Labor & Delivery Worksheet

This worksheet is due in the drop box by 2359 CST the night before your assigned labor and delivery clinical day.

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Date: 9/3/2024

Complete the following: (30 points)

Submit in-text citations in APA format

1st Stage of Labor	**Characteristics that could be seen**	**Expected Interventions**
Latent phase Dilation: 0 to 5 cm Length of stage: 11.8 hours for first time birthing moms and 9.3 hours for mothers of multiple children. **Contractions** Duration: 20-35 seconds Frequency: Becoming more regular every 5-10 minutes Strength: Becoming stronger (Durham et al., 2023)	In this beginning phase mothers may be both excited and apprehensive about the start of their laboring (Durham et al., 2023). However, because this is a long stage of labor, mothers may begin to feel distressed and lose confidence over time (Durham et al., 2023). Upon assessment of the mother the nurse may see blood-tinged vaginal discharge and uterine membranes may rupture (Durham et al., 2023). The patient may also be complaining of back pain and cramps as contractions strengthen (Durham et al., 2023).	The nurse is expected to assess the mother's status at least every 30 minutes including assessing pain and vital signs (Durham et al., 2023). The nurse must also assess fetal well-being every 30 minutes including fetal heart rate (Durham et al., 2023). All the while, the nurse should be actively working with the mother to implement pain control strategies, provide patient education, and create a positive and encouraging environment (Durham et al., 2023).
Active phase Dilation: 6 to 10 cm Length of stage: Typically, the cervix will dilate 1.2-1.5cm per hour. **Contractions** Duration: 45 – 60 seconds	By this stage, the fetus is continuing to descend and the mother may have decreased energy and feel very fatigued (Durham et al., 2023). The mother becomes more serious and will often turn their attention towards their internal sensations (Durham et al., 2023). Their pain level will also likely increase and	This stage of labor moves along more quickly than the latent phase so the nursing team must be diligent about assessing the status of the fetus and mother every 15-30 minutes (Durham et al., 2023). Vaginal exams should be limited in number and only done if necessary (Durham et al., 2023). Nurses should also

Frequency: Every 2-5 minutes Strength: Intense (Durham et al., 2023)	they may also experience nausea and vomiting, back pressure, trembling, sweating, and may become more vocal (Durham et al., 2023). The nurse may also notice an increase in blood-tinged discharge (Durham et al., 2023).	monitor and evaluate the effectiveness of pain medication and the epidural if given (Durham et al., 2023). The nurse should also give clear updates to the mother as she progresses with her labor and be sure to continue with relaxation and breathing techniques for the mother (Durham et al., 2023).

2nd Stage of Labor	**Characteristics that could be seen**	**Expected Interventions**
Length of stage: 0-3 hours depending on patient status and previous births **Contractions** Duration: 55-65 seconds Frequency: Every 2-3 minutes Strength: Moderate-intense with an urge to bear down. (Durham et al., 2023)	At this stage as the woman is fully dilated, she will likely have an intense urge to bear down and push (Durham et al., 2023). Mothers who did not get an epidural may feel a burning sensation as the baby's head crowns at the cervix (Durham et al., 2023). There will be more blood and fluids present at this time and the perineum will flatten and bulge as the baby progresses (Durham et al., 2023).	At this time even more frequent assessments of the mother's well-being should be performed and the nurse should assess the mom's readiness to push and assist with those efforts (Durham et al., 2023). The nurse should assist the patient into a comfortable position and continue to monitor the effectiveness of pain control strategies (Durham et al., 2023). Continued reassurance and encouragement to the mother is very important (Durham et al., 2023). All the while, the nurse must monitor how the baby is responding to changes in position during labor by checking fetal heart rate every 5-15 minutes (Durham et al., 2023). The nurse must also support the baby's head and mom's perineum as the baby emerges to minimize tears (Durham et al., 2023).

3rd Stage of Labor	**Characteristics that could be seen**	**Expected Interventions**

Length of stage: Usually around 5 minutes (Durham et al., 2023)	This stage begins right after the baby is delivered and involves the detachment of the placenta from the uterus and its delivery through the vagina (Durham et al., 2023). For this to occur, the mother will again experience moderate contractions (Durham et al., 2023). At this time the uterus may rise into a ball shape and there could be a sudden gush of blood from the vagina (Durham et al., 2023).	The nurse should help ensure the entirety of the placenta was delivered and be prepared for orders to administer uterotonics after the baby is delivered (Durham et al., 2023). The baby should be placed skin-skin with the mother if possible and an Apgar score should be calculated for the infant (Durham et al., 2023). The mother's vital signs should be assessed every 15 minutes and the nurse should monitor blood loss from the mother and continue with pain management and comfort measures (Durham et al., 2023).

Reference (1):

Durham, R. F., Chapman, L., & Miller, C. S. (2023). *Davis advantage for maternal-newborn nursing: Critical components of nursing care* (4th ed.). F.A. Davis Company.

Complete the Following: (10 points)

Submit in-text citations in APA format (Chapter 6 Antepartal Tests)

Diagnostic Test	Description and Rationale	Clinical findings
Non-stress test (NST)	A non-stress test (NST) is a type of noninvasive, antepartal screening test (Durham et al., 2023). This test analyzes the fetus's heart rate patterns and accelerations and this gives insight into fetal well-being (Durham et al., 2023). A fetus that is healthy and has good oxygenation with an intact autonomic nervous system will have a heart rate that accelerates with movement	This test is looking to see if the fetus's heart rate will accelerate with movement (Durham et al., 2023). A NST is deemed "reactive" if the fetal heart rate increases by 15 beats above its' baseline for 15 seconds at least two times within 20 minutes (Durham et al., 2023). In younger fetuses that are less than 32 weeks old, the NST is considered reactive if the fetal heart rate increases at

	(Durham et al., 2023). To do this, the fetal heart rate is monitored with an external transducer for up to 40 minutes (Durham et al., 2023). This type of test is the most widely accepted way of analyzing fetal status (Durham et al., 2023).	least 10 beats above baseline for 10 seconds, twice within a 20-minute period (Durham et al., 2023). A NST would be considered nonreactive if the fetal heart rate did not sufficiently increase within 40 minutes (Durham et al., 2023). If this is the case then further testing such as an ultrasound should be performed to check on the wellbeing of the fetus (Durham et al., 2023).
Biophysical profile (BPP)	A biophysical profile (BPP) is another type of screening test for pregnant mothers (Durham et al., 2023). This screening test involves an NST with the additional of an ultrasound that is looking for 5 different fetal indicators which are: fetal movement, tone, breathing, heart rate reactivity, and amniotic fluid volume (Durham et al., 2023). This test is typically recommended for pregnancies that are at increased risk for fetal hypoxia such as mothers with diabetes or hypertension (Durham et al., 2023). It gives a better prognosis of fetal well-being than just a NST alone (Durham et al., 2023).	A BPP is scored out of 10 possible points with a score of 2 (present) or 0 (absent) assigned to each of the 5 categories previously mentioned (Durham et al., 2023). The ultrasound is looks for things such as if the fetus will move its' limbs, open and close its hands, and its' breathing patterns. A healthy fetus should have a score of 8-10 and lower scores indicate possible fetal asphyxia (Durham et al., 2023). Fetal activity will decrease or even stop if the fetus is not getting enough oxygen (Durham et al., 2023). Therefore, a score of 2 or lower would indicate almost certain fetal asphyxia which would require the baby to be delivered immediately (Durham et al., 2023).
Ultrasound (US) • 1st Trimester • 2nd Trimester	Ultrasonography can be both a screening and diagnostic type of antepartal testing (Durham et al., 2023). This test uses high frequency sound waves which then produce an image of the fetus	An ultrasound can show healthcare providers many clinical findings. In the first trimester, the provider will be looking to confirm pregnancy and estimate gestational age (Durham et al., 2023). The

	(Durham et al., 2023). Ultrasounds are not associated with risks and can be performed throughout a woman's pregnancy (Durham et al., 2023). In the first trimester ultrasounds are performed to confirm pregnancy and help to determine the age of the fetus (Durham et al., 2023). In the second trimester ultrasounds are used to evaluate things such as how the fetus is presenting, amount of amniotic fluid, heart activity, where the placenta is located, and how the fetus is measuring (Durham et al., 2023).	provider will also be checking the fetus's heart activity and can also evaluate the mother's uterine structures (Durham et al., 2023). In the second trimester, the provider is again evaluating the aforementioned clinical findings but will also use the ultrasound to confirm placental placement, fetal number, size, weight, and amount of amniotic fluid as well (Durham et al., 2023).

Reference (1):

Durham, R. F., Chapman, L., & Miller, C. S. (2023). *Davis advantage for maternal-newborn nursing: Critical components of nursing care* (4th ed.). F.A. Davis Company.

For the remainder of this assignment, submit in-text citations in APA format. Attach Reference page.

1. What is cervical dilation and effacement? How are each of these measured? (5 points)

Cervical dilation refers to the cervix opening and becoming wider so that the fetus may pass through (Durham et al., 2023). Dilation is measured in centimeters and a woman is considered completely dilated when the cervix has opened 10 cm (Durham et al., 2023). Effacement refers to the cervix becoming softer and shorter as it stretches and becomes thin (Durham et al., 2023). Effacement is measured in percentages from 0-100% effaced (Durham et al., 2023). When the cervix is completely effaced it is only as thick as a few sheets of paper (Durham et al., 2023).

2. List five non-pharmacological methods that can relieve pain during labor. (5 points)

There are many ways besides medicine to help relieve pain during labor. One very effective non-pharmacological method to relieve pain is breathing and relaxation exercises (Durham et al., 2023). Teaching a laboring mom to focus on certain breathing patterns can help her feel more in control during labor; for example, taking a deep breath in during the start of a contraction and then breathing slowly out through the contraction can help to manage the pain and keep mom focused (Durham et al., 2023). Hydrotherapy is another pain relief technique that is becoming popular and involves the mom taking a warm shower or bath and this helps to soothe the nervous

system (Durham et al., 2023). Other pain relief methods could include massage or counter pressure on the mother's sacrum to help relieve back pain during labor (Durham et al., 2023). Aromatherpy or music therapy can also be helpful in promoting relaxation by helping to distract from pain (Durham et al., 2023). Lastly, position changes throughout labor can help the mom feel more comfortable and in control during the laboring process (Durham et al., 2023).

3. What is variability in fetal monitoring? (2 points)

Variability is the fluctuations of the fetal heart rate from baseline that are irregular in both amplitude and frequency (Durham et al., 2023). Variability in fetal monitoring is usually measured by how much the heart rate varies within a 10-minute window (Durham et al., 2023). A change of less than 5bpm is considered absent or minimal variability, 6-25bmp is moderate, and a change of over 25 bpm is marked variability (Durham et al., 2023). Moderate variability is thought to be a good clinical sign as it shows that the baby is oxygenating well (Durham et al., 2023). The sympathetic nervous system is what causes FHR variability and the vagus nerve also helps to maintain variability (Durham et al., 2023).

4. How can GBS influence care in labor and delivery? When and how is this tested? What treatments/ interventions are completed? (5 points)

GBS stands for group B streptococci and is the leading cause of infections in newborns (Durham et al., 2023). GBS is typically tested for later in pregnancy around 35-37 weeks and it is a simple test that involves using a cotton swab to collect samples from the mother's vagina and perineal area and then culturing the sample for GBS (Durham et al., 2023). Between 10-30% of women have GBS and while the bacteria are not very harmful to adults, it can be very harmful to a newborn causing things like sepsis or pneumonia. Therefore, proper care must be taken to avoid infecting the baby (Durham et al., 2023). If a woman is found to be positive for GBS then she will be started on prophylactic antibiotics before giving birth and IV antibiotics during labor to reduce the risk of infecting the baby (Durham et al., 2023). Most commonly penicillin is used (Durham et al., 2023). It is important to educate the mom about GBS testing and reassure her that she is not "dirty" if she happens to test positive for GBS (Durham et al., 2023).

5. What labs are completed on every woman on admission to labor and delivery? What assessment would be completed? (2 points)

Upon admission to labor and delivery a clean catch urine sample should be obtained for a urinalysis (Althoff & Belim, 2023). This will check for things like specific gravity, and the presence of ketones, proteins, glucose, or UTIs in the mom (Althoff & Belim, 2023). A CBC and CMP should also be obtained to check the mother's hemoglobin and hematocrit and electrolyte status (Althoff & Belim, 2023). If not done already, blood typing and Rh factor should also be tested for in the mother as well as a rubella titer (Althoff & Belim, 2023). Frequent assessments should be performed on the mother and should involve a head-to-toe assessment, focused assessments of the abdomen and pelvic area, frequent vital signs and pain assessments as well as assessing the progress of mom's labor and contractions (Althoff & Belim, 2023). The nurse must also be sure to frequently assess fetal heart rate and wellbeing (Althoff & Belim, 2023).

6. How is duration and frequency of contractions measured? (5 points)

The duration of a contraction refers to how long the uterus is contracting; for example, in stage 1 of labor during the latent phase contractions typically last 30-45 seconds and as labor progresses into the active phase, contractions last longer at 40-90 seconds (Durham et al., 2023). Frequency of contractions refers to how often they are occurring (Durham et al., 2023). At the start of labor contractions tend to be irregular and less frequent with a contraction occurring every 5 to 30 minutes in the latent phase of labor (Durham et al., 2023). As labor continues, the frequency of contractions increases and they also become more regular with contractions occurring every 3 to 5 minutes in the active phase (Durham et al., 2023).

7. Define an early deceleration, identify causes and interventions? (2 points)

Deceleration is when there is a temporary decrease in the fetal heart rate from its usual baseline value (Durham et al., 2023). Early deceleration is a normal finding and it refers to a gradual decrease in FHR during a uterine contraction (Durham et al., 2023). Typically, early decelerations are fairly symmetrical meaning you can see a pattern of gradual decrease in HR during a contraction and then return to baseline HR after the contraction is over (Durham et al., 2023). An early deceleration tends to mirror the contraction itself with the lowest point of deceleration known as the “nadir” occurring at the peak of a contraction (Durham et al., 2023). Early deceleration is caused by changes in pressure that occur during uterine contraction (Durham et al., 2023). When a contraction occurs this puts increased pressure on the fetus’s head which stimulates the vagus nerve and causes a decrease in HR (Durham et al., 2023). Early deceleration is completely benign and does not affect how much oxygen the fetus is getting; therefore, no interventions are needed accept to keep monitoring the HR status (Durham et al., 2023).

8. Define a late deceleration, identify causes and interventions? (2 points)

Late decelerations are similar to early decelerations in that they are mostly uniform in shape but their onset and then return to baseline takes longer than early decelerations (Durham et al., 2023). Late deceleration also usually begins right after a contraction with the “nadir” occurring after the peak of the contraction (Durham et al., 2023). It also usually takes at least 30 seconds during late deceleration for the nadir to be reached (Durham et al., 2023). Unfortunately, late deceleration can be a sign that the fetus is not tolerating labor well (Durham et al., 2023). Late deceleration is not completely understood, but it is thought that they are caused by uteroplacental insufficiency, which means there is a decrease in blood flow to the placenta and therefore less oxygen getting to the fetus (Durham et al., 2023). It is thought that conditions that would cause decreased blood flow to the placenta can cause late decelerations such as maternal hypotension, anemia, or dehydration (Durham et al., 2023). If late decelerations are occurring oxytocin will be discontinued to reduce uterine contractions and the mother may receive an IV bolus of fluids depending on her hydration status (Durham et al., 2023). Changing positions of the mother and providing her with O2 via a nonrebreather mask can help oxygenate the fetus as well, but if these

measures do not improve the status of the fetus, then the decision may be made to deliver the baby (Durham et al., 2023).

9. Define variable decelerations, identify causes and interventions? (2 points)

A variable deceleration is a sudden decrease in the FHR of at least 15 bmp and lasting at least 15 seconds, but less than 2 minutes with a rapid return to baseline (Durham et al., 2023). Variable decelerations are the most common type of deceleration seen during labor and they tend to vary in duration and depth (Durham et al., 2023). They also vary in their timing in relation to uterine contractions (Durham et al., 2023). Variable decelerations are typically caused by the umbilical cord becoming occluded or compressed which can trigger a vagal response and lower FHR (Durham et al., 2023). Variable deceleration can also be caused by a sudden descent of the head in active labor (Durham et al., 2023). While variable decelerations are normal during labor, sometimes they can take a long time to return to baseline or cause other issues like overshoots of tachycardia; therefore, it is important to monitor these decelerations closely because prolonged umbilical cord compression means that the fetus is not getting enough oxygen (Durham et al., 2023). Helping the laboring mom to change positions during labor can help promote fetal oxygenation and if necessary sterile vaginal exams can be done to evaluate the umbilical cord (Durham et al., 2023). If the variable decelerations become concerning the nurse should be prepared to perform an amnioinfusion to help alleviate some compression of the umbilical corn and O2 may be administered to the mother via a nonrebreather mask to help improve fetal oxygenation as well (Durham et al., 2023).

10. Oxytocin: what is this medication used for in labor and delivery? Identify side effects, nursing assessments, and interventions. (10 points)

Oxytocin is a type of uterotonic medication that is given to help induce labor by starting and strengthening uterine contractions; it can also be used to speed up the delivery process if there is slow progress during the active phase of labor (Durham et al., 2023). It can also be used to help reduce bleeding after birth to prevent postpartum hemorrhage (Durham et al., 2023). Oxytocin is a hormone naturally produced by the hypothalamus and is the most potent contraction promoting hormone produced by the body (Durham et al., 2023). Oxytocin is a high-alert medication and should be given IV drip so that the rate of infusion can be highly controlled (Durham et al., 2023). Side effects of oxytocin include: intensified contractions, hypotension, tachycardia, water retention, nausea, and fetal HR deceleration (Durham et al., 2023). Because oxytocin is a high-alert medication the nurse is responsible for careful titration of the drug, increasing or decreasing the amount given depending on the status of the mother and her contractions (Durham et al., 2023). For example, the dose should be decreased or discontinued if contractions are too frequent (Durham et al., 2023). The nurse must closely monitor the strength, frequency, and duration of contractions while oxytocin is being administered and frequent vital signs should be taken (Durham et al., 2023). The nurse must also frequently assess FHR and stop oxytocin if the FHR becomes abnormal (Durham et al., 2023). All the while the nurse must assess the emotional response of the laboring mother and support her by providing information and reassurance (Durham et al., 2023).

11. Magnesium Sulfate: What is this medication used for in labor and delivery? Identify side effects, nursing interventions, and nursing assessments. (10 points)

Magnesium sulfate is a medication that is often given to mothers with gestational hypertension, preeclampsia, and eclampsia for the prevention and treatment of seizures (Durham et al., 2023). Magnesium sulfate also works by lowering the amount of calcium in the uterine muscles which causes the muscles to relax and this suppresses pre-term labor and also has a protective effect on the baby's brain (Durham et al., 2023). This medication can have many side effects on the mother including, nausea, flushing, sweating, lethargy, blurred vision, depressed reflexes, cardiac dysrhythmias, respiratory depression, and more (Durham et al., 2023). In the fetus it can cause FHR variability, respiratory depression, and hypotonia (Durham et al., 2023). Because of all of these side effects the nurse must perform frequent assessments on the mother and fetus. Before starting this medication baseline vitals, deep tendon reflexes, neuro status, and urine output should be obtained and after starting the medication the nurse should recheck the patient's status every 15-30 minutes (Durham et al., 2023). The nurse should also assess respiratory and cardiovascular status via auscultation and observation (Durham et al., 2023). Serum magnesium levels should be monitored and kept between 4-8mg/dL and calcium gluconate should be on-hand as an antidote medication (Durham et al., 2023). Through this whole process the nurse should provide comfort measures to the patient as well as reassurance and support (Durham et al., 2023).

12. What are 3 nursing diagnoses that can be identified in labor and delivery? (10 points)

1. Labor pain related to uterine contractions as evidenced by patient vocalizing discomfort, diaphoresis, and increased heart rate (Phelps, 2023).

2. Ineffective breastfeeding related to maternal pain as evidenced by mother expressing discomfort with breast feeding, inflamed nipples, and the infant crying at the breast (Phelps, 2023).

3. Ineffective coping related to inadequate confidence in ability to deal with newborn child as evidenced by young maternal age, substance abuse, and low social support at home (Phelps, 2023).

References

Althoff, A., & Belim, S. L. (2023). *RN maternal newborn nursing* (12th ed.). Assessment Technologies Institute, L.L.C.

Durham, R. F., Chapman, L., & Miller, C. S. (2023). *Davis advantage for maternal-newborn nursing: Critical components of nursing care* (4th ed.). F.A. Davis Company.

Phelps, L. L. (2023). *Nursing diagnosis reference manual* (12th ed.). Wolters Kluwer.