



## Browser's Bulletin 42:

### Diarrhoea in kids less than 1 month of age

Diarrhoea is a common symptom we see in small ruminants and can occur because of several pathogens, toxic substances and nutritional causes. Kids under the age of 1 month do not have a well-functioning immune system and the cause of diarrhoea is usually a complex interaction of organisms, poor immune system and husbandry factors. Often diarrhoea in kids less than 1 month is referred to as Neonatal Diarrhoea Complex in which the cause of the scours is not diagnosed. This article will give you some possible causes of diarrhoea in young kids to assist with a possible diagnosis.

Kids should be born into a very clean, draught free environment. If kidding pens are used, then clean straw should be maintained and cleaned out on a regular basis (Clean straw for each new batch of kids and changed regularly). It is a good idea to not over crowd the kids and keep them in small groups of kids the same age. Also, it is important to raise the food and water off the ground in order to prevent faecal contamination.



Drinking of colostrum within the first 6 hours is essential for the wellbeing of the kid. If colostrum is being bottle fed, it is recommended to be fed at 50-75ml/kg three times in the first day. After 24 hours the kid's ability to utilize the benefits from colostrum is greatly reduced and failure to absorb adequate colostrum leads to high mortality rates in kids.

It is recommended to offer hay soon after birth and creep feed or a goat mix by the second week of life to start the development of the stomachs. If the kid is being bottle fed, then scrupulous cleaning of bottles and teats is essential otherwise

this is an easy way to pass on bacterial pathogens. It is important to feed the milk at the correct temperature and concentration if you are bottle feeding kids.

The doe should be given a *Clostridium perfringens* type D vaccination (Enterotoxaemia/Pulpy Kidney) one month prior to kidding in order to pass protection onto the kid via colostrum. This will provide protection in the first few months of life. Kids should be given a Clostridial vaccinations at 2 months and a booster at 3 months of age as the doe's maternal antibodies will start to wane around this age.

It is important to isolate any kid with diarrhoea from the others to prevent the possibility of passing on an infectious disease and further contaminating the environment. It is ideal where possible to move the healthy kids to a clean paddock/pen as this pen is potentially already contaminated. In the case of a kid that hasn't performed well compared to others the same age it is important to not put it with younger kids of a similar size as the poor doer could pass an infectious disease onto the younger batch of kids. Try to prevent mixing of age groups where possible.

Nutritional mismanagement is the major cause of diarrhoea in kids under 4 weeks. Most cases occur in artificially reared kids through sudden change from goats' milk to milk replacer, alteration in the milk replacer concentration, overfeeding, varying the temperature of the milk, dirty utensils or contamination of the feed. I cannot express enough the importance of strict feeding practices and it is often best to have one person as the designated feeder to ensure consistency throughout the process. The kid's immature gut does not deal well with sudden changes.

Copper deficiency in goats is a sporadic issue that we see across the Hunter. There are a number of clinical signs you can expect to see with copper deficiency including diarrhoea. See Browser's Bulletin 13 on Copper Deficiency.

There are also several infectious agents that can be the cause of diarrhoea in kids. Bacterial agents such as *E. coli*, *Salmonella* and *Clostridium perfringens*, viral agents such as rotavirus and adenovirus and protozoan organisms including *Cryptosporidium* and *Giardia* can all cause diarrhoea in kids less than 4 weeks of age. Often a mixed infection in kids is detected. *Cryptosporidium* and *Giardia* are both zoonotic (can cause illness in humans), so personal protection is very important.

When you know the cause of the diarrhoea then specific treatments are required but if a diagnosis hasn't yet been established then symptomatic treatment of diarrhoea are warranted.

Ensure the sick kid is isolated from other kids (preferably with the doe as goats don't like to be alone), kept warm and clean and continues to receive milk (may need to be reduced in quantity). If you only provide electrolytes and not milk then the kid becomes energy deficient, it is also not recommended to dilute milk replacer with electrolytes and water as this can inhibit milk clotting but alternating oral electrolyte solutions with small feeds of milk is a reasonable approach early on and gradually increasing to desired quantity as the diarrhoea improves. If you believe the issue is with the feeding practices, then the issue needs to be corrected.

Dehydrated kids will require fluid therapy which can be in oral form or sometimes may need fluid therapy into the vein by a veterinarian. Vets can provide other medications that will assist with pain in the abdomen, gelling agent to line the gut and drugs to slow the spasmodic movement of the gut. Dehydration can be extremely severe and consequently can lead to death. Whenever possible, antibiotic therapy for diarrhoea should be based on a culture and sensitivity to ensure the organism causing the issue is sensitive to the antibiotic used.

With mild dehydration you would expect the kid to have an increase in thirst and a dry mouth but as the dehydration progresses the skin remains erect when pinched (as you can see in the photo below), the kid becomes lethargic, the limbs become cold and their eyes become sunken in the eye sockets until finally the animal becomes comatose and death follows soon after.



As the goat becomes older there are other pathogens that will come into play that are not as big an issue in their first month of life. I will discuss diarrhoea in older age goats in future Browser's Bulletins. I thought it may be all too much to take in at once and a good idea to break it up into age groups.

If you have other questions and concerns about diarrhoea in kids, please send me an email on

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References:

- Matthews, J; 2009. Diseases of the Goat
- Smith, M.C, Sherman, D.M; 2009. Goat Medicine

© State of New South Wales through Local Land Services 2019. The information contained in this publication is based on knowledge and understanding at the time of writing November 2019. However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of Local Land Services or the user's independent adviser. For updates go to [www.lls.nsw.gov.au](http://www.lls.nsw.gov.au)

