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By Marc R. McCall, DVM

Skin Problems - Jun 18th, 02

The horse's largest and most visible organ is his skin. Its job is to protect the internal organs from the outside environment; to help maintain constant temperature, water, and mineral balance; and to provide the sensations of pain and touch. The skin is composed of the epidermis--a dried cellular layer--and the dermis--the live portion of the skin. The dermis holds the nerve endings, hair follicles, blood vessels, and sweat glands. Most skin problems originate in the dermal layer.

Skin problems can be divided into several groups. The most common problems arise due to trauma. Lacerations, the most obvious example, can be treated by surgical repair or by allowing them to heal on their own, depending on their location and size. However, allowing them to heal without intervention can give rise to exuberant granulation or proud flesh. This is a proliferation of the tissue just below the skin. It delays healing of the skin by becoming a mechanical barrier to migration of dermal cells across the defect. Treatment includes surgical or chemical removal of the excess tissue and medication to prevent regrowth while the skin bridges the defect.

Chemical irritants such as urine, feces, or human-applied substances like mustard oil or ginger can produce profound skin problems. Some trainers apply mustard oil (in combination with chains) around the pasterns to accentuate a horse's gait. This chemical can produce a profound skin inflammation.

Sunburn also can be a direct trauma to the skin, a symptom of underlying disease, or an effect of the presence of certain medications in the dermis. Sunburn often occurs on the muzzle, around the eyes, and on white-skinned regions. Prevention, as in humans, is mainly by limiting exposure to direct sunlight. Sunblock creams made for humans work well on horse muzzles, although the protectant must be replaced frequently for maximal effect. Sunburned skin will peel, and it takes a week or so to heal. Skin burned due to systemic disease is called photosensitization. It usually is related to diseases involving the liver and can be diagnosed with a blood test. Occasionally sunburn can be caused when medications, such as tetracyclines, make the skin more sensitive.

Infections of the skin occur frequently. The skin has a normal flora of bacteria and fungi. This flora is not a problem unless the dermis is injured and the flora gains access to the dermal and subcutaneous areas. When bacteria invade, an abscess or tract forms. Creamy, thick discharge exudes from the area, which becomes reddened and hot. Treatment is local cleansing with povidone iodine and water, accompanied by antibiotics, if necessary.

Fungal infections of the skin come in several varieties. The most common and least serious--ringworm--probably is resident as a member of the normal flora and gains entry via small wounds or inflamed areas. Ringworm infections are not associated with worms. The

infected areas are commonly around the girth area, but can appear anywhere on the body. Ringworm appears to be an irregularly shaped area of partial or complete hair loss with crusts. Treatment includes povidone iodine baths and crust removal. Treatment takes at least two to three weeks for resolution. Other treatment options include medications such as Fulvacin, which can be administered in the feed, and a wide variety of shampoos, topical creams, and ointments containing anti-fungal drugs. It is important to disinfect tack regularly and not share tack between infected and non-infected horses.

An unusual fungal skin disease of the foot, phycomycosis, involves fungi of the *Hyphomyces* species. This disease occurs primarily in Florida, and it involves severe infection of the foot and associated pastern. This disease can cause loss of portions of the hoof, bone, and soft tissues, leading to permanent lameness if not aggressively treated. Treatment includes surgical removal of infected tissues, treatment with an anti-fungal mixture called "phycofixer," and luck.

Parasitic infestations of the skin often occur. Lice, ticks, and gnats are observed in folds, under the mane, and in the ears. Treatment with shampoos containing pyrethrin, permethrin, or other parasiticides provide effective treatment. Deep parasitic infestations by *Habronema* larvae cause open draining sores called "summer sores," which occur predominantly in the southern United States and are spread by flies. Treatment is by excision and treatment with anti-parasitic drugs and ointments. These sores can appear anywhere on the horse's body, but commonly are found on the sheath and legs. Larvae of the *Onchocerca* species produce nodules on the chest and neck.

Skin tumors are one of the most frequent cancers from which horses suffer. Squamous cell carcinomas often occur around the eyes or the sheath in light-skinned horses. This tumor usually is very malignant and spreads to surrounding tissues quickly. Surgical removal and local chemotherapy provide the best chance of cure. Sarcoids are thought to be viral in origin and often occur on the trunk and around the eyes. Surgical removal, local chemotherapy, and cryosurgery all have been used as treatments. Recurrence of these tumors is quite common. Gray horses often develop melanomas on their muzzles, underlines, and under the tailhead. In contrast to humans, horse melanomas generally are benign, although they do ulcerate and become infected in some cases. Medication with cimetidine has been tried with variable results. Collagen granulomas, or nodular necrobiosis, are not true cancers, but present as skin masses often on the top of the horse's back. These masses often respond to cortisone injections or surgical removal.

Skin problems in horses have many causes. Proper diagnosis and treatment are a team effort between you and your veterinarian. With many of the problems, consistent care for an extended period of time is the best way to prevent recurrence.

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