For Pet's Sake
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**GUT STASIS (SHUTDOWN) IN SMALL HERBIVORES**

Gastrointestinal "shut-down" is a potentially life threatening condition in pet herbivores. The condition has also been called by other such names as "shut-down", "wool block", "blocked", "gastrointestinal ileus", and (heaven forbid!) "hairball". Regardless of what it is called, seasoned bunny owners know this condition manifests as anorexia and\or decreased fecal output. Other early signs may include not drinking, decreased size of feces, or dry, irregular shaped feces. More severe signs could include a lethargic bunny sitting in a hunched position and panting in addition to the above mentioned. As soon as any of the signs are noticed by the owner, the bunny should be taken to a veterinarian familiar with rabbits.

Physical exam findings of these bunnies usually include one or more of the following: a large "doughy" feeling stomach, painful gas-filled intestines or cecum, or an "empty" feeling abdomen. More severe cases often are presented with severe dehydration, shock, or an intestinal tract on the verge of rupture. X-ray films may be taken to reveal the severity of the gas distention. To a radiologist unfamiliar with rabbit gastrointestinal anatomy and using the dog or cat as a reference; a diagnosis of a hairball or some other foreign body may be made. This assumption is easily made because an x-ray film of a gas distended rabbit abdomen looks an awful lot like that of a dog or cat with an obstruction due to a foreign object such as a hairball!

The process by which gastrointestinal "shut-down" occurs begins with some change that affects the stomach's and\or the intestines' ability to contract and move ingested food along. The longer the food sits around without moving, the more water is absorbed from the ingested food. This leaves behind a dry and compact "glob" of food that cannot pass from the stomach. This is not a true obstruction; nothing is physically wedged in the stomach like a clog in a drain. The retained "glob" itself might be seen on x-ray films and be misinterpreted as a hairball. Gas producing bacteria normally found in the gut continue to multiply. This overproduction of gas distends the already flaccid intestine to the degree that it becomes painful to the bunny. The pain causes the hunched stance and lethargy mentioned above. Bunnies can die in just a few days from a combination of pain and starvation if left

untreated. More severely, the stomach or intestines could rupture spewing millions of bacteria and bacterial toxins into the abdomen causing acute shock and rapid death.

The exact cause of the initial change in gastric motility can vary. Pain can initiate a decrease in gastric motility. Sometimes within 24 hours after a routine surgery such as spaying or neutering a rabbit may begin to show signs. Humans can sometimes become afflicted with a similar syndrome called post-op ileus after abdominal surgery. Other sources of pain may be trauma as severe as a broken bone or as simple as a broken toe nail! Other rabbits have a history of running out of food or water that went unnoticed for 24-48 hours. These bunnies may already be in "shut-down" and do not eat or drink when food or water is replenished. Some bunnies showing early signs of "shut-down" also have molar malocclusion. A sore mouth due to spikes and points protruding from the back teeth into the cheek or gum tissue can cause a rabbit to stop eating. It has already been stated that "shut-down" causes bunnies to stop eating but in some cases anorexia can be the initiating cause of "shut-down". Probably the most common reason we can determine for a rabbit to "go into shut-down" is not enough of the right fiber in the diet. Fiber stimulates gastrointestinal contractions in most species of animal including humans. When the diet is made up of too many fiber lacking-foods such as seeds, fruits, simple carbohydrates, or inappropriate animal protein sources over a moderate amount of time then "shut-down" can occur. Unfortunately, there are times when an apparent cause cannot be determined and this can be frustrating to both owners and veterinarians.

The majority of the time, "shut-down" becomes more of an immediate threat to the rabbit's life than the initial cause. Treatment for these rabbits varies depending on the signs and their severity upon initial physical exam and x-ray films. Usually these bunnies need to be hospitalized and treated multiple times throughout the day for them to improve. The longer the duration of the "shut-down" the longer a bunny has to be treated and aggressive treatment from the point of the earliest signs appears to produce a high recovery rate. Most medications have to be given by injection (the gut is "shut-down", remember) rather than by mouth. A typical therapeutic regime may include: stabilizing shock with IV fluids and steroids, correct dehydration, gut motility inducers, pain control, anti-gas medication for bloating, and antibiotics for the bacterial overgrowth. In addition, if the initial cause can be identified, it is addressed as well.

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