

## Brushing Up On Basics

BY AMANDA DUCKWORTH  
PHOTOS BY ANNE M. EBERHARDT

**GROOMING IS PERHAPS** the most basic staple of good horse management, and in Thoroughbred racing, few know horses better than their grooms. It is valuable both as a means of making sure a horse's coat is in good order and as a way to bond. Beyond keeping the hair coat in good condition and making it safe to use tack properly, grooming also provides a chance to do a thorough check of a horse's physical condition while building trust.

### Care can be a source of well-being when carried out correctly

It's not just for the benefit of humans, though. Even horses in the wild will groom each other. However, as accepted as the importance of grooming is, ideas can vary wildly on best practices and the necessity of certain options.

Anyone working with horses knows that grooming is a part of basic care, but researchers began to wonder if, on the

whole, people know the proper way to go about it. The study "Horse's emotional state and rider safety during grooming practices, a field study" was published in the August 2019 issue of *Applied Animal Behaviour Science*.

"Care given to animals, such as grooming for horses, can be a source of well-being when carried out correctly," explained

the study. "However, it can cause discomfort when badly perceived and lead to potentially dangerous reactions. This study aimed to describe how grooming is conducted in the field, in terms of the horse's emotional state and also rider safety."

To answer the question, researchers observed 69 horses in riding centers and sports stables. The results were not positive.

"Only 5% of horses showed mutual grooming, approach, or relaxed behavior, whereas four times more horses expressed avoidance and threatening behaviors," the study found. "These results have consequences for handler safety. Regarding threatening behaviors, nine incidents (a hoof or teeth passing within 10 cm of the rider's body or head) were recorded."

Perhaps even more alarming was that human error was observed across the board. Certain aspects of grooming require trust between horse and human, but sometimes people relax too much about proper protocol.

"Concerning riders, 100% behaved in a risky way at least once: passing behind or under the head of the horse without keeping it in the field of view (97%) or squatting by its feet (42%)," the study found. "On average, riders carried out 6.7 + 0.49 dangerous behaviors per session, and sometimes up to 19. Moreover, only 7% of them wore a hard hat when preparing their horse, while the risk of concussion is just as high on foot as in the saddle. Finally, 88% of them showed posture that was risky for their backs when picking out hooves."

Because of where these observations took place, it would be easy to assume that the riders in question were not experts, but that was not the case. The level of professionalism, or lack thereof, when



Grooming is part of basic equine care

it comes to grooming, was not correlated to the level of experience.

“Surprisingly, riders’ experience had no effect on the parameters recorded,” the study concluded. “In particular, horse professionals were just as exposed to risky situations, did not protect their backs, and their horses showed similar levels of defensive behaviors or signs of discomfort as the less experienced riders.

“This result is undoubtedly linked to the lack of importance granted to this practice and little teaching about reading horse signals indicating comfort and discomfort. We hope that our results will make riders aware of how important grooming is for the horse’s welfare as much as for their own health and safety.”

While grooming is no doubt a necessity for horses, researchers recently also addressed the question of whether equines enjoy the act itself. “Facial expression and oxytocin as possible mark-



A good brush is an essential tool in the grooming box

ers of positive emotions in horses” was published in the October 2018 issue of *Scientific Reports*.

“The study of animal emotion is a field of research that has developed considerably in recent years,” explained the study. “In the context of a ‘dimensional approach,’ emotions can be characterized according to their two main dimensions: arousal (bodily activation or excitation;

e.g. calm versus excited) and valence (negative or positive; e.g. sad versus happy).

“Long restricted to negative emotions such as fear, present-day work increasingly focuses on the positive side of emotions. One of the challenges of research in species that do not share verbal language like humans is to be able to characterize the type of emotion felt by a subject

# Body Builder™

The **FIRST** and still the **BEST** since 1986!

**Body Builder™** is used for prepping yearlings, weanlings, 2-year-olds in training, and conditioning the top racehorses internationally.

**One Bottle + One Horse + Two Months = OUTSTANDING RESULTS!**

- Increase muscle, energy and stamina
- Get best results for sale prepping
- Reduce nervousness and stress
- Help breed and train winners

Winners are raised on **Body Builder™**

**Body Builder™** can be purchased online at [www.equiade.com](http://www.equiade.com)  
or call 1-800-413-3702 or 727-562-2832

Available through these distributors: Big Dee's • Jack's Manufacturing • Valley Vet  
RJ Matthews • Pinkston's Turf Goods • Animal Health Int'l • Wecan Sales (Canada)  
Florida Hardware • SmartPak • Hagyard Pharmacy • Western Saddlery • KBC Horse Supply

"Don't let the competition fool you - a bigger bottle doesn't equal better results!"



MESSAGE FROM THE GRAYSON-JOCKEY CLUB RESEARCH FOUNDATION

# EGUS PREVENTION: IT IS NOT JUST ABOUT WHAT YOU FEED

BY DR. BEN SYKES



Grayson-Jockey Club  
Research Foundation

**E** GUS in the adult horse consists of two primary sub-diseases; specifically, equine squamous gastric disease and equine glandular gastric disease. ESGD is well recognized as a disease in which diet plays an important role in its development. In contrast, EGGD is not a disease of diet; other risk factors dominate its development.

## ESGD PREVENTION

A recent study demonstrated that reducing the carbohydrates in the diet can reduce the recurrence of ESGD. This is no surprise, given that the feeding of low carbohydrate meals has been a cornerstone of EGUS prevention recommendations for nearly 20 years. What is surprising is that the effect of lowering dietary carbohydrate content was only modest and that many horses still developed squamous lesions with the discontinuation of omeprazole. This raises questions as to what other factors might influence ESGD development, and what other preventative management strategies might be important or useful.

The author considers three factors to be dominant in the development of ESGD, namely carbohydrate content in the diet, the amount, type and timing of roughage fed, and the volume of exercise that a horse performs.

An increase in starch above 1 g/kg has been shown to increase the risk of ESGD. Accordingly, a core recommendation for reducing ESGD risk is to keep non-structural carbohydrates (NSCs) below 1 g/kg/meal. This is readily achieved with most sport and pleasure horses with careful selection of feed type. Where additional calories are required beyond this point, the author's default is to ensure optimal roughage intake and add in oil at up to 1 ml/kg/day before increasing concentrate feeding. Following this approach, most sports and pleasure horses do not approach, let alone exceed, the 1 g NSC/kg/meal recommendation.

Ad libitum hay (as much as desired) has

been a cornerstone recommendation for years, and it is widely stated that horses are continuous grazers. Yet the later point is not supported by behavioral studies that demonstrate a clear circadian rhythm to eating with most horses spending little time eating between 10 p.m. and 6 a.m., even if ad libitum hay is available. During this self-imposed fast the pH in the proximal stomach decreases to <4 resulting in increased risk of ESGD if horses are exercised first thing in the morning. This effect of decreased pH in the proximal stomach is present regardless of whether the horse is stabled overnight or at pasture, potentially explaining the finding that pasture has not been consistently shown to be protective against ESGD (again against common conception otherwise).

Proximal intragastric pH increases again with the resumption of grazing activity in the morning and peaks mid-to-late afternoon. Factoring this in, the author recommends ESGD-prone horses be exercised in the afternoon. If morning exercise is necessary, feeding one or two flakes of alfalfa hay prior to exercise should be beneficial. Further, at-risk horses on limited pasture should receive supplementary hay, feeding immediately prior to exercise.

The pH in the proximal stomach decreases to <4 with the onset of trotting. Importantly, the magnitude of exposure does not differ between trot and higher speed gaits. It is the duration of exercise that a horse completes within each period (day or week) that determines the risk of ESGD, not intensity i.e. extended warm-up and cool-down periods increase the risk

of ESGD as much as high-intensity work. Factoring this in, the author recommends high-intensity, short-duration exercise with minimal warm-up and cool-down periods at a trot or canter in at-risk horses.

Where the ability to impact on one, or several, of the "big 3" factors contributing to ESGD development is limited (such as is often the case in racehorses, endurance horses, and high-performance sport horses), then the use of pharmaceutical prophylaxis with omeprazole remains logical.

## EGGD PREVENTION

EGGD is not a disease of diet, and the above recommendations have no impact on EGGD disease risk. Instead, two factors dominate the described risk factors for EGGD development: behavioral stressors and the number of days exercised per week

Behavioral stressors have long been proposed to contribute to ESGD risk, but little evidence exists to support this notion. In contrast, stressors such as increased numbers of riders or handlers might increase EGGD risk. Horses with EGGD have been shown to have a more pronounced cortisol response to ACTH stimulation, further supporting the relationship between stress and EGGD. Considering this, the author routinely recommends behavioral enrichment as a key part of EGGD prevention. This can include reducing the number of handlers or riders, ensuring a fixed routine, feeding the individual horse first if in a group of horses, and the provision of a companion. The author also believes that allowing horses to express natural behavior is an important aspect of management, i.e. removing rugs to allow them to express normal grooming behavior.

The absence of rest days is another key factor. In a study of showjumpers,



those working six or seven days per week were approximately 3.5 times more likely to have EGGD than those working  $\leq 5$  days per week. In Australian and UK racehorses, those working five to seven days per week were approximately 10 times more likely to have EGGD than those working  $\leq 4$  days per week. These findings strongly suggest dedicated rest days are likely to have a protective effect on the development of EGGD.

The role of ongoing use of omeprazole for EGGD prevention is unclear at this stage, and the author's preference is to focus on management strategies and to use omeprazole strategically during high-risk periods. Although diet does not play a specific role in EGGD risk, the author believes that there is a strong place for the use of specific nutraceuticals in the ongoing management of EGGD. The choice of

supplement should be supported by clinical evidence of efficacy and manufacturing under GMP standards. **BH**

*Dr. Ben Sykes is an associate professor at Massey University, New Zealand. The author would like to thank the Grayson-Jockey Club Research Foundation for its support of his doctoral studies into the treatment of EGUS.*

at a given moment.”

For the study, 13 horses received gentle grooming during 10-minute sessions. These sessions, done 11 times, used only hands and focused on body areas the horses appreciated the most. For the control group, 14 horses were groomed using a standard procedure, and brushing continued regardless of reactions from the horses. The horses in the gentle group (G) had more positive reactions than horses in the standardized group (S).

“Blood cortisol, oxytocin, heart rate, and heart rate variability never differed between before and after the grooming session,” the study found. “However, after the 11 sessions, basal oxytocin levels were lower in the G than in the S group. This difference was unexpected, but supports studies showing that a low level of basal oxytocin could be a marker of better well-being.

“Analyses of facial expressions during grooming revealed significant differences between groups. These expressions appear to be more sensitive than behavioral indicators because they alone enabled differentiating emotions according to the group when horses were re-exposed to neutral grooming one year after the treatment.”

Researchers were not surprised that the gentle grooming group enjoyed the experiment more than the standard grooming group but also hope more can be learned from the findings.

“In line with what was expected, the horses in the ‘Gentle grooming’ group

clearly sought human contact and never expressed discomfort or defensive behaviors,” the study concluded. “In contrast, the horses from the ‘Standard grooming’ group presented numerous discomfort, defensive, and avoidance behaviors.

“These clear behavioral differences identify two opposite emotional feelings: positive in the first and negative in the second case. These findings are very much in line with previous data that have shown that grooming can induce contact-seeking when preferred zones are massaged, but when the horse's reactions are not taken into account, it can lead to strong avoidance and

defensive reactions.”

Of course, horses used for sport have to be groomed, so being aware of what a horse likes can help lead to an easier relationship between groom and charge.

Beyond the basic needs tended to by brush and hoof pick, there are multiple other care choices that fall within the realm of grooming. For example, within the horse world, there is a long-standing debate about clipping and blanketing and if/when they are necessary.

One of the key factors in the debate is in regard to a horse's natural winter coat. The study “The effects of extended photoperiod and warmth on hair growth in ponies and horses at different times of year,”

## TRUE CENTER GATE

Don't start without us

### YOU HAVE A LOT INVESTED IN YOUR HORSES.

Shouldn't you invest in the right equipment to train your horses to break on top? True Center Gate has been building the most reliable and durable starting and training gates since 1950.



For more information contact: Diane Fleming  
(602) 524-8437 | [www.truecentergate.com](http://www.truecentergate.com)

## HEALTH ZONE

Grooming

examined this part of horsemanship in the January 2020 issue of *Plos One*.

“Photoperiod is considered the most dominant environmental cue allowing animals to anticipate and adapt to seasonal changes,” explained the study. “During the seasonal transition to shorter winter day lengths, increased production of melatonin and declining prolactin are associated with triggering winter coat growth in many animals. Similarly, studies have shown that artificial extension of photoperiod suppresses melatonin secretion and lifts prolactin inhibition to activate molting.”

In an effort to determine whether extended photoperiod and warmth—which were provided by mobile light masks and blankets—could reverse a winter coat and accelerate shedding, four longitudinal cohort studies were conducted using a total of 50 horses and ponies.

“The growth of a heavier winter coat, characterized by longer, thicker hairs, is undesired by many horse owners due to its impact on optimal thermoregulation in intensely exercised competition animals and visual aesthetics in show animals,” said the study. “Providing an alternative to the time-consuming and laborious common practice of shaving or ‘clipping’ a horse’s coat could be advantageous.

“Additionally, the use of artificially extended lighting to

manipulate reproductive cycles is common practice within the global equine breeding industry. Therefore, developing a better understanding of how coat growth responds to light has important relevance for all horses in order to optimize thermoregulation for improved health and welfare in both competition and breeding stock.”

Data revealed that extended photo period did not reverse winter coat growth when initiated at the autumnal equinox; effectively maintained the summer coat in stabled horses when initiated one month post-summer solstice; accelerated shedding in outdoor living horses when initiated one month pre-winter solstice; and did not accelerate shedding in indoor or outdoor living ponies when initiated one month post-winter solstice.

“To successfully manage equine coat growth while also preserving optimal thermoregulation in both competition and breeding stock, correct timing of light application is crucial and requires careful monitoring of environmental temperature,” the study concluded. “Further studies are needed where variations in breed and management are considered.”

Clipping is done to help regulate a horse’s temperature while exercising, but understanding how a horse’s body will compensate in cold conditions is important. The study “Temperature regulation in horses during exercise and recovery in a cool



**QUILLIN**  
Leather & Tack

Sale Halters (from) \$34.95  
Lead Shanks (from) \$29.95  
Sale Catalog Covers \$89.95

Plus MORE Great Custom Made Leather Goods  
Full Service Repair & Engraving - All In Our Paris Shop!

CALL OR DROP BY OUR MAIN STREET SHOP  
VISIT & ORDER ONLINE AT QUILLIN.COM  
SINCE 1982 ... KENTUCKY'S LARGEST CUSTOM SHOP  
WE SHIP WORLD WIDE

1929 South Main Street • Paris, Kentucky • 40361  
(859) 987-0215 • [www.Quillin.Com](http://www.Quillin.Com) • [facebook.com/QuillinLeather](https://facebook.com/QuillinLeather)



Hoof care is also an essential part of grooming a Thoroughbred

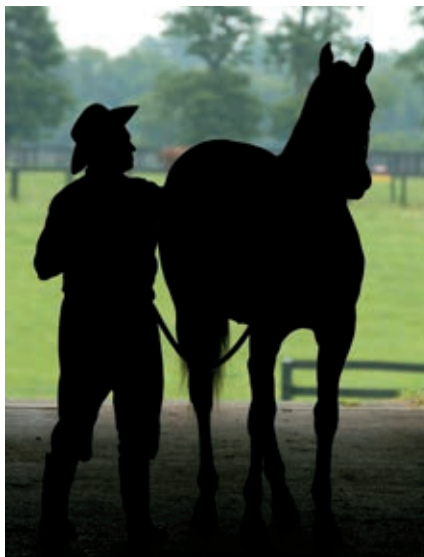


environment,” which was published in the July 2012 issue of *Acta Veterinaria Scandinavica*, tackled this issue.

“Clipping the winter coat in horses is done to improve heat dissipation during exercise and make grooming easier,” explained the study. “It is often combined with blanketing to keep the horse warm. The aims of the present study were to investigate how clipping and the use of blankets affect thermoregulation during exercise and recovery in horses.”

Three types of equines—one Gotland pony, one New Forest pony, and one warmblooded horse—were walked, trotted, and cantered in a planned manner for about 50 minutes. This was repeated on five consecutive days when the horses were unclipped; unclipped and blanketed during recovery; left or right side clipped; clipped; and clipped, riding blanket, and blanket during recovery.

“Despite different breeds, age, and



Best practices for grooming are a continual learning process

sex the three horses reacted similarly to the exercise challenge in the cold,” the study concluded. “The results illustrate how the cool environment first mobilized cool defense mechanisms and how the

intensity, duration, and frequency of exercise made the regulatory mechanisms switch to heat dissipation.

“Leg skin temperature initially dropped at onset of exercise in clipped horses and then increased after about 30 minutes due to internal heat from the working muscles. These changes were not significant when clipped horses had riding blankets whereas unclipped horses became overheated as judged from respiratory rate and elevated rectal temperature. Providing clipped horses with blankets dampened the changes in leg skin temperature during exercise.”

The fact horses need to be groomed to be at their best is something the equestrian world agrees on, but the effort to understand and adopt best practices is a continual learning process. **BH**

*Amanda Duckworth is a freelance writer based in Lexington.*

**Pyranha**

**IT WORKS!**  
TRUSTED • PROVEN • POWERFUL

THE ULTIMATE PROTECTION COLLECTION

A NEW WAY TO SPRAY, CONTINUOUS AT ANY ANGLE!

360°

**Pyranha**  
YOUR TRUSTED LEADER IN INSECT CONTROL

800.231.2966  
www.pyranhainc.com

FAMILY OWNED & OPERATED  
MADE IN USA

The advertisement features a background image of a horse and rider in motion. In the foreground, five Pyranha spray bottles are displayed: two yellow bottles labeled 'WIPE N' SPRAY', one blue bottle labeled 'EQUINE SPRAY & WIPE', one green bottle labeled 'ZERO-BITE', and one red bottle labeled 'INSECTICIDE'. The bottles are arranged in a row, showcasing the 'Ultimate Protection Collection'. The text 'IT WORKS! TRUSTED • PROVEN • POWERFUL' is prominently displayed in the center. At the bottom, the slogan 'A NEW WAY TO SPRAY, CONTINUOUS AT ANY ANGLE!' is accompanied by a 360-degree rotation icon. The Pyranha logo and tagline 'YOUR TRUSTED LEADER IN INSECT CONTROL' are in the bottom right corner. Contact information is in the bottom left.