



ASHEEP - Bladder Stones and Urolithiasis

Urinary tract blockages are a problem known to occur in both small and large ruminants. Males are more susceptible to blockages due to having a longer urinary tract, which becomes narrower as it approaches the urethral process at the end of the penis. The blockages are due to stones, which form in the bladder, and become lodged within the urinary tract. The stones form due to an excess of a particular mineral, most commonly phosphorus or calcium. A blockage may cause abdominal distention and pain and the appearance of struggling to urinate. If the blockage persists a rupture can occur resulting in the urine leaking outside of the urinary tract (water belly) and can progress to sepsis or death.

Bladder stones and uroliths are a nutritional problem. An unbalanced amount of phosphorus and calcium can precipitate the formation of stones. This is more common on feedlot animals being fed cereal grains. However, uroliths can also be formed due to lush pasture containing higher amounts of calcium such as subterranean clover. Of particular concern is when multiple males in a herd develop uroliths suggesting all males on that feeding system are at risk. Additional risk factors include early castration which reduces the urethral diameter, reduced access to water which can cause a buildup of minerals and deficiency in Vitamin A.

If uroliths are suspected due to one or more animals straining to urinate, confirmed diagnosis of other males in the herd, or simply the presence of calculus around the hairs of the prepuce, early treatment yields far better outcomes than attempting to combat a ruptured urinary tract. Diet change where possible is the best solution for resolving stones. This may involve adding calcium to a feedlot ration to balance out high phosphorus or conversely reducing access to pastures rich in calcium. It is important that stock have enough access to water in order to dilute their urine and reduce the formation of stones. Salt licks or the addition of 1-4% salt to the feed is beneficial in encouraging animals to drink more water. If an animal is struggling to urinate it is best to consult with a vet before administering medication. Occasionally these animals will be able to pass a blockage with the help of anti-inflammatories and smooth muscle relaxers. Additional treatments may include a drench of or feeding out ammonium chloride to dissolve the stones. At Swans Veterinary Services we are happy to help guide treatment whether that be attempted medical management for individual animals or herds, or surgery (invasive and non-invasive options) for valued ruminant pets or breeding stock.



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Images: <https://www.hilarispublisher.com/open-access/urinalysis--a-diagnostic-factor-for-urolithiasis-and-prognostic-factor-for-its-recurrence-in-young-ruminants-2157-7579-1000336.pdf>, <https://prosites-keller55.homestead.com/UrinaryCalculi.html>

Sincerely,
Dr. Katie Kreutz,
Swans Veterinary Services