



# Vet Notes

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**Summer Sores**  
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**What are summer sores?**

This is a disease process that goes by many names, including summer sores, granular dermatitis, jack sores, and habronemiasis. In general, these are all terms for a skin condition caused by larvae of the Habronema species worm.

The adult worms live inside the wall of the equine stomach, create only mild inflammation, usually cause no signs of the infestation, and produce very little damage to an adult horse. However, heavy infestation in some horses has been known to cause stomach irritation, and in rare cases, perforation or possible stomach rupture. Although this can sound intimidating, their most common threat is when they invade fresh wounds or moist areas on a horse's body.

**What is the lifecycle of a stomach worm?**

During an infestation in a horse's stomach, eggs are excreted through its manure into the environment. These eggs are ingested by the larvae of various other species of flies (i.e. house, stable, and face flies). As the fly larvae grow, they incubate the Habronema egg as it also develops into the larval stage.

When the infected flies land near or around a horse's mouth, the Habronema larvae are released and swallowed by the horse, completing the lifecycle.

**How does a stomach worm cause a skin problem?**

Things start to go awry when these larvae are deposited places other than around the mouth, such as moist areas of the body (i.e. eyes, lip commissures, ears, ventral abdomen, prepuce, penis, and urethral process) and injured or irritated skin. The latter of these at-risk areas tend to be on the limbs, as this area is prone to cuts, scrapes, and other trauma. In addition, irritants, like parasites, can cause a horse to rub or scratch, causing skin damage and subsequent entry of Habronema larvae.

Since these locations are not normally in the worm's lifecycle, they cannot grow properly. The larvae migrate around the horse's wound, causing severe local inflammation, usually characterized by intense swelling, ulceration, redness, and itching. The result is a nonhealing lesion that tends to get worse over time.

### **What do I do if I think my horse has summer sores?**

It is important to confirm that the lesion is truly a summer sore. Summer sores have a "greasy" appearance and often contain yellow calcified material. They occur usually in the spring and summer, corresponding to fly activity, but in temperate climates (like Florida), they can arise at any time. These wounds can also appear to regress in the winter months, only to flare up again in the spring.

Wounds with proliferative granulation tissue, also known as proud flesh, can look similar to summer sores. In addition, several skin tumors, like squamous cell carcinomas and sarcoids, can also have a similar appearance. Other differentials include a foreign body granulomatous reaction and pythiosis. Because these lesions can all look alike, it is best to contact your veterinarian prior to initiating any treatment.

Your veterinarian may want to take a tissue biopsy of the lesion to corroborate their suspicions. This is the best diagnostic option for confirmation but may be difficult to perform based on the location of the lesion. A characteristic eosinophilic response or the presence of larvae are confirmatory when looking at the tissues. However, larvae are not always easily recovered, and your veterinarian may be required to rely on response to treatment as a diagnostic tool.

### **How are summer sores treated?**

Summer sores can be difficult to treat, and management usually has multiple components.

First, deworming with ivermectin or moxidectin, the only effective medications for treatment, will kill both the adult worms in the stomach and the worm larvae in the skin, allowing the wound to heal. A single dose is generally enough to kill *Habronema* species larvae. However, some horses do not respond to one treatment or become reinfected. This results in the need for multiple doses, creating an increase in concern for ivermectin resistance. Topical ivermectin is also a key component in treating the wound, applying medication directly to the source of inflammation. In addition, topical and systemic anti-inflammatories (i.e. NSAIDs and glucocorticoids) may be helpful to reduce inflammation and itching. Bandaging the wound may be necessary to maintain cleanliness and reduce self-inflicted damage by the horse. Finally, judicious use of antimicrobials might be required to treat secondary infections.

In more serious cases, please consult your veterinarian as other treatments may be necessitated. Large amounts of proud flesh may require debridement to allow for proper healing and removal of degenerative larvae.

### **How do I stop my horse from getting summer sores?**

Proper insect control and regular deworming are the two of the more important means for prevention. Fly control is key to preventing deposition of larvae into wounds and can be achieved by promptly removing common breeding areas such as manure and wet bedding.

Insecticides, fly traps, fly sprays, fly masks, and repellants are also beneficial. Insect growth regulators can be added to horse feed to interfere with growth and development of fly maggots in the manure after they pass through the gastrointestinal tract unphased. In addition, if your horse is injured, prompt and appropriate treatment will greatly reduce the risk and severity of summer sores.

If you have any concerns, please contact your veterinarian.

#### Citations

Lloyd, David H., et al. *Practical Equine Dermatology*. Blackwell Science, 2008.

Lenz, Tom. "Summer Sores." American Association of Equine Practitioners, [aaep.org/horsehealth/summer-sores](http://aaep.org/horsehealth/summer-sores).