

Increasing force/intensity of uterine contractions can heighten client's concerns about personal capabilities and outcome of labor. In addition, increased levels of epinephrine may also inhibit myometrial activity. Excess anxiety and stress levels can deplete glucose reserves, thereby decreasing the amount available for adenosine triphosphate (ATP) synthesis, which is necessary for uterine contractions.

Refer to CP: Labor: Stage I—Latent Phase; ND: Anxiety, risk for.

If client is admitted during the active phase, interventions usually accomplished during the latent phase need to be addressed at this time.

Collaborative

Administer combination of narcotic and sedative (e.g., meperidine hydrochloride [Demerol] and promethazine [Phenergan] IM).

Addition of mild sedative potentiates the action of the narcotic, reducing anxiety, and assisting client in focusing on breathing/relaxation techniques.

NURSING DIAGNOSIS:

Coping, Individual/Couple, risk for ineffective

Risk Factors May Include:	Situational crises, personal vulnerability, inadequate support systems
Possibly Evidenced By:	[Not applicable; presence of signs/symptoms establishes an <i>actual</i> diagnosis]
DESIRED OUTCOMES/EVALUATION	Identify effective coping behaviors.
CRITERIA—CLIENT/COUPLE WILL:	Engage in activities to maintain/enhance control.

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ACTIONS/INTERVENTIONS

RATIONALE

Independent

Ascertain client’s understanding and expectations of the labor process.

The client’s/couple’s coping skills are most challenged during the active and transition phases as contractions become increasingly intense. Lack of knowledge, misconceptions, or unrealistic expectations can have a negative impact on coping abilities.

Encourage verbalization of feelings.

Helps nurse gain insight into individual needs, and assists client/couple to deal with concerns.

Reinforce use of positive coping mechanisms and relaxation techniques.

Assists client in maintaining or gaining control. Enhances feelings of competence, and fosters self-esteem. The stressors that accompany labor can be threatening to a woman’s self-esteem, especially if she has not coped positively with past experiences and/or successfully accomplished the tasks of pregnancy.

Note withdrawn behavior.

Adolescents, in particular, may become withdrawn and not express needs to be nurtured. This may also be true for some cultures (such as Native American or Vietnamese) where the woman is encouraged to be stoic/suffer in silence.

Assess effectiveness of labor partner. Provide role modeling as indicated.

The client is influenced by those around her and may respond positively when others remain calm and in control.

Demonstrate behaviors and techniques partner can use to assist with pain control and relaxation. Provide information regarding water, music, imagery, aromatherapy, and correct misconceptions.

Encourages choice of multiple options, enhances coping and self-esteem of partner/couple.

Limit verbalization/instruction during contractions to a single “coach.”

Allows client to focus attention and may enhance ability to follow directions. Multiple coaches may actually result in decreased concentration, confusion, and loss of control.

Provide positive reinforcement for efforts. Use touch and soothing words of encouragement.

Encourages repetition of appropriate behaviors. Enhances individual’s confidence in own ability to cope with or handle labor, while also meeting her needs for dependency.

NURSING DIAGNOSIS:**Risk Factors May Include:****Possibly Evidenced By:****DESIRED OUTCOMES/EVALUATION
CRITERIA—CLIENT WILL:****Injury, risk for maternal**

Effects of medication, delayed gastric motility, physiological urges

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Verbalize understanding of individual risks and reasons for specific interventions.

Follow directions to protect self/fetus from injury.

Be free of preventable injury/complications.

ACTIONS/INTERVENTIONS

RATIONALE**Independent**

Monitor uterine activity manually and/or electronically, noting frequency, duration, and intensity of contraction. (Refer to CP: Dysfunctional Labor/Dystocia.)

The uterus is susceptible to possible rupture if a hypertonic contractile pattern develops spontaneously or in response to oxytocin administration. Placental separation and hemorrhage can also occur if contraction persists.

Institute bedrest and use of siderails (as labor intensifies) or following administration of medication. Avoid leaving client unattended.

Promotes safety should dizziness or precipitous delivery occur following administration of medication.

Place client in lateral recumbent or semi-upright position.

Increases placental perfusion and reduces supine hypotensive syndrome. Note: Some women may prefer an upright position during the phase of maximum slope of labor (i.e., 4–9 cm dilation). Studies suggest this position may shorten this phase of labor without increasing discomfort or producing adverse effects on fetal well-being.

Administer perineal care after defecating or urinating.

Reduces risk of ascending infection, which can occur, especially with prolonged rupture of membranes.

Monitor temperature and pulse.

Elevations are indicators of developing infection.

Offer client clear liquids or ice chips, as appropriate; avoid solid foods.

Delayed gastric motility inhibits digestion during labor, placing the client at risk for aspiration. However, client can benefit from intake of calories in PO fluids to help generate energy for work of labor.

Monitor urine for ketones.

Urinary ketones indicate metabolic acidosis resulting from a deficiency in glucose metabolism, which may reduce uterine activity and cause myometrial fatigue that prolongs labor.

Note time of rupture of membranes and characteristics of amniotic fluid.

The incidence of ascending infection increases with the passage of time.

Have client pant or blow out if she feels the premature urge to bear down.

Panting during the active phase or the transition phase prevents bearing down too early and can thereby reduce risk of lacerations or edema of the cervix/birth canal.

Collaborative

Discontinue or decrease flow rate of oxytocin when used if contraction lasts longer than 90 sec, or if the uterus fails to relax completely between contractions.

Administer IV antibiotics, if indicated.

Helps to prevent hypertonic contractile pattern with resultant decreased placental blood flow and risk of uterine rupture. (Refer to CP: Dysfunctional Labor/Dystocia.)

Administration of antibiotics during labor is controversial, but on occasion may protect against infection in cases of prolonged rupture of membranes.

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NURSING DIAGNOSIS:

Risk Factors May Include:

Possibly Evidenced By:

DESIRED OUTCOMES/EVALUATION CRITERIA—FETUS WILL:

Gas Exchange, risk for impaired fetal

Altered oxygen supply/blood flow

[Not applicable; presence of signs/symptoms establishes an *actual* diagnosis]

Display FHR and beat-to-beat variability within normal limits (WNL).

Be free of adverse effects of hypoxia during labor.

ACTIONS/INTERVENTIONS

RATIONALE

Independent

Assess for presence of maternal factors or conditions that compromise uteroplacental circulation (e.g., diabetes, PIH, kidney or cardiac disorders). Note prenatal testing of placental functioning by nonstress test (NST) or contraction stress test (CST).

Monitor FHR every 15–30 min if WNL. Monitor FHR electronically if it is less than 120 bpm, or greater than 160 bpm. Periodically compare client's apical heart rate with FHR.

Check FHR immediately if membranes rupture, and then again 5 min later. Observe maternal perineum for visible cord prolapse.

Instruct client to remain on bedrest if presenting part does not fill the pelvis (station 14).

High-risk situations that negatively affect circulation are likely to be manifested in late decelerations and fetal hypoxia.

Fetal tachycardia or bradycardia is indicative of possible compromise, which may necessitate intervention. Note: External monitoring device may inadvertently record maternal rather than fetal heart activity.

Detects fetal distress due to visible or occult cord prolapse.

Reduces risk of cord prolapse.

Note and record color, amount, and odor of amniotic fluid and time of membrane rupture.

Monitor fetal descent in birth canal through vaginal examination. In cases of breech presentation, assess FHR more frequently.

Assess FHR changes during a contraction, noting decelerations and accelerations.

Monitor uterine activity manually or electronically.

Talk to client/couple as care is being given, and provide information about situation, as appropriate.

Collaborative

If late or persistent variable decelerations occur:

Transfer to level 2 or 3 hospital setting as indicated:

Discontinue oxytocin if it is being administered; or reduce uterine relaxation and lower fetal oxygen levels.

Place client in lateral recumbent position;

Turn client from side to side as indicated;

Increase plain IV infusion rate;

Administer oxygen to client via mask;

Prepare for and assist with fetal scalp sampling, repeating as indicated;

Prepare for delivery by the most expeditious means or by surgical intervention, if no improvement occurs.

(Refer to CP: Labor Stage I—Latent Phase; NDs: Knowledge deficit [Learning Need]; Infection, risk for maternal; Injury, risk for fetal; and Fluid Volume risk for deficit.)

In a vertex presentation, prolonged hypoxia results in meconium-stained amniotic fluid owing to vagal stimulation, which relaxes the fetal anal sphincter. Hydramnios may be associated with fetal anomalies and poorly controlled maternal diabetes.

Prolonged head compression stimulates vagal responses and may result in fetal bradycardia if the rate of descent is not at least 1 cm/hr for primiparas or 1.5 cm/hr for multiparas. Fundal pressure in breech presentation may cause vagal stimulation and head compression.

Detects severity of hypoxia and possible cause. The fetus is vulnerable to potential injury during labor, owing to situations that reduce oxygen levels, such as cord prolapse, prolonged head compression, or uteroplacental insufficiency.

Development of hypertonicity can compromise uteroplacental circulation and fetal oxygenation.

Provides psychological support and assurance to reduce anxiety related to increased monitoring.

May require specialized monitoring/interventions.

Strong contractions caused by oxytocin may inhibit

Increases placental perfusion, which may correct problem if caused by uteroplacental insufficiency. Helps take pressure from the presenting part off the umbilical cord, if cord is being compressed.

Increases circulating fluid volume and placental perfusion.

Increases available oxygen for placental transfer.

Prolonged, decreased variability may indicate acidosis. On occasion, determining fetal pH value may be helpful in identifying fetal respiratory acidosis and metabolic reserves.

Repetitive late decelerations over a 30-min period accompanied by decreased variability may warrant a cesarean birth to prevent fetal injury and/or death from hypoxia.