

ABSCESSSES IN RABBITS

Abscesses occurring in rabbits can have many different causes. Some of these causes can be prevented while others are not known until the abscess has occurred. Once formed, the treatment for these abscesses can be both time consuming and costly for the owner as well as uncomfortable for the bunny. The most common bacteria found in rabbit abscesses are *Pasteurella* spp. but a bacterial culture may be necessary to confirm or guide treatment. The purpose of this article is to inform the bunny owner of the different types of rabbit abscesses, the prevention of some (where applicable), and the length of treatment that may be involved in clearing up an abscess once it has formed. This listing is not all inclusive but does discuss the types most often seen in this practice.

Superficial abscesses can occur on any part of the body and are found just under or in between the layers of the skin. The rabbits typically do not show signs of a problem such as pain, lethargy, or anorexia. The owner will commonly notice a swelling in or scab on the skin and bring the bunny into the clinic, where the final diagnosis is made. The underlying cause is generally from a penetrating wound such as a bite from a cage mate, sharp objects (such as wire, hay stems, or sewing needles), or projectiles (such as BB's or pellets from a kid's air rifle!). Treatment usually involves lancing and flushing the abscess, placing the bunny on systemic antibiotics, as well as scheduling follow-up appointments to make sure the lanced area stays open long enough for the infection to clear. The healing process from a superficial abscess may take as little as ten days or as long as three months. One case in particular comes to mind: "Frans" was presented for assessment of a recent bite wound on his side. Initially the wound did not look too bad but I mentioned to the owners the potential of it becoming a severe abscess. As predicted, the wound became very serious despite preemptive treatment. Three surgeries, many flushings and bandage changes, two long-term antibiotic treatments, and three months later...the abscess healed with no other ill effects.

Joint abscesses are very painful and can occur in any joint of the body but are most typically found in the hock joint of the hind leg or the wrist joint of the fore leg. The owner may notice the bunny being reluctant to move or a tendency to "shuffle" instead of hop. In addition,

the bunny may go off feed and become very lethargic. Upon presentation the rabbit will have severely swollen limb joints and often have scabs and pus on their hocks and wrists. The most common underlying cause of a joint abscess is frequently a result of being housed on a wire surface, although some joint abscesses are a result of bacteria getting into the blood stream and then settling out in one or more of the aforementioned joints. The cause of the bacterial infection of the blood is a result of a compromised immune system that stress, poor nutrition, and bad husbandry practices often induce. Treatment for this type of abscess is very lengthy and may include, but is not limited to systemic antibiotics, topical antiseptic treatment of the affected joints, pain control, and, most importantly, correction of the poor husbandry techniques. A bunny recovering from a leg joint abscess will usually have severe joint damage which results in irreversible arthritis and may need to be placed on lifelong anti-arthritis medications. The case of “Mr. Ben” comes to mind: He was presented to the hospital in very bad shape; calling his husbandry sub-standard was a compliment! He suffered from severe malnutrition in addition to joint abscesses of BOTH hocks and BOTH wrists. He was adopted by HRS and for three months was treated with systemic antibiotics, chlorhexadine soaks of all four feet, repeated lancing of all four affected joints, and pain medication. After this period of treatment and correcting his diet (he almost doubled his weight) and providing proper living conditions; “Mr. Ben’s” joints were so deteriorated that he still cannot walk normally and is given anti-arthritis medication regularly.

Abscesses that occur around the base of the ear are called periaural abscesses. These are typically not painful and often an owner will note a grape-sized swelling in the area where the ear meets the head. Some bunnies alert their owners to investigate the affected ear by scratching at it furiously or repeated head shaking. Sometimes a periaural abscess is caused by the same things that would cause a superficial abscess. Other times, they may be the result of an ear infection. Regardless of the cause, they usually rupture on the inside of the ear resulting in drainage of some of the pus down the ear canal. This tendency to rupture and partially drain may account for the abscess’ small size upon presentation. In any case, they should be treated with both systemic antibiotics and topical ear medications after the initial lancing and flushing. Rechecks are just as important with this type as they are with the superficial abscesses to prevent premature closure of the lanced area and subsequent reformation of the abscess. In my experience this type of abscess tends to reoccur; often months after the initial treatment and apparent healing. An example is “Skittles”: I have treated her for this type of abscess approximately once every ten to twelve months for the past three years. Never has she appeared to be bothered by this reoccurring problem (except when I lance and flush it!). Every year the

area appears to heal up and has no further swelling for months. Her owners have become very astute to this problem and bring her back in at the first sign of reoccurrence.

The next group of abscesses occurs less frequently, but due to their underlying causes are worth mentioning. Internal abscess may form in either the abdomen or the chest. They can be associated with any organ found therein. In most cases, they are the result of bacteria in the bloodstream due to a decreased immune system. As previously mentioned, a rabbit's immune system can be compromised from increased stress, i.e. poor nutrition, improper housing, and inappropriate living conditions. The bacteria responsible for the abscesses is not taken care of by the bunnies own defenses and can settle out in various organs of the body. In addition to joints (previously mentioned), organs such as the liver, kidneys, lungs, or intestinal lymph nodes may be involved. The uterus can also be the site of internal abscess formation. Obviously, spaying a female bunny at an early age can prevent this type. Signs of an internal abscess are much vaguer than any signs mentioned previously. More often, these rabbits are presented for anorexia, lethargy, or "ADRD" syndrome (Ain't Doin' Right, Doc!) Diagnosis is made with X-ray films or ultrasound and treatment is surgical with outcomes being very guarded.

The most common site for jaw abscesses in rabbits occurs in the lower jaw. The most common breeds tend to be dwarf males. Often, the rabbit is brought into the hospital for such vague signs as not eating, not defecating, lethargy, or drooling. Sometimes owners notice a large, sometimes golf ball-sized hard lump on the affected jaw. The physical exam typically reveals the large lump which may be hard, soft, or a combination of the two as well as a malocclusion of the back or "cheek" teeth. X-ray films then confirm the presence of a jaw abscess with proliferation of the jaw bone.

The cause of these abscesses and accompanying malocclusions are usually multifactor and may never be definitively determined. As mentioned, rabbits with jaw abscesses usually have malocclusions and the two problems are definitely linked. So which problem came first: the abscess or the malocclusion? The answer is either could have come first with the other being the result.

Infection of the tooth roots or gums could spread to the bone surrounding the teeth. The infection could have been introduced by foreign objects such as hayseeds wedging between the teeth and gums or splinters from wood chewing. I have even seen one bunny that got into the sewing basket and got a sewing needle lodged in his gums. Regardless of entryway, the bacteria can proliferate and invade the surrounding bone causing the bone to weaken. The teeth then

become loose in their sockets and shift their position. A malocclusion is the result. Additionally, physiologic stressors such as poor diet, bad husbandry, and inappropriate living conditions can weaken a bunny's immune system facilitating the above process.

The above paragraph describes how infection precedes malocclusion with the end result being an abscess of the jaw. The same resulting abscess can also be obtained when the chain of events are reversed. More commonly, a malocclusion is the initiating cause and the infected abscess comes along secondarily. Tooth root elongation is one type of acquired malocclusion linked to jaw abscess formation. The theory is that rabbits without proper wear-down of their cheek teeth end up with their jaws held slightly open due to the tooth crowns being too long above the gum line. Over time the jaws cannot be held open any wider and the pressure exerted on the teeth caused by their continuous growth essentially pushed the tooth roots in the opposite direction. The tooth roots basically are pushed out of their sockets and into the deeper layers of the jaw bone. The bunny's body perceives this as a foreign invasion (tooth roots are not supposed to be out of their sockets and in the deeper layers of jaw bone) and a major inflammatory response occurs with a hard bony abscess resulting. Metabolic bone disease is another theory as to how some abscesses form. Basically bone needs calcium, phosphorus, and vitamin D to remain solid and strong. A deficiency of or problem utilizing any of the three ingredients can lead to thin and weak bones all over the body. In addition to bone fractures, malocclusion is a common manifestation of metabolic bone disease. This occurs because the body starts to reabsorb the minerals from its own stores in the bones. The tooth sockets become too big to hold the teeth adequately. The teeth are loose and are easily shifted into a misalignment. The resulting gaps and loose fitting teeth allow foodstuffs and bacteria from the mouth to become wedged into the space between tooth root and bony socket creating a perfect environment for the bacteria to grow and invade the surrounding bone. The result, once again, is a bony jaw abscess.

Once diagnosed, treatment for jaw abscesses should be aggressive! Each bunny and situation is different and this list of treatments may not apply to every bunny. At for Pet's Sake we typically place these bunnies on antibiotics and anti-inflammatory medication immediately and schedule their first surgery to lance, flush, and remove parts of the infected jaw bone. I say first surgery because rarely will one single surgery and one simple round of antibiotics cure this problem. During this first surgery we also trim and file the overgrown misaligned back teeth. The lanced abscesses are usually left open and flushed with an antimicrobial solution daily. Subsequent surgeries are usually required to remove more of the infected bone, flush out more

pockets of pus, instill antibiotic impregnated beads or gel, or remove infected teeth. Treatments can go on for months and despite any combination of above treatments, may never “cure” the problem. I consider treatment successful if the jaw does not form any more abscesses for two years. These “cured” bunnies will require periodic back teeth trims and files for the rest of their lives as the malocclusion never corrects itself after treatment of the abscess.

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