

Parturition and Neonatal Care
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Kid and lamb health requires some planning as well as observation. The planning may begin as early as the time of breeding. Does and ewes that have not performed well or have had bouts of mastitis might be considered for culling as they run the risk of freshening with mastitis and not having a suitable supply of colostrum. Doe lambs and ewe lambs should have reached adequate size for breeding. The target weight at breeding should be 2/3rds of their adult weight. Breeding females at less than optimum size may increase the risk of dystocia. Kids and lambs born during a difficult delivery are more likely to be stillborn, have increased respiratory problems at birth and are less resistant to infectious diseases.

The nutritional program should be evaluated and monitored during gestation. The goal is to provide enough energy to support fetal growth but not an excessive amount resulting in overconditioning. Dams that are too thin or too fat are at increased risk of pregnancy toxemia. Pregnancy toxemia may result in fetal loss, doe loss, or weak kids and a non-productive doe. Dams can be maintained in late lactation, dairy animals, and early gestation on high quality hay and little or no grain to avoid over conditioning. Fetal growth and energy demands increase during the last third of gestation, the last 6 weeks. Grain feeding should begin at this time providing the dam with one pound of grain per day as well as access to quality hay.

Because white muscle disease is a problem in many areas of the country, pregnant females should have access to selenium supplementation through mineral salt mixes. Mineral salt mixes should contain between 26 and 90 ppm selenium.

Vaccination of the dam during the last trimester is indicated if the goal is to prevent specific diseases during the neonatal period. Since *Cl. perfringens* type C is the most common cause of hemorrhagic enteritis during the first week of life, having antibodies against this organism is important. Likewise the neonate has the highest risk of developing tetanus because of its exposure through castration and dehorning. Because of the risk of occurrence of these two clostridial diseases, dams should be vaccinated with a CD and T vaccine 3 to 4 weeks prior to kidding to ensure adequate protection is passed from the dam to the newborn through colostrum. If enterotoxigenic *E.coli* scours has been a problem in the past, does can be vaccinated with a bovine *E.coli* vaccine.

Bacterial enteritis and pneumonia are common neonatal problems. Many of these problems arise because of improper housing management. Prior to the kidding or lambing season, an area for kidding and lambing and housing of the newborns should be determined and prepared. The area should be dry, well bedded to provide insulation, and draft free but well ventilated. As most enteric infections are acquired through fecal material, the goal should be to keep fecal contamination at a minimum in the birthing area. Dams should spend a minimal amount of time prior to and after birthing in the birthing area as they are the major source of feces. Depending on the number of kiddings and lambings, the area may need to be totally cleaned to rid the area of moist

contaminated bedding. Urine and fecal build up in an area will increase the amount of ammonia that the newborns are exposed to, possibly leading to respiratory irritation and pneumonia.

A box containing supplies needed during the neonatal period should be put together before a problem arises. Supplies needed for dystocia include a mild soap for cleaning the vulva, towels preferably cloth for drying off hands or stimulating newborns, obstetrical gloves to maintain cleanliness, and obstetrical lubrication. An 16 or 18 fr urethral catheter should be available for tube feeding colostrum as well as a 60 cc syringe to draw up and measure the colostrum. Catheters will deteriorate and crack over time so they should be checked before the kidding and lambing season begins. A bottle of iodine for dipping navels should also be included in the kit.

It really doesn't matter what you do, ewes and does will decide for themselves when they want to lamb or kid. You can, however, be prepared for lambing and kidding and the potential problems that can occur. The most common physical sign of impending parturition in the ewe and doe is the udder begins to fill or bag up. If ewes have a short fleece, one may also observe a softening of the tissues around the dock. The vulva enlarges and a colorless mucous discharge, the cervical mucus plug, may be observed. Even observing these signs in ewes and does only gives one an approximate time of lambing as these observations may be present a week before lambing.

Parturition occurs in three stages. The first stage of parturition lasts from 2 to 12 hours, the time during which the cervix dilates. During this stage, dams will try to isolate themselves. In a crowded barn, this may be in a corner or up against a wall. The dam acts uncomfortable, getting up and down, lifting her lip, pawing the ground, and frequently urinating. Ewes and does do not "push" at this stage but the uterus is contracting causing dilation of the cervix. Some dams seem to stare off into space and then go back to chewing their cud or eating.

The second stage of parturition is expulsion of the baby. This stage is fairly quick, only lasting 1 to 2 hours. The water bag may be observed followed by the feet and the head. There should be steady progress once the water bag is observed or appearance of the feet. If the dam strains longer than 45 minutes without producing a baby, she should be checked for problems. Dams may rest between delivering twins, but twins should be delivered within 45 minutes of the first delivery.

Cleanliness is important when examining a female for problems. Contamination of the uterus can lead to serious infection that will negatively impact the health of not only the dam but also the newborn. Likewise, it protects the shepherd as well. The dam's vulva should be cleaned with a mild soap and water solution. The shepherd should use an obstetrical sleeve and apply generous amounts of lubrication on the sleeve before entering the vagina.

The most common problem observed in ewes and does with dystocia, difficult birth, is fetal postural abnormalities. Normally, the baby is born with the front legs extended followed by the head. The head should be 2 to 4 inches from the tip of the toes.

If the head is right on top of the toes, the baby may be “stuck” because the elbows are caught. Pulling on one leg at a time and fully extending the limb usually resolves this problem. If difficulty occurs in trying to manipulate the fetus, raising the hind quarters of the dam sometimes allows the uterus to fall forward and reduces the dam straining allowing for easier repositioning.

A common problem occurs when twins are trying to come out at the same time with each having a leg in the birth canal. One should follow each leg back to the chest to ensure that the legs presented are of the same baby. If the head and 2 different legs are presented, it is best to gently push the head back in and then replace the leg and retrieve the other matching leg. Be sure to guard the feet as they are sharp and can tear the uterus. In any ewe or doe dystocia, always keep in mind that you may have more than one baby coming out at the same time.

Sometimes the legs appear but the head seems to be missing. Again check to be sure the legs belong to the same baby. The head may be turned back or down between the legs. In any case, by gently pushing back on the baby’s brisket, one will usually have enough room to manipulate the head into the proper position.

Sometimes a ewe or doe may not strain but the membranes are present or the tail is present but no legs. When you examine the dam, the baby’s butt is pushed up against the pelvis and the legs are extended forward. This is referred to as a true breech. Gently push the butt forward and reach under to grab one of the legs. Place a finger around the hock and gently retract, then reach forward and grab the foot. With the hand around the foot, guarding the toe from penetrating the uterine wall, bring the toe to the middle and push the hock to the side while lifting the toe into the vagina. Repeat with the other leg. Place the tail between the legs, this reduces the chances of tearing the uterus and remove the lamb or kid.

The third stage of parturition is expulsion of the placenta. The placenta should pass within 8 hours of lambing. If the placenta retains, the dam’s appetite should be monitored as well as her temperature for a fever (>103.3). If the ewe or doe goes off feed or develops a fever, she should be given penicillin. Mild traction can be applied to the placenta but it should not be torn. If the ewe or doe remains bright, alert, and eating, nothing needs to be done and eventually the placenta will fall out.

Lambs and kids should be born in a dry draft free environment to reduce the risk of hypothermia. Lambs and kids attempt to stand and nurse within 30 minutes of birth. The ewe should have been crutched and clipped around the flank so the lambs have easy access to the teats. If lambs are being crushed, shearing may reduce this problem as ewes can’t feel the lambs when overly fleeced. Lambs and kids should nurse within the first 2 hours of birth. Lambs and kids should receive 50ml of colostrum per kg of body weight (3/4 oz/lb) during the first 2 hours and a total of 200 – 250 ml/kg (3.5 oz/lb) during the first 24 hours of life. For example, a 8 lb lamb should receive 6oz in the first 2 hours and 28 oz over the first 24 hours of life.

Adequate colostrum consumption is critical for the health and survival of the new born. The serum immunoglobulin content will be dependent on the amount of colostrum consumed, the amount of antibody content in the colostrum and the absorption of

immunoglobulin from the intestinal track. The amount and type of antibodies in colostrum will be dependent on the dam's previous exposure to pathogens as well as vaccination history. Colostrum that is stored or banked should be collected from dams within the first 12 hours after birthing as immunoglobulin concentration decreases significantly after the first stripping. If nursing by neonates of other dams occurs prior to parturition, the immunoglobulin content will be decreased. Immunoglobulin content will be low in dams that are young, sick, or under fed. A simple means to determine antibody concentration is to measure the specific gravity of the colostrum. A specific gravity of 1.029 or greater will contain adequate levels of antibody.

Absorption of immunoglobulins is dependent on a number of factors, timing being the biggest. Absorption of immunoglobulins is greatest shortly after birth and begins to decline significantly 18 hours after birth with little to no absorption occurring after 24 hours of life. It is essential then that the newborn consume colostrum shortly after birth. Newborns that are hypothermic or hypoxic will have decreased absorption of immunoglobulins. Previous exposure of the gut to protein will decrease absorption, so feeding of milk or supplements containing protein prior to colostrum ingestion should be discouraged.

If colostrum is banked and frozen for future use, it is important that the colostrum be harvested in a hygienic manner. Teats should be cleaned and colostrum collected in a clean container. Contaminating colostrum with fecal material or dirt and allowing it to remain warm before storage increases the chances of bacterial proliferation in the colostrum possibly resulting in enteritis when fed. In goats, for control of CAEV colostrum should be heat treated at 133⁰F and held at that temperature for 60 minutes.

If frozen colostrum is used, it should be thawed and warmed to body temperature. Warming is best achieved by having the colostrum in a plastic bag and placing the bag in a container of warm water. Microwaving is not recommended as it may have a negative effect on the immunoglobulins.

At birth, the newborn should be evaluated for vigor and the presence of any abnormalities, such as cleft palate, umbilical hernia, or difficult breathing. The umbilical cord can be dipped in tincture of iodine solution. Although bacteria can enter the body through the umbilicus, many infections are acquired through the intestinal and respiratory tracks as well as through wounds. It is imperative then that the environment be maintained to keep the bacteria load low and equipment be cleaned prior to or between uses.

The newborn's navel/umbilical cord should be dipped in a disinfectant. A 2% iodine, betadine, solution can be used as well as chlorohexidine. Chlorohexidine has been shown to provide some residual bacterial inhibition. Although tincture of iodine is commonly used, it may be too strong as it can cause burning of the tissues.

If adequate amounts of colostrum are ingested, the need for supplemental vitamin A,D, and E is not warranted as colostrum is a good source of these vitamins. Feeding a quality trace mineral salt with the highest allowable selenium should provide the dam and her newborns adequate selenium. If problems associated with Vitamin E and Se deficiencies have been observed, the administration of Vit E and Se at birth and at

weaning may help prevent this condition. If supplementation is given, newborns should receive 1/3 ml of BoSe.

Newborns should be placed in a claiming pen or lambing jug. This allows for proper bonding to occur as well as gives the shepherd an opportunity to observe the dam and newborns for problems. Babies should remain there a minimum of one day plus a day for every baby. Dams may ignore weak lambs or kids or lambs and kids born subsequent to the first of a litter, so even though the babies are with the dams, one must observe baby-dam interactions.

Heat lamps may provide lambs needed warmth if the newborns are wet or sick. Lamps should be no closer than 4 feet from the ground. Positioning of the lamp is important as a misplaced lamp may set the barn on fire.

Fostering of newborns may be necessary in the case of triplets or inadequate milk production. Match newborns for size, color, and age. The closer to birth fostering occurs, the better the results. Placing fetal fluids on the adopted newborn may help the fostering process.

Colostrum should be hand fed before fostering to insure adequate passive transfer of immunoglobulins. When selecting the newborn to foster, pick the strongest of the newborns. Remove the dam's newborns and return them after she accepts the new baby. Do not separate the dam from her babies any longer than 2 –3 hours.

Bottle feeding may be necessary if fostering is not an option. Provide the newborn colostrum during the first 24 hours of life. A lamb milk replacer should be used for lambs. Lambs and kids should be fed 4 times a day. The newborn should receive a total of 20% of its body weight a day. For example, a 10 lb lamb would receive 2 lbs of milk (2 pints) a day, 8 oz per feeding. The milk should be fed warm in order to avoid chilling of the lamb or kid during the first week of life. If bloating is a problem, either try feeding cold milk replacer or feed smaller quantities at a time more frequently. The second week of life, lambs and kids can be fed 3 times a day rather than 4. Lambs and kids should be offered creep feed within a week of life and can be weaned when they weigh 20 lbs. More information is available at <http://www.sheepandgoat.com/articles/artificialfeeding.html>