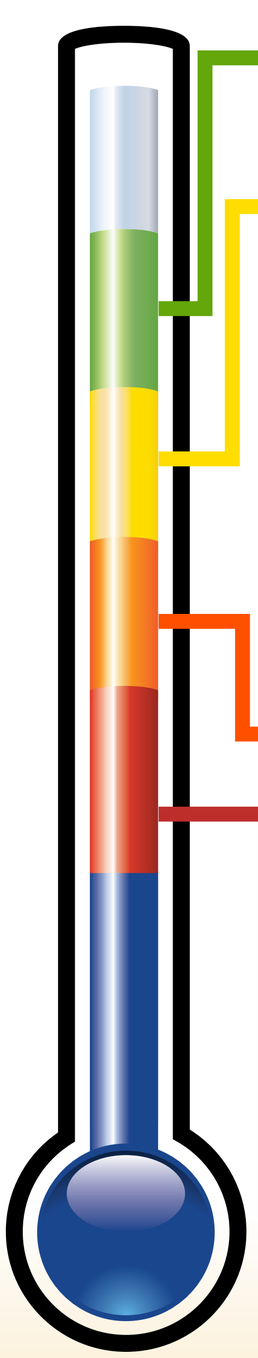
Hypothermia and hypoglycemia in kids: Identification and treatment

Problem: A kid is looking weak, shivering and/or looks gaunt, or is non-responsive



OPTIMUM temperature: 39 to 40°C

MILD hypothermia: 37 to 39°C, any age

Mild hypothermia

Temperature between 37 to 39°C, kid may be any age.

Kid appears weak, depressed and gaunt (empty) but is able to stand.

1. Feed warm colostrum by bottle or stomach tube.
2. Feed 50 mL/kg of bodyweight slowly over five to 10 minutes. Additionally feed 200 mL/kg bodyweight spread over three more feedings within the first 24 hours.
3. Ensure the kid is able to drink milk.
4. Take temperature every 30 minutes until temperature returns to normal.

MODERATE hypothermia: less than 37°C, kid is less than five hours old

Moderate hypothermia

Temperature is less than 37°C, kid is less than five hours old and able to swallow.

1. Administer warm colostrum by stomach tube as per recommendations above.
2. Place in warming box until internal temperature reaches 39°C.
3. Move to a hospital pen after the first 24 hours, until the kid is strong.

Always monitor hypothermic kids for recurrence

You will need:

- ✓ digital rectal thermometer (measures as low as 20°C)
- ✓ frozen colostrum in small batches (150 to 250 mL)
- ✓ kid stomach tube and feeding syringe (60 mL catheter tip)
- ✓ warming box
- ✓ aftercare area that is draft free with pens that are warm, dry and well-bedded
- ✓ 50% dextrose (500 mL)
- ✓ kettle, with boiled sterile water, cooled
- ✓ sterile 60 mL syringe with 20-gauge 2.5 cm (one-inch) needle

SEVERE hypothermia: less than 37°C, kid is more than five hours old

Can the kid suckle and swallow?

YES

NO

This kid is in critical condition

Severe hypothermia protocol 1

WARNING! KIDS IN THIS STATE ARE HYPOGLYCEMIC (STARVING) AND HYPOTHERMIC (CHILLED). You must provide an energy source before warming.

1. Remove kid from doe/pen and dry off if wet.
2. Administer warm colostrum (50 mL/kg bodyweight) by stomach tube prior to warming! If you warm the kid first, it will convulse and die.
3. Place in warming box until rectal temperature is greater than 37°C.
4. Again administer warm colostrum by stomach tube. Feed 50 mL/kg bodyweight.
5. Move to hospital pen or warming box and feed until kid is strong and maintaining normal temperature (39°C). Once strong, return to pen/dam but make sure kid is able to drink milk.

Severe hypothermia protocol 2

WARNING! KIDS IN THIS STATE ARE HYPOGLYCEMIC (STARVING) AND HYPOTHERMIC (CHILLED). Do not attempt to stomach tube as this will result in the colostrum being deposited in the lungs, which will kill the kid. Kid is often unable to to stand. Follow directions carefully!

1. Reverse the hypoglycemia first before warming or kid will convulse and die! Follow "*How to administer abdominal cavity injections*" for full instructions.
2. After, place in warming box until rectal temperature is greater than 37°C.
3. Once the kid has a suckle reflex, administer warm colostrum by stomach tube. Feed 50 mL/kg bodyweight.
4. Move to hospital pen with heat source and feed until strong and maintaining normal temperature (39°C).
5. Once strong, return to pen/dam but make sure kid is able to drink milk.

For more information regarding efficient methods of warming kids, colostrum, and other information regarding kid management techniques, please visit: www.ontariogoat.ca

As in all conditions, prevention is the best cure for hypothermia. Good nutrition during gestation, clean, dry kidding areas, and observing and assisting kiddings when necessary, will prevent many losses associated with hypothermia in kids.

Talk to your veterinarian before kidding season begins to learn how and when to properly intervene.

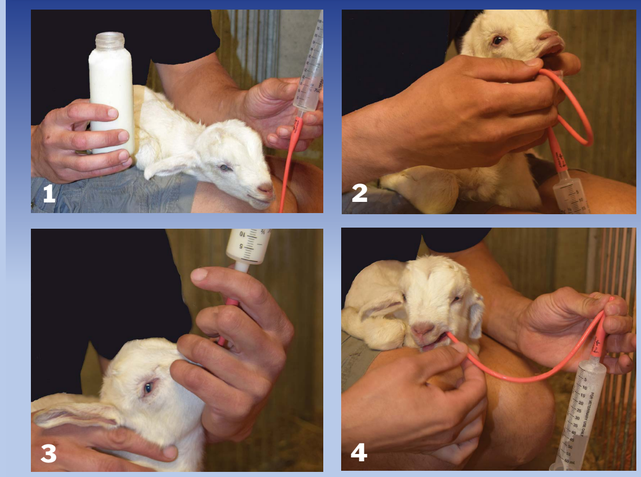
Ontario Goat would like to thank the Ontario Ministry of Agriculture, Food and Rural Affairs and the Ontario Veterinary College for their assistance with this project.

Warning! DO NOT microwave colostrum. Thaw colostrum in a hot water bath until it reaches 39°C.

Using a stomach tube

NOTE: The tube should move easily. ANY resistance or COUGHING indicates that the tube has entered the windpipe and it should be removed immediately.

1. Sit with the kid restrained on your lap. Measure the tube against the kid's body to get an idea of how far to insert the tube.
2. Pass the tube into the side of the mouth in the space between the front and side teeth.
3. Using gentle pressure slide the tube into the esophagus and down to the stomach.
4. Place fingers on each side of the kid's throat. Feel the tube pass through the esophagus to the left/back of the windpipe.
5. Slowly administer the warm colostrum either using a 60 mL feeding syringe (catheter tip) or a 250 mL squeeze bottle.
6. Crimp the end of the tube and, in one downward sweeping motion, pull the tube gently from the esophagus.



How to administer abdominal cavity injections

1. With a sterile 60 mL syringe, draw up 20 mL of sterile 50% dextrose using a sterile needle.
2. Boil clean water and draw up 30 mL of this water into the same syringe with the dextrose in it. This will provide 50 mL of warm (38 to 40°C) 20% dextrose solution.
3. Administer the solution at 10 mL/kg bodyweight.
4. Suspend the kid by holding under the forelimbs, allowing the rest of the body to press against your front.
5. The injection site is 2.5 cm (one-inch) below and to the side of the navel.
6. Using a 20-gauge one-inch needle, insert at a 45° angle to the body wall. The needle is pointed in the direction of the kid's pelvis (see photo).
7. Slowly inject the solution.