

Neonatal Lamb Management: Stomach Tubing

Most lamb deaths that occur shortly after birth are due to starvation and/or hypothermia (low body temperature). These losses are most often preventable, and lambs can be saved if problems are identified and treated quickly.

Why is timing important?

- Newborn lambs rely on reserves of brown fat as an energy source until they ingest colostrum. Ideally, lambs will nurse and receive colostrum within two hours of birth. If feeding is delayed, even by a few hours, fat stores will be depleted. Unless the lamb nurses, or receives another source of energy, it will become unconscious and die.
- Long-term survival also depends on receiving colostrum soon after birth, as the ability to absorb antibodies in colostrum quickly decreases. Milk or milk replacer will prevent starvation, but will not protect against infections.
- The sooner an 'at risk' lamb is identified, the easier the treatment and the greater the chance of saving the lamb.

Recognizing 'At Risk' Lambs:

- **Behaviour:** Watch for hunched posture, hollow sides, excessive bleating, lethargy, dehydration (pinch the skin over the spine, if it remains in a 'tent' the lamb is dehydrated), cold to touch (check inside of mouth), lying flat/unconscious.
- **Lambing problems** could delay nursing (e.g. prolonged labour, weak lamb, mismothering).
- **Exposure to cold and/or wet weather**, as the lamb's fat reserves will be depleted more quickly.
- **Body temperature** of starving lambs will drop over time (even in warm conditions) as their ability to produce body heat diminishes. **Low body temperature** is a key indication lambs are suffering from starvation.

Treating Starvation/Hypothermia:

Normal rectal temperature for lambs is **38.5°C to 39.0°C (101°F to 102°F)**. Treat lambs with below normal body temperature immediately depending on the severity of hypothermia and the age of the lamb.

Within a few hours of birth, less affected lambs may only need assistance in nursing from the ewe. Confine the ewe to a small pen and check for potential problems (e.g. blocked teats). If possible, assist the lamb to nurse. **If the lamb does not nurse quickly or if there is any doubt that it has received enough colostrum, follow the steps below.**

TREATMENT FOR:		TREATMENT FOR
MILD HYPOTHERMIA Rectal Temperature 37.5°C to 39.0°C (99°F to 101°F)	SEVERE HYPOTHERMIA Rectal Temperature Below 37.5°C (99°F)	SEVERE HYPOTHERMIA Rectal Temperature Below 37.5°C (99°F)
Any age & able to swallow	Under 5 hours old* & able to swallow	Over 5 hours old* or any age & unable to swallow
<ol style="list-style-type: none"> 1) Remove from ewe and towel dry. 2) Stomach tube with colostrum at 50 ml/kg (20 ml/lb). See reverse for details. 3) Place in warming box. 4) Return to ewe when rectal temperature is normal. 5) Be sure the lamb is accepted by the ewe and is able to nurse normally. Stomach tube again in a few hours if lamb is weak or you are uncertain it has received enough colostrum. 		<ol style="list-style-type: none"> 1) Remove lamb and dry – Do not warm lamb further until following Step 2 or Step 3*. 2) If lamb is conscious/able to swallow, stomach tube colostrum. See reverse for details. <p>OR</p> <ol style="list-style-type: none"> 3) If lamb is unconscious or very weak, give an intraperitoneal injection of dextrose.[†] Stomach tube with colostrum when recovered. <p>Follow steps 3 to 5 to left.</p>
<p>*Give hypothermic lambs that are more than 5 hours old colostrum or dextrose BEFORE warming them. While the lamb stays chilled, its body's energy requirements are relatively low. As the lamb is warmed more energy is needed for the body to function. By 5 hours of age the brown fat reserves are likely depleted. If another energy source (colostrum or dextrose) is not available during warming, the lamb may suffer from fatal seizures.</p>		

Adapted from 'What You Need to Know About Lambing' presentation by Dr. Ileana Wenger.

For more information: Consult with your veterinarian and/or find neonatal management resources, including an information sheet on intraperitoneal injection[†], at www.ablamb.ca (click the 'Resources' tab) or contact the ALP office (403-948-8533).

Neonatal Lamb Management: Stomach Tubing

Stomach tubing is often necessary to treat starving, hypothermic lamb. It is preferable to bottle feeding for newborn lambs as you can be sure the lamb has received the correct amount of colostrum, it takes less time (particularly if the lamb is uncooperative), and there is less chance of interfering with ewe/lamb bonding.

Directions for stomach tubing are given below. This intervention can save lambs, but may also cause complications (including death) unless done correctly. Please note:

- Care must be taken to prevent colostrum or milk from entering the lungs (see below).
- Do not stomach tube unconscious or very weak lambs, as there is an increased risk of forcing liquid into the lungs and lambs suffering from advanced starvation may not be able to digest the colostrum. These lambs should first be given an abdominal injection of dextrose.*
- An energy source **must** be given **before** warming hypothermic lambs in some cases (see reverse for details).

When possible, take colostrum for stomach tubing from the ewe. Colostrum from other newly lambed ewes can also be used and commercial products are available. More resources regarding colostrum management are available.*

Please consult with your veterinarian if you have questions or concerns about using this technique.

1) Equipment required:

- 50 ml/kg body weight (20 ml/lb) of colostrum or milk for each feeding (use only colostrum for lambs less than 24 hours old).
- 60 ml feeding syringe or 250 ml squeeze bottle
- Feeding tubes specifically for lambs are available.

2) Administration:

- Warm colostrum to body temperature gradually to avoid damage to antibodies. One method is to place colostrum container in warm water (do not microwave).
- Restrain lamb. Measure tube on the outside of the lamb from the last rib to the mouth to ensure it is long enough to enter the stomach. Mark the tube approximately one inch above the lamb's mouth. Cold or stiff tubes can be soaked in warm water to make them more pliable.
- Hold lamb's head up to gently straighten neck. Pass the tube into the side of the mouth in the space between the front and side teeth.
- Using gentle pressure slide the tube into the esophagus and down to the stomach. The tube will move easily. **ANY resistance or COUGHING** indicates that the tube has entered the windpipe and it should be removed immediately. **Accidentally passing colostrum into the lungs will cause drowning or pneumonia resulting in lamb death.**
- The esophagus is behind/beside the windpipe on the lamb's left side. By placing your fingers on each side of the lamb's throat, you should be able to feel two tubes while sliding the stomach tube in (i.e. the windpipe and the tube passing down the esophagus).
- Attach syringe or bottle to the tube. Allow colostrum to drain by gravity (if using a syringe without the plunger). **Administer slowly** over approximately 5 minutes.
- Crimp the end of the tube prior to removing to prevent aspiration of any remaining liquid.
- Clean/sterilize equipment between lambs.

Lamb Weight		Colostrum or milk per feeding (ml)
lbs	kg	
5	2.3	100-115
7	3.2	140-160
10	4.5	200-225
13	5.9	260-295
15	6.8	300-340



4) Place lamb in the warming box.

5) Check temperature every 20-30 minutes to ensure the lamb does not overheat.

6) Return lamb to the ewe when body temperature has returned to normal. Ensure the lamb is accepted by the ewe and is able to nurse normally. If the lamb is still weak or you are uncertain if it has received enough colostrum, stomach tube again in a few hours. Lambs should have at least 200ml of colostrum/kg body weight during the first 24 hours of life. If they require supplementing after that time, they may be given milk from the ewe or milk replacer.

Photos credits: The Code of Practice for the Care and Handling of Sheep.

***For more management resources, including an information sheet on intraperitoneal injections, visit ablamb.ca or call 403-948-8533.**