A close up look for common equine skin condition in BHA Luxor operational area.

Literature Review

“Horses, like people and other species, always walk around with bacteria on their skin,” said Dr. Rosanna Marsella, a veterinary dermatologist at the University of Florida.

Problems arise when there is damage or environmental factors that weaken the health and protective elements of the skin. “Many times there is injury to the skin and then the infection is secondary,” said Dr. Marsella.

From warts, to sweet itch and ringworm, the risks to skin health are many. A good horseperson should be able to identify the most common skin ailments and practice good pasture and stable management to help prevent infections and their spread.

To that end, here is a handy guide that covers some of the most common skin problems in horses, complete with symptoms, treatments and prevention tips – because nobody likes to spend their time at the barn picking at scabs.

Common Equine Skin Conditions

Equine skin conditions are often difficult to diagnose and frustrating to treat, with causes ranging from fungus to allergens to who-knows-what. Check out our pictures of common equine skin conditions—patchy to scabby and everything between

Warts

Warts are caused by the equine papilloma virus and are often associated with young horses. The lesions usually form on the muzzle and lips and last approximately 60 to 100 days before the horse builds a natural immunity and the warts spontaneously disappear. Warts are contagious and spread via direct contact with horses suffering active breakouts. | Photo: Pam MacKenzie

Sarcoids

A sarcoid is a nonmalignant but locally aggressive tumor most often seen on the head, belly, groin, and legs. The most common are verrucous, with a warty look, or fibroblastic, which resembles proud flesh. Bovine papilloma virus (BPV) is probably a causative factor in sarcoids, and a 2010 study of 222 horses at the University Equine Clinic of Bern identified a possible genetic basis for sarcoid development in horses as well. | Photo: Anne M. Eberhardt/The Horse

Melanoma

Approximately 80% of gray horses will develop melanomas by the time they're 15 years old. These skin growths are malignant tumors usually located near the anus, vulva, sheath, penis, ears, salivary glands, and underside of the tail. | Photo: The Horse Staff

1. WARTS (PAPILLOMAS) AND SARCOIDS

Skin tumours typically appearing on the muzzle, lips and ears, the veterinary term for warts is papillomas. They are caused by the equine papilloma virus, which prompts keratin (a protein in skin cells) to replicate excessively. Sarcoids, another type of skin tumour, can look like warts, but these are believed to be caused by the bovine papilloma virus. They can be more serious because they tend to be invasive and often re-grow after removal.

Symptoms: Tumours clustered in the ears, muzzle, lip area. Sarcoids can be found on the genitals, on elbows and on the chest. A veterinarian may take a skin biopsy to determine if the lesion is a sarcoid.

Treatment: Surgically removing warts or cryosurgery ('freezing' them off) is an option, but there is a risk of scarring. Topical treatments tend to be ineffective. Most cases of equine papilloma virus resolve themselves within a few months. If the lesion is determined to be a sarcoid, surgical removal is usually necessary, or an injection of a chemotherapy drug.

Prevention: The equine papilloma virus most commonly afflicts foals who are not yet immune to it. Horses can be carriers but show no symptoms of the virus, which can sometimes make prevention difficult. Luckily, by the age of three, most horses have developed a natural immunity to the virus. However, older or immune compromised horses can be at risk as well. Because it is contagious, try to reduce contact between infected and uninfected horses and avoid sharing equipment and brushes. As a general rule, humans cannot 'catch' warts from horses.

According to Dr. Marsella, there is evidence insects can also spread the virus, so reducing insect populations may also be beneficial in preventing the spread of warts.

Scratches

Breaks in the skin lead to bacterial and/or fungal causing scaly patches, hair loss, and inflammation on the legs called scratches (aka grease heel or mud fever). Causes include contact allergies and irritants, infestation with *Chorioptes* mites (leg mange), and malformations with the lymphatic vessels, etc. Secondary infections are often worsened by exposure to moisture in mud or pastures. Draft breeds and other horses with feathered legs might be most susceptible. | Photo: Pam MacKenzie

2. MUD FEVER OR SCRATCHES

Mud fever or scratches, also known as pastern dermatitis, is an inflammation of the skin on the pasterns and fetlocks caused by a bacterial infection. It can be caused by Staphylococcus or Dermatophilus congolensis, the same bacterium that produces rain rot.

Symptoms: Matted hair with crusty scabs on the pasterns, with eventual hair loss and raw looking skin. There can be heat and swelling in the affected areas and sometimes lameness.

Treatment: Wash the affected area with antimicrobial soaps as noted above and dry area thoroughly – a hair dryer works well. When the area is clean and dry, apply medicated antibiotic ointments such as neomycin. Kunzea oil – an antibacterial essential oil from Tasmania, mixed with sulfur and zinc oxide, has been shown in a study to cure most cases within a week.

Prevention: Avoid keeping horses in wet, muddy pastures for prolonged periods of time. Horses with heavy feathering around their fetlocks seem to be most susceptible, so keeping the area clipped can help prevent bacterial and fungal infections.

Rain Rot

Also known as rain scold or dermatophilosis, rain rot is skin disease caused by the opportunistic bacterium *Dermatophilus congolesis*, which thrives in moist conditions and enters through damaged skin (think bites or chaffing). Rain rot is usually evident over the horse's neck, back, and croup, but can also spread to the legs. The skin crusts and raised tufts of serum-matted hair, called paintbrush lesions, form. The tufts usually shed, leaving hairless patches. Rain rot is contagious. | Photo:

3. RAIN ROT (RAIN SCALD)

Rain rot, or rain scald, is a bacterial skin infection caused by the spores of Dermatophilus congolensis. This bacterium can live on the skin of a horse and not cause any problems until the skin is compromised by prolonged periods of dampness and humidity. Biting insects can spread the bacterium from horse-to-horse. This infection is common in cows, sheep and goats and can also be found in humans..

Symptoms: Rain rot will start with bumps and matted coat on a horse's back, rump, head or neck – areas where insects bite. These will turn into scaly flakes of skin, or scabs that are itchy.

Treatment: With time, rain rot will usually resolve itself. It can, however, spread from horse-to-horse, so it's best to treat it when symptoms appear. Fortunately, home treatment works well for this condition and all you should need is antimicrobial soaps and regular cleaning of the infected area.

"Benzoyl peroxide products – the same thing used for acne – works well," said Dr. Marsella. "One thing people need to realize is that the skin of animals is actually more delicate than the skin of people so avoid using human products on your horses."

Human treatments have 10 per cent benzoyl peroxide, while veterinary solutions have only two and a half to three per cent. Another good product to use on rain rot is chlorhexidine. These types of products, applied for five to 10 minutes, will aid in drying out the area and clearing up scabs.

Prevention: Keep horses dry and clean. Do not share grooming tools. Keep insect populations down. Horses with thick coats are more susceptible, so regular grooming and clipping can help.

Hives

Hives are round, raised wheals over the body that cause the hair to stand up. They can range from the size of a nickel to several inches in diameter and can cover part or most of the body. A breakout of hives is usually related to air-borne allergens (e.g., tree, bush, weed, or grass pollen; mold; dust; etc.); ingested allergens (e.g., feed ingredients); or vaccination or medication reactions.

4. HIVES

Known as urticaria in the veterinary community, hives are bumps on the skin that appear due to an overactive immune reaction to environmental triggers. “There can be a million reasons for hives,” said Dr. Marsella. “Some horses can get hives just from physical exercise or from being too hot or cold.”

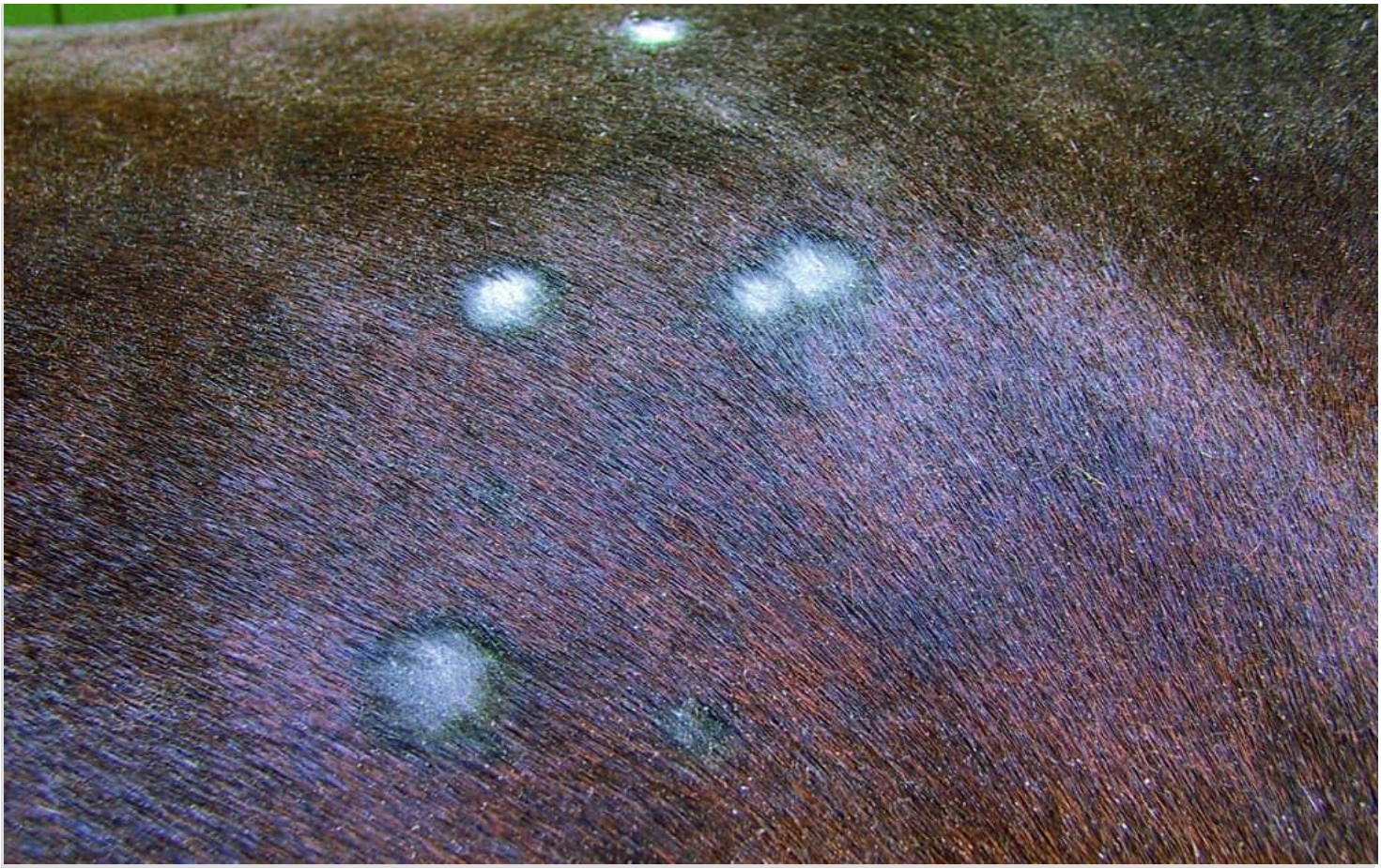
Symptoms: Bumps that appear quickly in localized areas, most commonly on the back, belly and neck. Hives can disappear as quickly as they appeared. “Many horses are not itchy with hives and this is a difference from other species,” said Dr. Marsella. “So, they can look horrible, but many of them are not causing discomfort.”

Treatment: Antihistamines – both topical and oral – can ease discomfort if there is itching present, but often they are unnecessary because hives generally resolve themselves quickly.

Prevention: The first step is determining what causes the hives. “Think back to what the horse was doing and in contact with during the half hour prior to the development of the hives,” said Dr. Marsella. “The reaction typically starts 15 minutes after contact with the allergen.”

Horses that have chronic hives can be given an allergy skin test the same way that people are. Intradermal testing is injecting a small amount of an allergen into the skin and watching for a reaction. “Horses can’t live in a bubble, but you can do your best to minimize exposures to pollen or insects when you know what is causing the hives,” said Dr. Marsella.

If the hives are caused by an allergy to something that is unavoidable in the environment, Dr. Marsella said that veterinarians can create a vaccine administered over several days that slowly builds tolerance to the allergen. “The idea is that you want to push the threshold a little bit, but not push them over the edge. You want to re-educate the immune response so they can cope with a certain level of allergen so that next season when they are exposed to that pollen or that tree they will not have a reaction because they’ve been exposed to a higher amount in a controlled situation.” There is about an 80 per cent success rate with these types of vaccines.



Ringworm

Ringworm is caused by a highly contagious fungal infection, not a worm, and is named for the shape of the skin lesions, which take on a ring-like appearance. Each ringworm forms a circle with a raised edge that encircles a hairless and often scabby patch. | Photo: Courtesy Dr. Marianne Sloet

5. RINGWORM (FUNGAL DERMATITIS) (DERMATOPHYTOSIS)

Contrary to the name, ringworm is not a 'worm' or parasite. It is caused by a type of zoonotic fungus called dermatophytes that is present in the soil and on the skin of other animals.

Symptoms: The lesions can look very similar to rain rot. "The majority of horses that present with these symptoms of patches of crusty, scabbing skin, have a Staphylococcus infection (rain rot or mud scratches). Statistically speaking, the bacterial infection is much more common than the fungal infection." A typical ringworm lesion is a round, whitish crust. Multiple lesions may coalesce in "map-like" appearance. "We only see ringworm in the young horses, the immune compromised and the geriatric horses, not in your average, healthy, well-maintained horse," said Dr. Marsella.

Treatment: The lesions should be washed daily with antifungal shampoo and nitrofurazone. It can take several weeks to get rid of ringworm. Be sure to disinfect all grooming equipment and tack with bleach as well.

Prevention: treat any horse with ringworm as highly contagious, keep separated from the herd, and avoid sharing equipment and brushes. "Horses and people can have different immune responses to it. Some can come into contact with it and never be affected, while others will easily become infected," said Dr. Marsella. "The bad thing about ringworm is the spores can survive for up to three years. In a house you can disinfect, but it can be difficult in a barn and the paddock," said Dr. Marsella.

Insect Hypersensitivy

Tiny insects, such as mosquitoes, ants, and a variety of flies, can cause big skin problems for your horse. Insect hypersensitivity is an allergic reaction, usually to a biting insect's saliva, and is one of the most common equine dermatological issues. Bites can result in welts and bumps at the site of penetration, but can also lead to an outbreak of hives. | Photo: Paula da Silva/www.arnd.nl

Sweet Itch

Sweet Itch

Sweet itch, aka Queensland itch or summer eczema, is a reaction to salivary antigens from the bites of Culicoides gnats (also called no-see-'ems). Small, itchy papules form on the skin. The horse's mane and tail head are especially susceptible, and hair loss is often caused by rubbing the affected sites is common. Scabbing and ulceration can result from this self-mutilation. | Photo: Nancy S. Loving,

3. SWEET ITCH

Sweet itch is an allergic skin reaction caused by Culicoides midge bites. Symptoms appear during the warm months between April and September – when midges and other insects are biting.

Symptoms: The skin becomes swollen and extremely itchy, prompting the horse to rub and scratch the affected areas vigorously, seeking relief. This can cause bald patches, broken skin and sometimes bleeding. These patches are found in the areas where the midges bite, such as the mane and tail and occasionally on the belly.

Treatment: Oral supplements and topical treatments containing nicotinamide (vitamin B3) can help reduce itching by reducing the production of histamine (compound that causes allergic reaction) in the skin. In severe cases, veterinarians may prescribe the corticosteroid prednisolone to ease the itching.

Prevention: The best prevention is to avoid midge bites in the first place, because once the bite-itch cycle starts, it is hard to break. Keeping horses in the stable during dawn and dusk hours, when midges are most active, is one solution. Another is to use a sweet itch rug – a type of flysheet made of light (not mesh) material that preferably features full belly protection. Insect repellents with DEET (N,N-diethyl-meta-toluamide)work well to keep midges away.

Aural Plaques

As the name suggests, aural plaques form inside the horse's ear. The cause of these crusty, whitish lesions is unknown; however, the spread of a papilloma viral infection by biting insects is suspected. | Photo: The Horse Staff

AURAL PLAQUES (PAPILLARY ACANTHOMA EAR PAPILLOMAS)

- **Appearance:** flat, crusty, raised white lesions inside the ears; underneath, the skin may be pink and sensitive. Aural plaques usually cause no pain and are considered to be just a cosmetic problem. But biting flies may irritate the lesions, and some horses may begin to resist bridling or having their ears handled. Both ears are likely to be affected. They are not likely to shrink or go away on their own.
- **Causes:** Aural plaques are caused by an equine papillomavirus that is thought to be spread by biting flies, such as the blackfly, that target the ears. The plaques may appear in horses of any age or breed.
- **Do I need to treat it?** No, unless the ear plaques are bothering the horse.
- **Treatment:** Most horses resent having the plaques physically pulled off, and doing so can inflame the ears and make the problem worse. If the plaques are causing ear sensitivity, your veterinarian may prescribe a course of treatment with a topical cream containing imiquimod, a drug that stimulates a localized immune response in the ear and helps diminish the lesions.
- **Prevention:** Take precautions to protect your horse against biting flies, especially blackflies. Use fly spray, and outfit your horse with a fly mask that includes ear coverings. Also use ear covers that can be worn with a bridle, especially if you ride in wooded areas near water. Stable your horse at dawn and dusk, when blackflies are most active.

Photosensitization in a paint horse. Note that the skin lesions are limited to the white-haired areas.

6. PHOTOSENSITIVITY/SUNBURN

Sensitivity to UV light can cause burns, peeling and crusting skin. Horses with pink pigmentation like Paints are particularly susceptible to photosensitivity. Eating certain plants (eg. alsike clover or St. John's wort) and contact with chemical toxins can also cause photosensitivity. Fertilizer, wood preservatives, toxins in moldy feed and medications like tetracycline and phenothiazine tranquilizers can all cause photosensitization.

Symptoms: Pink, irritated skin that can be hot to the touch and peeling, often found around the muzzle and eyes. Repeated sunburn can cause squamous cell carcinoma (skin cancer).

Treatment: "Depending on the severity you can apply soothing balms," said Dr. Marsella. "Oatmeal and aloe-based products work well." For really bad sunburns, Dr. Marsella suggests topical steroids that will reduce inflammation.

Prevention: UV protection is the best way to prevent sunburn, so stable light-skinned horses when the sun is at its strongest. "If you have a horse that is photosensitive, they should really be inside from 10:00 a.m. to 4:00 p.m., when the UV is highest. You can offer shade in a paddock, but some horses aren't smart enough to stay in the shade, so you cannot rely on shade in a paddock," said Dr. Marsella. "Fly masks and sunscreen can help," she added.

Keep pastures free of toxic weeds known to cause photosensitization.

Mange

9. MANGE

Mange is a dermatitis triggered by mites. The most common mite to irritate horses is the Chorioptes equi. There are other mites that cause mange including Sarcoptes, Psoroptes and Demodex, but these are exceedingly rare in properly cared for horses because they can be controlled with dewormers like ivermectin.

Symptoms: Mange caused by Chorioptes equi can be mistaken for mud fever, because of the similarity of symptoms – itchiness, crusting skin and hair loss around the pasterns and tail area. Papules can appear in the area as well. Unlike rain rot or mud fever, however, mange most commonly appears in the fall and winter when horses are pulled off of pasture and stabled.

“It seems to be more common in heavy horses,” said Brent Wagner, a specialist in veterinary parasitology at the University of Saskatchewan. “They like to hide in the feathers.”

“It’s very difficult to see mites on a visual inspection. A veterinarian should take a skin scraping to determine if there are mites. This is the best diagnostic method,” he said.

It’s also possible for horses to be carriers but not show any symptoms. “For some reason, some horses’ immune systems don’t react to the mites,” said Wagner.

Treatment: Both oral and topical treatments of moxidectin and ivermectin may kill the mites that cause mange, and, as such, veterinarians may recommend their off label usage. “But the mites are only partially susceptible to these treatments,” he said. “Mange can be difficult to treat, and the mites that cause mange can live off the host in bedding or other organic matter for a number of weeks.”Clipping the feathers around the fetlocks and cleaning the area with shampoos with selenium sulfide can also help.

Prevention: Mites that cause mange are primarily passed by horse-to-horse contact, so isolate horses known to be infected. As well, Wagner recommends treating all horses in the herd, whether they are infested or not, with ivermectin or moxidectin, as the mites are quite contagious. “Mange does tend to spread quickly through a herd, so it’s best to treat all horses,” he said. “[Also be sure to] carefully examine and treat animals that are symptomatic prior to adding them to your herd.”

10. LICE (PEDICULOSIS)

Lice are small, wingless insects. There are two types of lice that affect horses – chewing and sucking lice. Sucking lice are the larger of the two – up to four or five millimetres long and have a pointy nose that allows them to pierce the skin and suck blood. Chewing lice are smaller, have a wide head, and feed on skin debris and dandruff on the surface of the skin.

Symptoms: Continuous rubbing and scratching, a poor coat due to scratching, and in more severe cases, open sores (caused by continuous scratching). A visual inspection may reveal the parasites or their eggs (small white spheres that stick to the hair). Typically the lice live near the head, mane, tail and back.

Treatment: Veterinarians often recommend using ivermectin to control lice, even though it's an off label use for the drug. "Chewing lice aren't as affected by an oral dose of ivermectin, however, because they aren't biting into the skin and sucking blood," said Wagner.

Pyrethroid insecticides are effective against lice and can be administered through spray or dusts. If a spray is used the horse must be completely soaked with the spray in order for it to be affected. The topical treatment should be repeated within two weeks to treat any eggs that may have hatched in that time.

Prevention: Regular deworming with ivermectin will help prevent horses getting lice in the first place. As lice are spread from horse-to-horse contact, isolate horses known to be infected and avoid sharing grooming tools and blankets, and carefully inspect and treat any new animals that are symptomatic before introducing them to the herd. The good news is that lice cannot live off their host for more than a day, so it can be easier to control than mange.

Ameen Heragy –BHA Luxor office –Sept. 2021