Postpartum #1

1.Explain Lotus birth, how and why it is done, and aspects you as the provider should remember.

Lotus birth is the practice of leaving the umbilical cord and placenta attached to the baby until the cord dries and falls off naturally. The placenta is usually placed in a bag of salt and herbs to be carried with the baby until the cord falls off the naval. The practice of lotus birth comes mostly from the religious belief that the baby's life is still inside the mother until the placenta in delivered and the belief that all the life must be transferred to the baby to ensure survival.

As the care provider it is important to give the placenta ample time to dry. Drying can be done by placing the placenta in a colander. Following the drying time, the placenta can be coated with salt or herbs. Herbs work better for this as salt causes liquid to be drawn out of the placenta and may reverse the work done to dry the placenta prior to coating. Powdered rosemary and turmeric can be used to coat the placenta. The last step of the process is to wrap the placenta in absorbent material.

2.Discuss blood volume in the newborn and placenta. What considerations should be noted in regards to this immediate postpartum phase? Speak to the importance of this blood volume specifically and how it affects the newborn.

While inside the uterus the blood volume is distributed between the baby, the cord, and the placenta. At term the blood volume is generally distributed at 70% in the baby and 30% in the placenta and cord at any given time. In babies whose cord is clamped immediately following birth the average blood volume is 70 to 100 ml/kg. In babies whose cord is left until the placenta has transfused the blood volume ranges from 110 to 115 ml/kg.

3. How does blood volume, and all the constituents in the blood, affect the newborn postpartum? Speak to both delayed and early cord clamping.

Delayed cord clamping gives babies a high hemoglobin and hematocrit level that will benefit them up to 6 months of age. For the baby to reclaim the highest possible blood volume following birth the cord should remain intact in the immediate postpartum up to the point that the cord is white, limp, and the pulse at the cord stump has ceased. The greater the blood quantity in the baby provides a higher level of red blood cells and a higher level of iron. The iron provided by the increased blood volume will increase the amount of oxygen carried throughout the body. Delayed cord clamping provides the baby with a higher level of white blood cells, antibodies, platelets, and their own stem cells.

Early cord clamping results in the baby losing much needed blood and losing the oxygen that the red blood cells would have provided. Early cord clamping is associated with a higher incidence of idiopathic respiratory distress syndrome, hypovolemia, and cardiac murmurs.

4. What is placenta to newborn transfusion? How does the process occur? Include the role of the uterus in this.

Placenta to newborn transfusion is the process of the baby receiving the remaining blood from the placenta after birth. This process is completed by the placenta being squeezed during contractions, this causes blood to be pushed back and forth through the cord from the baby to the placenta. This process continues until the baby is born. After birth, the mother's body continues to cause pulsation on the placenta which further sends blood to the baby. When the placenta is delivered, the cord may continue

to pulse for some minutes bringing more blood to the baby as the baby establishes breathing on their own.

5. How does newborn respiration affect transfusion?

As the newborn beings to respirate the alveolar sacs are filled with air. As the heart pushes blood into the capillaries surrounding the alveolus more oxygenated blood is pulled from the placenta and from the baby's own breathing. As the baby breaths, oxygenation is slowly transferred from the placenta to the newborn's own respiratory system. Breathing on their own increases the blood oxygen saturation which triggers cord vessels to constrict.

6. How does ambient temperature affect transfusion rates and timing?

As the cord comes out of the introitus and the temperature of the room air is below that of the uterine environment the cord loses heat rapidly which engages vessel constriction.

7. What does research show regarding the position of the baby and the placenta insofar as transfusion is concerned?

Research has shown that a healthy baby will receive 50% of transfusion within one minute and 100% within 3 minutes if they are held at the level of the introitus. When the baby is held at the level of the placenta this is known as a neutral zone in which the baby is neither being flooded with blood nor is transfusion slowed by the baby being above the level of the placenta. Research indicates that a baby held below the level of the placenta the entire time the cord is intact will receive transfusion quickly and the healthy baby will be able to close his umbilical valve when he has received enough blood. In the case of a baby who is slow to start breathing, holding the placenta above the baby can be very beneficial and can provide the baby with oxygenated blood during slow transition.

Keeping the baby at the "neutral zone," in line with the placenta for the majority of the time the cord is intact will eliminate any possible damage from temporary cardiovascular overload; this is the practice of many midwives.

8. Discuss cord management in regards to risks and benefits. Include a brief discussion of the history of cord clamping and the reasons behind it.

Early separation from the placenta can result in the baby losing from 1/3 to 1/2 of their blood volume putting them into a state of hypovolemic shock. When clamping is performed before the birth of the placenta the chance of harming the baby is greatly increased due to either deprivation of blood or an overwhelming bolus of blood being sent into the baby's system. If the cord is clamped at the height of a contraction the placenta is squeezed and a large bolus of blood may be sent into the baby that could put them into cardiovascular overload. If the cord is clamped between contractions the result is too much blood being retained in the placenta, thus depriving the baby of much needed blood.

Early cord clamping originates in an attempt to prevent such things as physiological jaundice, polycythemia, and to prevent anesthesia from reaching the baby. Further research has shown that neither does prolonged cord attachment cause these things and nor does early cord clamping prevent

them. Later developments that resulted in early cord clamping were the change in neonatal protocols that standardized cutting the cord and transferring the care of the baby to the pediatric staff. The desire of hospitals to take cord blood for blood gas studies and for cord blood banking has also become a reason for early cord clamping. The result of these practices was incidentally causing the damage they had hoped to prevent by the practice of early cord clamping.

Benefits of delayed cord clamping:

- Newborn retention of 50% more red cell volume dispersed through a slightly enlarged blood volume, with higher hematocrit volumes than in babies whose cords were clamped early.
- Greater blood cell volume correlates to higher iron levels, protecting the baby from anemia and supplying a greater amount of oxygen to the body.
- Early cord clamping results in the baby being deprived of white blood cells, antibodies, platelets, nutrients, and many of their stem cells.
- Early cord clamping results in hypovolemia, idiopathic respiratory distress syndrome, and a higher incidence of heart murmurs.
- Early cord clamping is associated with babies who show a drop in systemic vascular resistance. These babies cannot maintain body temperature and have poor circulation.

9. How do you as the provider know when the cord vessels are closed?

At the physiological closure of cord vessels there will be no pulse at the cord stump, and the cord will become white and limp. The arteries in the cord will constrict and appear as whitish strands in the cord.

10. What is “milking” or “stripping” the cord?

Milking the cord refers to the forcing of blood in one direction, usually into the baby.

11. What is/are the proper method(s) for cord clamping and cutting?

Place the clamp on the newborn side 2 to 3 cm from the umbilicus. Place the second clamp on the placenta side 2 to 3 inches from the first clamp. Cut the cord using somewhat dull scissors, American pattern umbilical scissors work well for this. Leave at least 1 to 2 centimeters of cord after the clamp on the baby’s side and cut using a sawing motion. The cord can be clamped, tied with string, closed with an Averbach cord bender, or burned with a candle.

12. Discuss the research on postpartum polycythemia, jaundice, and hyperviscosity in the newborn.

It has been popular belief that delayed cord clamping is the cause of polycythemia, jaundice, and hyperviscosity. However, these issues have been discovered to be the result of problems and conditions in the womb and not the result of leaving the cord attach postpartum. Polycythemia occurs when the

fetus is suffering from chronic intrauterine hypoxia resulting in their body producing an excessive amount of red blood cells to compensate for the lack of oxygen. Polycythemia is often the biproduct of maternal diabetes, preeclampsia, and hypertension. In the postpartum polycythemia is produced by dehydration of the baby due to early cord clamping depriving the baby of plasma. This deprivation of plasma disrupts the balance of red blood cells.
Hyperviscosity is a condition that often accompanies polycythemia. Hyperviscosity is characterized by thick, dense blood and severe dehydration. Cord compression for extended periods of time and blood being sequestered in the placenta is believed to be majorly the cause of hyperviscosity.

Physiological jaundice was long believed to be the result of delayed cord clamping, however the best way to ensure jaundice is kept to a minimum is to allow the cord to stay intact so the baby can equilibrate his blood.

13. What are the contraindications postpartum to delaying cord clamping?

Situations such as ROM or oligohydramnios that cause prolonged cord compression result in loss of fluids flowing through the umbilical vein to the baby while the arterial flow continues unhindered to the placenta. This prolonged constriction of the umbilical vein results in placental engorgement and dehydration of the fetus. Prolonged compression of the cord results in fetal dehydration which may have an outcome of hyperviscosity and polycythemia. In these cases, the baby is likely to be born with a constricted cord and a placenta full of red blood cells but empty of fluid. This condition makes transfusion impossible and forces early cord clamping in order to expose the umbilical vein for transfusion of IV fluids.
Multiple births may require early cord clamping in the case of babies with twin-to-twin transfusion. In the case of twin-to-twin transfusion the smaller baby's cord can be left intact for a longer period of time and the larger baby's cord clamped immediately to allow for the smaller hypovolemic baby to balance their blood volume.

14. What are the 7 phases of placental detachment? Describe each in your own words.

1. The first step to detachment of the placenta is for the release of the hormones, namely oxytocin but also prolactin and estrogen, that are associated with mother to baby bonding.
2. The next phase is for the uterus to adjust to the dramatic change in size of the placenta. The uterus will relax and shrink around the placenta.
3. Phase three is the afterbirth uterine contractions or cramping. These contractions squeeze the placenta sending blood to the baby and causing it to decrease in size.
4. Contractions will become stronger and the mother will begin to feel cramping in her uterus. These contractions begin the detachment of the placenta from the uterine wall.
5. As contractions continue, the placenta will release completely from the uterine wall.
6. After complete detachment from the uterine wall the placenta will move down the birth canal and through the cervix.
7. The cord, placenta, and membranes are now delivered, completing the third phase of birth.

15. What are the signs of placental separation you should look for?

- Lengthening of the cord at the introitus.
- Diminished pulse of the umbilical cord.
- A sudden trickle or small gush of blood.

- Lowering of the fundus.
- The fundus will feel round, smaller and hard.

16. Discuss cord clamping and delivery of the placenta.

Clamping of the cord while the placenta is still in the uterus may be a hindrance to easy delivery due to retained blood increasing the size, density, and rigidity of the placenta.

17. How long is typical for the placenta to be delivered? Discuss longer delivery times.

The average delivery time of a placenta is 30 minutes but may be up to an hour or more. The most likely cause of delayed placenta delivery is missing the signs of detachment by the mother and the midwife which causes a delay in the use of placental delivery techniques.

18. Explain when active management of the placenta is necessary.

Reasons for active management.

- Uterine atony.
- Postpartum hemorrhage.
- If the mother's blood volume was compromised at all during pregnancy – as with inadequate nutritional intake, or low hemoglobin levels.
- Management may be necessary with extremely long labors or when the mother's stamina is depleted.
- Weak, infrequent contractions prior to birth of the baby may be a sign that the placenta should be delivered quickly and that it will require management to facilitate delivery.
- Signs or symptoms of shock.
- Uterine tumors.
- History of bleeding either in the current pregnancy or past pregnancies.
- Polyhydramnios, a large baby, or a multiple gestation.
- Slow or little interest of the baby in nursing.
- Preterm birth.
- In the case of a compromised newborn the mother may require assistance to deliver her placenta as her attention will be on the baby.

19. How is cord traction performed? Be specific. What considerations are there?

Cord traction is performed after complete detachment of the placenta. The midwife must be sure to witness the signs of detachment before using cord traction. Under no circumstance should cord traction be used as a means to detach the placenta from the uterine wall. Ideally, cord traction should be performed during a contraction.
To perform cord traction, one hand should be placed above the pubic bone to feel the fundus, using the other hand apply gentle pressure to begin lengthening the cord from the introitus. Using the wrist, pull downward at a 45degree angle until the placenta is visible in the upper vaginal cavity. Then, pull gently upward at a 45degree angle matching the curve of the birth canal.

20. Other than cord traction, what other things can fall into the category of active placental management?

- Be sure the mother has an empty bladder as this a full bladder can inhibit the retraction of the uterus.
- Be sure the mother has contact with the baby and the baby is placed on the breast.
- Stimulate the nipples.
- Using the palms of the hands stroke the sides of the uterus firmly in an upward direction.
- Stimulate acupressure points.
- Give the mother uterine stimulating herbs such as cotton root bark.
- Allopathic drugs such as a dose of oxytocin can be used if all other methods are unsuccessful.

21. How do you check for placental detachment? Be specific.

Placental detachment can be checked both externally and internally. Suprapubic pressure is a means of checking the placenta externally. To do this, place a hand on the mother's pubic bone facing her upper body while using the other hand to pull up the slack of the cord. Then, using the hand on the pubic bone apply pressure toward her spine, then pull the pressure up slightly toward her head. If placental detachment is incomplete, the cord will retract into the vaginal cavity and tension on the cord will be felt.
To check the detachment of the placenta internally a sterile gloved hand is inserted into the vagina and the cord is followed up the canal. If separation has fully occurred the placenta will be felt filling the os. If the cord leads up to the os and no placenta is felt, or if the hand reaches the fetal side from higher up in the uterus than it is likely that detachment is not yet complete.

22. How and why do you gather the trailing membranes?

Trailing membranes are gathered to ensure all pieces are removed from the uterus. Though infections and postpartum bleeding due to retained membranes is uncommon care should be taken to ensure that the membranes are properly removed and inspected for missing pieces.
To gather the trailing membranes, grasp the placenta with both hands and twist, this will remove the membranes from the uterine wall, gather them into a bundle, and allow easy removal from the introitus. If the membranes have separated from the placenta during delivery, use sponge forceps to grasp the widest portion of membranes at the introitus, twist and gently pull them out.