

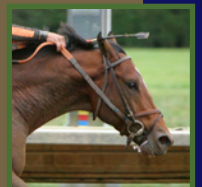
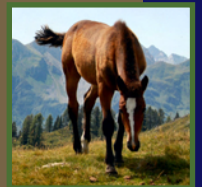


EQUINE SARCOIDS

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Sarcoids are one of the most common skin tumors in the horse. They usually occur in younger horses but have been known to occur in horses of any age. Common locations for sarcoids include the legs, eyelids and ears. Sarcoids are known to occur in areas of prior trauma and may grow in areas where there was previously a wound. There are several different types of sarcoids, which have variable appearances, and different growth patterns and behaviors. The most common types of sarcoids include occult, verrucous, nodular and fibroblastic. Occult sarcoids are flat, hairless areas that do not grow. These are best left untouched as if they are traumatized or biopsied they can transform into the other most common type which is the fibroblastic form. Fibroblastic sarcoids look like exuberant granulation tissue (proud flesh) and may grow either slowly or rapidly (see Figure 1 and 2 of carpal and eyelid sarcoids).



Figure 1: A fibroblastic sarcoid on the side of the carpus

Quarter Horses appear to be the most commonly affected with sarcoids whereas Standardbreds are rarely affected. The cause of sarcoids has been investigated and both genetic and viral components may play a role in their occurrence. Bovine papilloma virus has been shown to be present in sarcoids and normal horse skin, but is changed to a tumor producing form in sarcoids.



Figure 2: A sarcoid above the eyelid

There have been many different treatments described for equine sarcoids. The multiplicity of treatments reported reflects the lack of a simple and effective treatment. The probability of recurrence after any treatment increases with both the increasing size of tumor and if it has been treated previously without success. Surgical excision is commonly acknowledged to have a high rate of recurrence (50-64% failure rate). Wide margins (or removing a lot of normal skin around the sarcoid) are recommended, but may not be possible due to the location (next to a joint) or may result in an unacceptable cosmetic outcome (around the eye or ear). Other therapies include cryotherapy (freezing) and laser-assisted excision, which have variable success. Some therapies aimed at enhancing the immune response to the tumor, such as a BCG (an immune stimulant) injection and autogenous vaccines, have been tried, but are not proven. These often require repeated injections and have variable success rates. Many topical creams have been advocated but have rarely been examined scientifically and most cause severe inflammation in the sarcoid. The painful inflammation from repeated applications can create obstacles to treatment as the horse may resist or resent cream application.

Injecting the sarcoid with chemotherapy drugs (such as cisplatin and 5-fluorouracil) has been described and is moderately successful. Treatments are given in a variety of ways but often at 2-week intervals for a total of 4 or more injections. Side effects that have been observed include significant local skin reactions (moderate edema, crusting and pain) and have resulted

in delaying subsequent treatments in a few horses.

All of the aforementioned treatment options for sarcoids can be successful, but despite this, the outcome can be frustrating as they have a tendency to recur after treatment.

Radiation therapy has been described as a successful long-term treatment for sarcoids, most frequently in the form of brachytherapy. This means the sarcoid is implanted with radioactive seeds that continuously emit radiation. This has implications for the care of these horses during the treatment period as access to the horses and stalls is limited to visual checks only due to radiation safety concerns for people.

At The Ohio State University Veterinary Teaching Hospital, radiation therapy for horses using external beam radiation is delivered using a linear accelerator, a machine that generates high energy photons and electrons. This form of treatment is referred to as external beam radiation therapy. The horses are treated with radiation with this method but are not radioactive at any time during or after treatment. Horses are commonly evaluated at the hospital and the sarcoid is surgically trimmed to the level of the skin, and then a first dose of radiation is delivered during the same anesthesia. The horses can go home the same day. Usually a treatment protocol consisting of 4 weekly radiation treatments is recommended and these are performed as outpatient procedures. Horses have to be anesthetized for the radiation but only for approximately 20 minutes. Thus far, the success rate has been good although results are preliminary. The horses do not experience any discomfort during radiation, but it can result in some white hair developing at the radiation site. Figures 3 and 4 demonstrate the sarcoid over the carpus approximately half-way through the 4 weekly radiation therapy treatments and the eyelid sarcoid months after radiation therapy treatment.

In summary, sarcoids that assume an aggressive fibroblastic form resembling proud flesh can be a difficult and frustrating problem for horses and their owners. We utilize many different approaches to resolve sarcoids, tailoring each treatment protocol to match the horse, the sarcoid, and the owner. We are pioneers in the use of external beam radiation therapy for the treatment of sarcoids and other tumors of horses. Radiation has been shown to be the most effective

therapy for sarcoids, and the method of external beam radiotherapy avoids the issues of implanted radioactivity, is comfortable for the horse, and can be easily performed on an outpatient basis.

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Figure 3: Carpal sarcoid half-way through radiation therapy treatment.



Figure 4: Eyelid sarcoid months after radiation therapy treatment.