

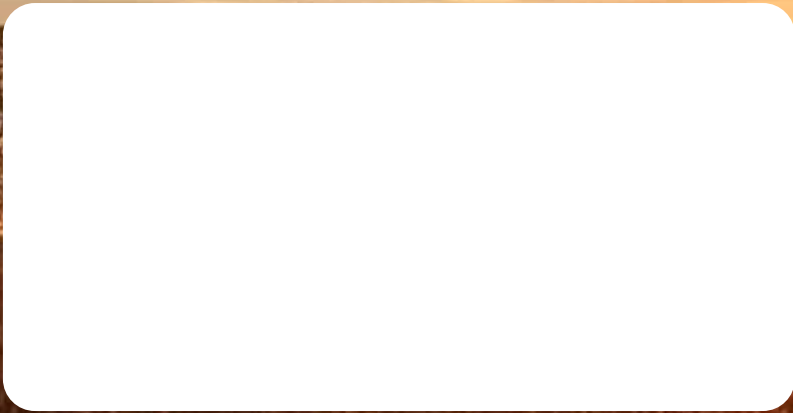
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AGRONOMY & EQUINE EDITOR
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SINCE

DIAGNOSING AND TREATING ITCHY HORSES

A researcher describes ectoparasites, infections, and hypersensitivity disorders that can cause pruritus in horses. Pruritus (itching) is a common issue in horses, yet one that can be incredibly challenging to diagnose and manage.

FIRST COLLECT A HISTORY AND PERFORM AN EXAM

When working up a pruritus case, history is the most important bit. Specifically, the veterinarian should determine:

- When it started;
- What it looked like when it started;
- How long it's been occurring;
- If it's seasonal or waxes and wanes;
- Other animals that have been in contact with the horse or affected; and
- What treatments they've tried and the horse's response to each.

The veterinarian should then perform a physical exam that includes a description of the lesions and their distribution. Littlewood recommended using the pruritus visual analogue scale, which researchers have validated for use in dogs and tweaked for use in horses.

Other tests include using a cardboard tongue depressor to collect surface debris from affected areas, using adhesive tape strips to capture parasites, and getting smears of lesion surfaces or exudate (secretions). The veterinarian can examine these samples under a microscope or submit them for culture.

ECTOPARASITES

Littlewood reviewed types of ectoparasites, some of which are quite rare:

Lice Chewing lice infestations are most common in winter and cause variable and potentially debilitating pruritus and alopecia (hair loss). You can identify chewing lice by their visible eggs and nits. Sucking lice, while less common, are quite visible and cause pruritus and anemia. Both conditions respond to treatment using pyrethroids, permethrins, and lime sulfur spray.

Chorioptes bovis var. equi This parasite causes chorioptic mange, primarily on the legs of draft and cob breeds. Cases are worse in winter and can be difficult to treat. Therapies with some evidence of efficacy include doramectin injections, fipronil spray, lime sulfur, permethrins, and selenium sulfide shampoo.

Environmental mites Examples of problematic free-living mites that occasionally affect horses include forage mites, poultry mites, and the larval stage of the harvest mite. The latter might respond to fipronil spray, while poultry mites respond to permethrins, pyrethroids, and lime sulfur. With forage mite infestations, veterinarians simply treat the symptoms and remove horses from infested hay, grain, and straw.

INFECTIONS

Bacterial and fungal skin infections in horses are unsightly and painful. *Malassezia dermatitis*, in particular, can be a significant pruritic problem in horses. It develops when dysbiosis (a microbial imbalance) causes an overgrowth of this otherwise normal commensal yeast organism in the intermammary, preputial fossa, perianal, and axilla regions. When the exudative lesions appear in a mare's intermammary (between the udders) area, it's often referred to as "cleavage itch." You can treat it using antifungal shampoos or creams.



Hypersensitivity Disorders

There are four hypersensitivity disorders that can cause pruritus in horses:

Contact dermatitis This skin inflammation usually has an irritant or allergic component and causes itching, pain, inflammation, and alopecia.

Adverse food reactions These reactions are commonly suspected but poorly understood. In reality, they're likely very rare, citing only two or three published case reports that meet the proper criteria for an adverse food reaction.

Culicoides hypersensitivity This hypersensitivity to the salivary proteins of Culicoides midges (i.e., sweet itch or recurrent seasonal/summer dermatitis) is extremely common. The classic signs include lesions along the dorsal or ventral midline where the midges like to feed. Currently, diagnostic options include clinical signs, intradermal testing, and serological (blood) testing. But recent work on recombinant salivary proteins from midges and major allergens show promise for developing better diagnostic tests and therapeutics.

Managing Culicoides hypersensitivity revolves around insect avoidance:

- Stabling at-risk horses from before dusk to after dawn;
- Avoid or removing standing water;
- Grazing horses on high, dry pastures;
- Using repellents such as permethrins (these seem to work best), light oils, citronella, and DEET frequently; and
- Applying insect-proof blankets or sheets.

Atopic dermatitis This dermatitis is a fairly common and often-seasonal sensitivity to environmental allergens such as dust mites, molds, and pollen. Veterinarians diagnose it by ruling out other causes of pruritus and running intradermal tests. Serum tests are available but show poor correlation between different laboratories and intradermal test results. Treatment includes allergen-specific immunotherapy, which researchers have shown to be beneficial in 64-85% cases. One of the challenges with atopic dermatitis, is you must treat it for at least a year before you can determine whether immunotherapy is effective.

As for symptomatic therapies to give affected horses relief, glucocorticoids and antihistamines are recommended. Additional options include omega-3 supplements and oclacitinib (Apoquel, which in the United States is FDA-approved for use in dogs), with further studies needed to determine their efficacy.

Veterinarians also emphasize the importance of avoiding the causative allergens using the following measures:

- Pressure-clean stables regularly;
- Prevent birds from nesting in and around barns;
- In stalls, use rubber matting only or minimal bedding cleaned out every day;
- Launder horse blankets in hot water or store them in the freezer for two to three days after washing;
- Feed vacuum-packed bulk feeds;
- Store feed concentrates carefully; and
- Use selective weed killers to control broad-leaved weeds in pastures.

TAKE-HOME MESSAGE

Pruritus is a broad topic in horses that encompasses a wide range of causes. It remains challenging for veterinarians to diagnose and treat, but management and prevention are key to the welfare of affected horses.

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5 COMMON THINGS YOU WON'T FIND IN A HORSE VET'S BARN

WE OFTEN THINK OUR HORSES ARE SAFE WHEN TUCKED IN THE BARN ... BUT THINK AGAIN. HERE, VETERINARIANS SHARE COMMON CAUSES OF EQUINE INJURIES THAT LURK IN MOST BARN.

Horses are really good at getting hurt. Liz Arbittier, VMD, CVA, once treated a horse with a metal pitchfork-tine—skewered hoof. Barn staff left the fork in the wheelbarrow, which was blocking the stall, while momentarily stepping away. Upon returning, the worker found the horse standing on the fork, which had pierced the bottom of the foot and come out the back of the heel/pastern.

Often, it's the most common barn fixtures that cause injury. Here are five that veterinarians encourage clients think twice about before using.

1. Double-ended snaps/screw eyes. Bucket handles and hooks can, and often do, cause eyelid and nostril lacerations. That's common enough (Bonus tip: Use safety buckets with rubber coverings on sharp handle finishes, as well as safety bucket hangers or closed eye hooks). But double-ended snaps and screw-eye hooks can cause the same injuries.

"It helps to always have the snaps pointing toward the wall and making sure the screw-eye doesn't have any gaps/metal edges," Arbittier said. "Investing in safety snaps or hangers is a good idea."

2. Hay mangers. These are popular in some stables to reduce waste and slow consumption. Scott Ahlschwede, DVM, the director of ambulatory services for Rood & Riddle Saratoga, in Saratoga Springs, New York, encourages horse owners to think twice before using them. He once saw a horse at a large barn suffer a catastrophic injury after getting a leg caught in a V-shaped manger. The next day stable staff removed 200 mangers.

"It's okay to feed hay on the ground—that's the natural way horses eat," he said.

3. Metal flashing. Cribbers destroy barns. So do bored horses who like to chew wood. Often, barn owners place metal flashing (thin pieces of impervious material meant to be installed to prevent water passage) over the wood to deter cribbing. However, horses can still chew the surface, leading to sharp edges developing over time.

"That poses a hazard for the horse's mouth, lips, and gums," said Lindsay Goodale, DVM, an equine practitioner and a lecturer at Cornell University. "The best option is to avoid sharp metal, but if it's in your barn check it regularly for damage."

4. Metal tack racks. Metal is unforgiving. If a horse bumps into a bridle hook, saddle rack, or blanket bar, there is a risk of injury. If a horse can reach blanket racks over their stall doors, they can get teeth caught and break their jaws. Horses in cross-ties kicking at saddle racks can get their legs stuck. Choosing stiff rubber hooks rather than metal is one option. For saddle racks, consider solid ones that can't trap legs (a piece of 4-by-4-inch lumber is an option). Another option is hanging tack racks in areas away from horse traffic.

5. Stall door latches. You need hardware to secure stall doors (unsecured doors lead to their own problems: loose horses). However, when latches aren't flush, they can bruise horses, tear the skin, or cause a condition known as a "knocked down hip" (fracture of the tuber coxae or shaft of the ilium, usually caused when a horse rushes through a door and/or forcibly hits his hip on the doorjamb. Replacing existing hardware can be expensive, and stall design might not allow for a change in some cases. "It's not possible for everyone to change their latches, but they can make sure that horse owners, staff, and others bringing horses in and out always push the latches all the way in to avoid injuries," Goodale said.

REDUCE INJURY RISKS

Even the most mundane objects can pose risks to horses. Parkinson recommends keeping aislesways clear to significantly reduce the chances of an injury and regularly inspecting for sharp objects.

"Go through the area where your horse lives and feel for sharp corners or edges with your hand. If it hurts you as you run your hand over it, it can hurt your horse," she said. "Keep all extra equipment such as pitchforks, ropes, hooks, halters, extra fencing, wheelbarrows, etc., in a separate room that horses cannot access."

HOW TO HANDLE EQUINE WOUNDS ISN'T ALWAYS CLEAR-CUT

If you're like many horse owners, your barn has a cupboard full of first-aid supplies, salves, ointments, sprays, and powders. Together with self-adhesive wrap, Dr. Google, and advice from your horse-owning friends, you might feel appropriately armed to deal with an array of wounds, but Birnie's research results suggest otherwise.

While horse owners' intentions are good, many don't call their veterinarian right away, potentially creating more problems than they're solving. To assess owners' understanding of equine wounds, Birnie and University of Nottingham colleagues, including Professor Sarah Freeman, BVetMed, PhD, Cert. VA, Cert. VR, Cert. ES, Dipl. ECVS, FHEA, MRCVS, surveyed more than 1,000 horse owners about how they would manage seven hypothetical wound scenarios (e.g., puncture wounds, kick injuries, degloving injuries).

"Owners stated that the most important factors influencing their decision to seek veterinary advice were the depth and location of the wound, as well as the amount of bleeding," Birnie says.

However, when presented with a hypothetical wound situation, survey participants didn't consistently put this methodology into practice. For example, owners were unskilled at recognizing the severity of deep puncture wounds over synovial structures, such as a joint or tendon sheath. According to survey results, less than 25% of surveyed horse owners thought these small punctures were a high priority, and 34% said they did not think a small puncture required any veterinary treatment.

"Despite appearing small and innocuous at skin level, if these small wounds extend deeper and involve synovial structures, it can be potentially catastrophic for the horse's overall prognosis," explains Birnie.

Besides the inability to recognize the severity of certain wounds, Birnie et al. found more than half the survey respondents chose to apply some form of contraindicated first-aid, relating specifically to wound cleaning, medicating, and bandaging.

Birnie's survey results show that some owners used overly concentrated and, therefore, cytotoxic (toxic to cells) chlorhexidine solutions to clean wounds, which can impair and slow healing. They also commonly applied silver sulfadiazine to wounds; however, some silver products can also be cytotoxic and might not be appropriate for all wounds.

Overall, this work highlights the importance of veterinarian involvement in equine wound management.

The Horse



EVENTS / CALENDAR

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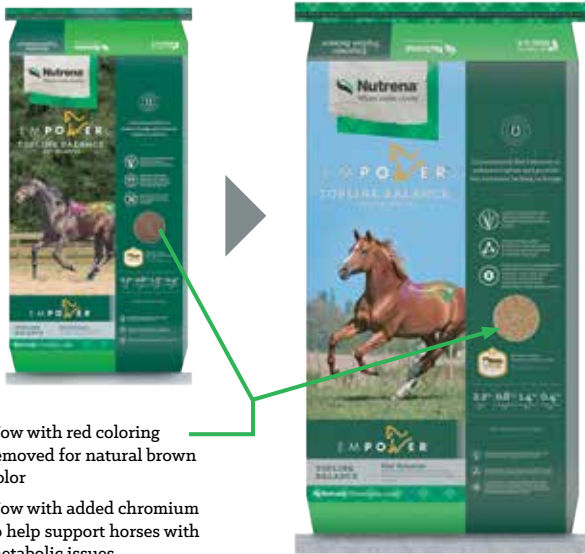
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HOW MUCH FAT DO HORSES NEED TO EAT?

An equine nutritionist breaks down how horses use dietary fat and provides current recommendations for feeding omega-3 and omega-6 fatty acids.

Typically, when we think of feeding fat to horses, it is to increase the energy density in the diet. Fat is a good candidate for this because it provides 2.25 times more calories per gram than the same amount of carbohydrate. Research suggests increasing calories from fat rather than simple carbohydrates might help your horse stay levelheaded compared to feeding the same additional calories from starch.

Feeding some fat in the ration offers other benefits, as well. Over time, as horses adjust to having fat in the diet as an energy source, metabolic adaptations can occur that increase fat oxidation during exercise. Because the body can only use fat as a fuel when working aerobically, this switch to preferentially burning fat as a fuel when working aerobically preserves glycogen stores for use during anaerobic work. This can potentially increase time to fatigue. Another important role of dietary fat is facilitating the absorption of fat-soluble vitamins such as A, D, E, and K.

Certain types of fat provide sources of essential long-chain fatty acids. These include the polyunsaturated fatty acids (PUFAs) linoleic acid and alpha-linolenic acid. These and other PUFAs play structural roles within cells and are precursors for important hormonelike compounds such as prostaglandins and eicosanoids. They're also involved in inflammatory response.

A forage-based diet comprising predominantly good-quality pasture might offer 2-5% fat. This will be lower (about 2-3%) in conserved forage diets because the process of curing hay can damage fat composition. Diets of good-quality pasture will have higher levels of omega-3 than omega-6 fatty acids—about three times more. Conversely, hay-based diets have closer to two times more omega-3 than omega-6 fatty acids. Once you add concentrate feed, the amount of omega-6 fat tends to be higher than omega-3. This potentially has implications at the cellular level, because omega-3 and -6 fats have different impacts on inflammatory response. As a result, feeding horses supplemental sources of omega-3 fatty acids has become popular.

Omega-6 fats have developed a bad reputation in recent years, as they are labeled as being proinflammatory, while the omega-3 fats are deemed anti-inflammatory. However, in certain situations some level of inflammation is beneficial. In fact, the National Research Council (NRC) doesn't give an equine requirement for omega-3 fat but does for the omega-6 fatty acid linoleic acid. This doesn't mean omega-3 fats are not required, but a requirement has not been quantified.

Horses' linolenic acid requirement is about 50 grams per day for a 500-kilogram (1,100-pound) horse eating 2% of its body weight in forage per day. A 500-kilogram horse eating 10 kilograms of dry matter from fresh pasture with a fat content of 3% fat is consuming 300 grams of fat per day. Most commercial feeds with a 4% fat content or more include a fat source such as rice bran or some kind of plant-based oil. The higher the fat percentage, the more of these ingredients the feed contains.

With consumer demand for higher omega-3 levels, more feed companies are including ingredients such as flax, which provides both omega-3 and -6 PUFAs. If you're feeding your horse 6 pounds of a 12% fat performance feed, you're feeding 490 grams of fat and, therefore, easily exceeding the NRC's minimum recommendations. On the far end of what amount of fat horses can handle in their diets, research has shown they can digest and utilize up to 20% of their diet by weight as oil.

Take-Home Message

Whether feeding a small amount to help improve coat quality or a larger amount to help maintain condition, fat is an important nutrient in the equine diet. If you want to increase calories from fat in your horse's ration for weight gain, a fortified high-fat feed, as opposed to oil, has the benefit of being fortified with other nutrients to help ensure a properly balanced diet.

Clair Thunes, PhD



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