



Hoof Cracks: Prevention and Treatment

BY HEATHER SMITH THOMAS



ANNE M. EBERHARDT

Constant wet/dry situations can lead to hoof cracks

THERE ARE SEVERAL TYPES OF HOOF CRACKS, and some are more serious. Splits often start at the ground surface. Quarter cracks are located in the rear third of the hoof and can be either proximal (along the side) or distal (more toward the rear).

Some cracks start from a weakness at the top of the hoof from disrupted growth at the coronary band and travel downward. A horizontal crack/slit in the hoof wall is created by injury (a blow to the foot) or sometimes after an abscess found an exit at the coronary band that created a weakness and subsequent cracking.

Treatment for a hoof crack depends on the location, and how long it has been there and how extensive it is, and whether it goes into sensitive tissue.

Dean Moshier, a farrier in Delaware, Ohio, who does a lot of therapeutic shoeing, says horsemen often wonder when they should call their farrier about hoof cracks that show up between farrier visits.

“My answer is that they should call the farrier if the horse is lame from a result of the crack,” he said.

Steve Norman, a Kentucky farrier who shoes mainly Thoroughbreds, says the term sand crack refers to a superficial crack that’s not completely into the white line and sensitive tissues.

“Some of the deeper ones might start out as a sand crack and progress into a more serious situation,” he said.

*A great life begins
from within*

new



Improving a foal's health may be as simple as combining new GlycoGuard™ with the mare's milk. GlycoGuard can help give nursing foals the healthy gut they need for a great start in life.

 **GlycoGuard™**
ORAL ACTIVATED MICROBIAL GEL

For more information and to purchase GlycoGuard, visit www.glycoguard.com

Evolve
BioSystems™

©2017 Evolve BioSystems, Inc. GlycoGuard is a registered trademark of Evolve BioSystems, Inc., 2121 2nd Street, Suite B107, Davis, CA 95618

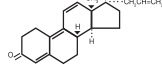
C-28758-2

Regu-Mate® (altrenogest)

Solution 0.22% (2.2 mg/mL)

CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

DESCRIPTION: Regu-Mate® (altrenogest) Solution 0.22% contains the active synthetic progestin, altrenogest. The chemical name is 13-allyl-17β-hydroxyestra-4,9,11-trien-3-one. The CAS Registry Number is 850-52-2. The chemical structure is:



Each mL of Regu-Mate® (altrenogest) Solution 0.22% contains 2.2 mg of altrenogest in an oil solution.

ACTIONS: Regu-Mate® (altrenogest) Solution 0.22% produces a progestational effect in mares.

INDICATIONS: Regu-Mate® (altrenogest) Solution 0.22% is indicated to suppress estrus in mares. Suppression of estrus allows for a predictable occurrence of estrus following drug withdrawal. This facilitates the attainment of regular cyclicity during the transition from winter anestrus to the physiological breeding season. Suppression of estrus will also facilitate management of prolonged estrus conditions. Suppression of estrus may be used to facilitate scheduled breeding during the physiological breeding season.

CONTRAINDICATIONS: Regu-Mate® (altrenogest) Solution 0.22% is contraindicated for use in mares having a previous or current history of uterine inflammation (i.e., acute, subacute, or chronic endometritis). Natural or synthetic gasogen therapy may exacerbate existing low-grade or "smoldering" uterine inflammation into a fulminating uterine infection in some instances.

PRECAUTIONS: Various synthetic progestins, including altrenogest, when administered to rats during the embryonic stage of pregnancy at doses manyfold greater than the recommended equine dose caused fetal anomalies, specifically masculinization of the female genitalia.

DOSEAGE AND ADMINISTRATION: While wearing protective gloves, remove shipping cap and seal; replace with enclosed plastic dispensing cap. Remove cover from bottle dispensing tip and connect luer lock syringe (without needle). Draw out appropriate volume of Regu-Mate solution. (Note: Do not remove syringe while bottle is inverted as air bubbles may result.) Detach syringe and administer solution orally at the rate of 3 mL per 110 pounds body weight (0.044 mg/kg) once daily for 15 consecutive days. Administer solution directly into the base of the mare's tongue or in the mare's usual grain ration. Replace cover on bottle dispensing tip to prevent leakage. Excessive use of a syringe may cause the syringe to stick; therefore, replace syringe as necessary.

WHICH MARES WILL RESPOND TO REGU-MATE® (altrenogest) SOLUTION 0.22%? Extensive clinical trials have demonstrated that estrus will be suppressed in approximately 85% of the mares within three days; however, the post-treatment response depended on the degree of ovarian activity when treatment was initiated. Estrus in mares exhibiting regular estrus cycles during the breeding season will be suppressed during treatment. Mares in winter anestrus with small follicles continued in anestrus and failed to exhibit normal estrus following withdrawal.

Response in mares in the transition phase between winter anestrus and the summer breeding season depended on the degree of follicular activity. Mares with inactive ovaries and small follicles failed to respond with normal cycles post-treatment, whereas a higher proportion of mares with ovarian follicles 20 mm or greater in diameter exhibited normal estrus cycles post-treatment. Regu-Mate® (altrenogest) Solution 0.22% was very effective for suppressing the prolonged estrus behavior frequently observed in mares with inactive ovaries and small follicles. In addition, a high proportion of these mares responded with regular estrus cycles post-treatment.

SPECIFIC USES FOR REGU-MATE® (altrenogest) SOLUTION 0.22%:

1. SUPPRESSION OF ESTRUS:

- Facilitate attainment of regular cycles during the transition period from winter anestrus to the physiological breeding season. To facilitate attainment of regular cycles during the transition phase, mares should be assumed to determine the degree of ovarian activity. Estrus in mares with inactive ovaries (no follicles greater than 20 mm in diameter) will be suppressed but these mares may not begin regular cycles following treatment. However, mares with active ovaries (follicles greater than 20 mm in diameter) frequently respond to estrus 3 to 5 days following treatment and continue to cycle normally. Mares in winter anestrus with small follicles continued in anestrus and failed to exhibit normal estrus following withdrawal.
- Facilitate management of the mare exhibiting prolonged estrus during the transition period. Estrus will be suppressed in mares exhibiting prolonged behavioral estrus either early or late during the transition period. Again, the post-treatment response depends on the level of ovarian activity. The mares with greater ovarian activity initiate regular cycles and conceive sooner than the inactive mares. Regu-Mate® (altrenogest) Solution 0.22% may be administered early in the transition period to suppress estrus in mares with inactive ovaries to aid in the management of these mares or to mare later in the transition period with active ovaries to prepare and schedule the mare for breeding.
- Permit scheduled breeding of mares during the physiological breeding season. To permit scheduled breeding, mares which are regularly cycling or which have active ovarian function should be given Regu-Mate® (altrenogest) Solution 0.22% daily for 15 consecutive days beginning 20 days before the date of the planned estrus. Ovulation will occur 5 to 7 days following the onset of estrus as expected for non-treated mares. Mares which are not cycling should follow usual procedures for mares in estrus. Mares may be registed and scheduled either individually or in groups.

DOSEAGE CHART:	
Approximate Weight in Pounds	Dose in mL
770	7
880	8
990	9
1100	10
1210	11
1320	12

ADDITIONAL INFORMATION: A 3-year well controlled reproductive safety study was conducted in 27 pregnant mares, and compared with 24 untreated control mares. Treated mares received 2 mL Regu-Mate® (altrenogest) Solution 0.22% (110 to 1320 lb body weight) (2x dosage recommended for estrus suppression) from day 20 to day 325 of gestation. This study provided the following data:

- In filly offspring (all ages) of treated mares, foal sex was increased.
- Fly offspring from treated mares had shorter interval from Feb. 1 to first ovulation than fillies from their untreated mare counterparts.
- There were no significant differences in reproductive performance between treated and untreated animals (mares & their respective offspring) measuring the following parameters:
 - interval from Feb. 1 to first ovulation in mares only.
 - mean interval from first to second cycle and second to third cycle, mares only.
 - foal sex, mares only.
 - at 50 days gestation, pregnancy rate in treated mares was 81.8% (9/11) and untreated mares was 100% (4/4).
 - after 3 cycles, 11/12 treated mares were pregnant (91.7%) and 4/4 untreated mares were pregnant (100%).
 - offspring of treated and control mares reached puberty at approximately the same age (82 & 84 weeks respectively).
 - stallion offspring from treated and control mares showed no differences in seminal volume, spermatozoal concentration in semen, and testis and epididymal ejaculate.
 - stallion offspring from treated and control mares showed no difference in sexual behavior.
 - testicular characteristics (scrotal width, testis weight, parenchymal weight, epididymal weight and height, testis height, with a length) were the same between stallion offspring of treated and control mares.

REFERENCES:

Schoemaker, C.F., E.L. Squires, and R.K. Shoemaker. 1989. Safety of Altrenogest in Pregnant Mares and on Health and Development of Offspring. Eq. Vet. Sci. (9): No. 2: 52-57.
Squires, E.L., R.K. Shoemaker, and A.O. McKinnon. 1989. Reproductive Performance of Offspring from Mares Administered Altrenogest During Gestation. Eq. Vet. Sci. (9): No. 2: 73-76.

WARNING: Do not use in horses intended for food.

HUMAN WARNINGS: Skin contact must be avoided as Regu-Mate® (altrenogest) Solution 0.22% is readily absorbed through unbroken skin. Protective gloves must be worn by all persons handling this product. Pregnant women or women who suspect they are pregnant should not handle Regu-Mate® (altrenogest) Solution 0.22%. Women of child bearing age should exercise extreme caution when handling this product. Accidental absorption could lead to a disruption of the menstrual cycle or prolongation of pregnancy. Direct contact with the skin should therefore be avoided. Accidental spillage on the skin should be washed off immediately with soap and water.

INFORMATION FOR HANDLERS:

WARNING: Regu-Mate® (altrenogest) Solution 0.22% is readily absorbed by the skin. Skin contact must be avoided; protective gloves must be worn when handling this product.

Effects of Overexposure: There has been no human use of this specific product. The information contained in this section is extrapolated from data available on other products of the same pharmacological class that have been used in humans. Effects anticipated are due to the progestational activity of altrenogest. Acute effects after a single exposure are possible; however, continued daily exposure has the potential for more unwanted effects such as disruption of the menstrual cycle, uterine or abdominal cramping, increased or decreased uterine bleeding, prolongation of pregnancy and headaches. The oil bases may also cause complications if swallowed. In addition, the list of people who should not handle this product (see below) is based upon the known effects of progestins used in humans on a chronic basis.

PEOPLE WHO SHOULD NOT HANDLE THIS PRODUCT:

- Women who are or suspect they are pregnant.
- Anyone with thrombocytopenia or thromboembolic disorders or with a history of these events.
- Anyone with cerebral-vascular or coronary artery disease.
- Women with known or suspected carcinoma of the breast.
- People with known or suspected estrogen-dependent neoplasia.
- Women with undiagnosed vaginal bleeding.
- People with benign or malignant tumors which developed during the use of oral contraceptives or other estrogen-containing products.
- Anyone with liver dysfunction or disease.

ACCIDENTAL EXPOSURE: Altrenogest is readily absorbed from contact with the skin. In addition, this oil based product can penetrate porous gloves. Altrenogest should not penetrate latex, rubber or impervious gloves; however, if there is leakage (i.e., pinholes, spillage, etc.), the contaminated area covered by such occlusive materials may have increased absorption. The following measures are recommended in case of accidental exposure.

Skin Exposure: Wash immediately with soap and water.

Eye Exposure: Immediately flush with plenty of water for 15 minutes. Get medical attention.

If Swallowed: Do not induce vomiting. Regu-Mate® (altrenogest) Solution 0.22% contains an oil. Call a physician. Vomiting should be supervised by a physician because of possible pulmonary damage via aspiration of the oil base. If possible, bring the container and labeling to the physician.

CAUTION: For oral use in horses only. Keep this and all medication out of the reach of children.

Store at or below 25°C (77°F).

NADA# 131-310. Approved by FDA.

HOW SUPPLIED:

Regu-Mate® (altrenogest) Solution 0.22% (2.2 mg/mL). Each mL contains 2.2 mg altrenogest in an oil solution. Available in 1000 mL plastic bottles.

* US Patents 3,453,267; 3,478,067; 3,484,462

Manufactured by:

DPT Laboratories, San Antonio, TX 78215

Distributed by:

Intervet Inc., Millsboro, DE 19966



CAUSES

“Most of the cracks we see out on the farm are not going to cause lameness,” said Moshier. “Most are just weather cracks, where the surface of the hoof wall looks rough and layered like shingles on a roof.”

These are superficial cracks in the external layer of the wall, like chapped hands, similar to when your skin cracks after it's been wet and dry, wet and dry.

Tommy Boudreau, a farrier in Mineral Wells, Texas, says the first thing he thinks of when a horse develops hoof cracks is dry feet.

“Horses that come here from desert regions in Arizona and New Mexico often have quarter cracks just from their feet being extremely dry for a long time,” he said.

“Another common cause of cracks is old scars,” Moshier said. “The coronary band has been injured at some point. There is a weakened area of the foot (like a fault line) where the hoof horn doesn't grow quite as strong below that scar in the coronary band. Sometimes this is a single line down the hoof, and sometimes a striated line with layers. Those are full wall cracks but generally don't cause lameness.”

“A blow to the coronary band causes a bruise and damages the tissues,” Boudreau explained.

If there is enough damage to compromise horn-growing cells at the coronary band, there may be some weakness in the horn at that area, which can turn into a crack.

“If there's not enough blood supply in the damaged area, this can cause a quarter crack,” Boudreau said. “If the horse overreaches and hits the coronary band, it is usually somewhere in the area between the region of the heel nail and the buttress—the back part of the foot.”

Moshier says most cracks are vertical. “Horizontal cracks are usually the result of an injury or a gravel abscess that blew out at the coronary band,” he said.

This can create a deficit in the hoof wall that creates a horizontal crack as the horn grows down.

“A horizontal crack can also be due to an abnormal stress,” he continued. “Horizontal cracks are usually not lameness related, even though the initial cause of that crack could have been a lameness-causing abscess or foot injury. The crack itself is nothing to worry about as it grows down. It will eventually grow out.”

A farrier may have to smooth it up as



COURTESY DEAN MOSHIER

Horizontal cracks can be due to abnormal stress

The Science of Trusted

Regu-Mate® (altrenogest) is the name veterinarians and their clients depend on for estrus control (suppression, management).

From the broodmare to the performance horse, properly managing your mare's hormones is critical. Rely on the product that's trusted most.

- More than 30 years of practical use in the field by veterinarians¹
- More than 200 clinical trials to determine efficacy, duration and safety¹
- More than 20 million doses sold to veterinarians, trainers and horse owners¹

Now that's trusted.



Regu-Mate
(altrenogest)

Ask your veterinarian for Regu-Mate®. Visit us online at merck-animal-health-equine.com to learn more about Merck Animal Health and the equine products and programs that help keep horses healthy.

Talk to your veterinarian about proper use and safe handling of Regu-Mate®. Avoid skin contact. Always wear protective gloves when administering Regu-Mate®. This product is contraindicated for use in mares with a previous or current history of uterine inflammation. Pregnant women, or women who suspect they are pregnant, should not handle this product. For complete product information, see accompanying product insert.

¹ Data on file, Merck Animal Health

The Science of
Healthier Animals

2 Giralda Farms • Madison, NJ 07940 • merck-animal-health-usa.com • 800-521-5767
Copyright © 2016 Intervet Inc., d/b/a/ Merck Animal Health, a subsidiary of Merck & Co., Inc.
All rights reserved. 3526 EQ-FP AD Regu-Mate®





IMAGES COURTESY HEATHER SMITH THOMAS

One of the causes of cracked feet is nutritional imbalance

it gets toward the ground (removing the hoof below the crack), on the weight-bearing surface of the hoof wall.

“Sometimes at that point I take out the unattached wall below the crack,” Moshier said. “I’m getting more of my owners and trainers to take pictures of the feet with their phone, and they can send a photo to me if there is anything they wonder about.”

Another type of crack is a toe crack caused by the way the coffin bone inside the foot is shaped.

“The laminae (interface between coffin bone and exterior wall) have to follow the surface of the coffin bone,” said Moshier. “Every coffin bone has a dorsal notch (at the front) so there is a slight fold in the laminae at the toe. Some notches are larger than others, so this fold is bigger, and sometimes results in a chronic toe crack. But those are the most stable cracks I’ve ever seen. They don’t go anywhere and don’t cause problems.

“I have seen horses with beautiful feet, with chronic toe cracks, and have had arguments with clients about these. One owner was convinced that if I shod the horse I would get rid of the toe cracks. I told her that shoeing would not get rid

of those toe cracks because the crack was emanating from the way the foot was made. It was a very fine crack that never opened up and would never be a problem.”

Heather O’Brien, a farrier in British Columbia, says that in rare instances severe cracks may be the result of a genetic defect passed from parent to foal.

“It takes time to feed the foot and grow out a better hoof wall and see a difference.”

—HEATHER O’BRIEN

“This appears on just one foot and mainly affects the toe. It results in a full thickness crack that goes from top to bottom and usually shows up when the horse is about 2 years old,” she said.

“Those cracks never go away,” O’Brien continued. “If the farrier can properly balance the foot and the horse is kept shod, you can sometimes get it to grow

out, but there is always a thin seam that remains as a reminder to keep the feet short and in proper balance or the crack will return. Rarely is there any lameness associated with these cracks, and stabilizing the foot with proper shoeing keeps these horses working.”

Other causes of cracks can be nutritional, if diet is deficient in important vitamins and trace minerals necessary for healthy skin and hoof horn. There are some hoof supplement products that may help.

“Nutritional imbalances that weaken the wall (and allow cracks to develop over time) may need an equine nutritionist or veterinarian to help determine what is needed,” said O’Brien.

There can be nutritional components, and also genetic factors, when it comes to strength/health of the hoof wall.

“Some horses simply have poor feet and will always have poor feet,” Moshier said. “Some may benefit a little more from a hoof supplement. It takes time to feed the foot and grow out a better hoof wall and see a difference, however. Even though, as farriers, we may not be perceiving a change in the foot, maybe it will help keep the foot from expanding/squashing so much in the barefoot horse.”

The supplement might aid the strength/integrity of the hoof wall enough that it won’t start to crack due to the hoof wall stretching and flaring.

Environment is another important factor in hoof health and cracking. A continual change from wet to dry to wet causes problems.

“It’s not just a horse constantly standing in mud, or a horse that lives in a dry desert environment,” Moshier said. “The biggest problems occur when horses are always alternating, such as going from a stall bedded in kiln-dried shavings to turnout in the muck (or a wet, dewy pasture in the mornings).”

The wet/dry, wet/dry disrupts the protective outer layer of the hoof and can lead to cracks, just like your hands chap and crack if they are continually in and out of water or going from moist to dry

air. Frequent bathing after a workout can also be a problem, causing feet to be alternately wet and dry.

Other causes of cracked feet include inappropriate trimming intervals, going too long between trims. O'Brien says hoof imbalance and overgrowth are common causes.

"When horses are turned out on grassy pastures, their feet often grow quickly (due to good nutrition in the green grass), and there is nothing abrasive in their environment to wear the hooves as they grow," she said. "This can also happen to shod horses, if they go too long between shoeing intervals and their hooves overgrow the shoes.

"When the hoof wall gets too long, it will bend, then crack. Debris from the environment can become imbedded in the crack, especially if the horse is barefoot, causing abscesses and even white-



Going too long between trims is a cause of cracked feet

performance

[per-fawr-muh ns] *noun*

1. The execution of an action.
2. Something accomplished.

THE DAYS OF ONE-TYPE-FITS-ALL HORSE FEEDS ARE OVER. Now there's a premium line of performance feeds formulated to not only help your horse achieve its peak athletic ability, but exceed it. These feeds provide the enhanced calories needed for your performance horse to thrive. Utilizing advanced technology and quality research provided by Kentucky Equine Research®, it delivers the optimal fuel to maximize performance.

Legends. Redefining what horse feed should be.

For more information or to find a dealer near you, visit: www.southernstates.com/legends.

LEGENDS

- SPORT HORSE
- SPORT HORSE PLUS
- RACE & COMPETE

line disease. More frequent trimming is needed (every four to six weeks) to keep the feet from being damaged by overgrowth.”

Flares can easily cause cracks, and flares may develop when feet are neglected.

“Imbalanced feet can be an issue, but generally the flares are due to neglect, or a farrier’s failure to remove the flares when trimming/shoeing,” Moshier said.

If the farrier simply fits the shoe to the foot, without first balancing the feet and removing the flares, they simply get worse.

Flares can be conformation-related.

“Some problems tend to be chronic, due to the way the horse lands and loads the foot,” said Moshier. “And this will be farrier-related, in terms of how frequently the farrier gets to work on the horse. If this type of foot is neglected it will have more problems.”

“An overweight horse, with more stress and force on the feet, along with faulty conformation, can have problems,” Norman said. “In Kentucky, when broodmares get heavy in foal their feet splay out and start cracking. The average mare here gets trimmed every 30 to 40 days, but these barefoot mares still get cracks because of extra body weight

and conformation; when they get heavy in foal, it catches up with them. If you shoe them, you can support the foot and hope the shoe will be strong enough to help get rid of the cracks, but I’ve seen a

“Probably the worst evil is the incorrect shoe. Many people remove a lot of hoof wall when trimming, and excessive rasping of the wall thins it out.”

—STEVE NORMAN

lot of broodmares with cracks that never go away. You can keep them sound with a shoe and they are not lame, but they still have cracks.

“Other causes are excessive work (too much concussion and stress on feet), dry ground, and unbalanced feet,” he continued. “If there is uneven distribution of weight, this causes a force that could

lead to cracking. A person needs to distinguish between an accidental cause and conformational cause. The average horse toes out, and most of the weight is on the medial quarter. Thoroughbreds in general are started at a young age, before their feet and legs are mature. Overall immaturity leads to a lot of cracks in young racehorses. The inner structures and hoof wall are not yet as strong as an adult foot’s. Any blow or concussion may cause trouble, especially on a toed-out horse.”

Contracted heels can be another factor.

“There may be more concussion and inflammation that causes heat,” Norman said. “The wall and horn become dry and brittle, and the improper distribution of weight causes cracks.

“Probably the worst evil is the incorrect shoe. Many people remove a lot of hoof wall when trimming, and excessive rasping of the wall thins it out. Sometimes farriers put on a shoe that’s too wide in the toe area where they haven’t taken enough toe off, and this creates a force that could possibly break down the wall. Nails too large for the foot may start breaking out the wall. Many use toe clips, and the way a toe clip is seated into the foot can create a crack.”

TREATMENT

Most cracks that are just starting are readily resolved with more frequent trimming and a shoe, if necessary, to protect the foot and take the stress away from that area of the hoof wall—to enable the crack to grow out. Norman says it is crucial to unload that part of the foot and get rid of the forces in that area.

“You can do this by trimming, or with a shoe, after you balance the foot with whatever conformation you have to work with,” he said. “If the crack is not detrimental, you can just concave the trim and unload that area. Sometimes a four-point trim on a barefoot horse can be beneficial, or you can just trim away the toe area if a crack is starting there. You can manipulate the pillars of the foot to unload the forces in certain areas on the



PAT BURTON

Foot imbalance must be addressed to resolve a crack

barefoot trim. You can also do that with a shoe, putting the weight-bearing surface where you want it, and leave the weight off another part.”

“Trauma to the hoof, such as an abscess, or scars that leave a permanent defect in the growth center at the coronet band, seldom require more than good regular trimming and in some cases a properly fitted shoe,” O’Brien said.

If the coronary band is compromised, Boudreau suggests applying a good hoof dressing to keep the coronary band as supple as you can.

“Then, hopefully, the crack won’t get too bad,” he said. “When horses come here from the dry desert, I try to keep plenty of hoof dressing on the coronary band, applying it twice a week, to get those cracks (the ones that originate at the coronary band) to grow out.”

With a more serious crack that is deep or unstable, the farrier may have to address it with trimming or in some cases special shoeing.

“If there is a lot of movement in the crack, we might have to lace it together,” Moshier said.

“This can be done by putting horseshoe nails across the crack to hold it together, or lace with stainless steel threads,” he said. “Quarter cracks are usually done with stainless steel thread if they need laced, but a toe crack can often be laced with just a horseshoe nail. Some severe cracks can be stabilized with polyurethane—gluing it to keep the edges stable so they won’t be moving as the crack grows out.”

Several products can be used to fill a crack. Some are acrylic, and some are polyurethane.

“It depends on the crack, but in most cases I use a polyurethane,” explained Moshier. “If it’s something I want to reinforce with fiberglass, I might use an acrylic. We want to make sure we keep these materials away from the coronary band.

“We will also shoe the horse, and in most cases put clips on the shoe—on each side of the crack—to help prevent movement. It depends on the case. With



FLOWER POWERED

The incredibly effective fly control ingredient in **Pyranha® WIPE N’ SPRAY™** comes from the Chrysanthemum flower, offering you proven protection the way nature intended.

PYRANHA ON. PESTS GONE.™

Use it on your horses.

(800) 231-2966 | www.pyranhainc.com





STEVE NORMAN PHOTOS

at its widest. While people tend to think we need to stabilize that crack by keeping it together, many types of crack repairs involve keeping the edges of the crack apart, so they don't roll inward. You can see a rounded edge that develops because the crack is rolling inward, from an inward force instead of an outward force. Clips, in this case, won't do much good."

Many things need to be taken into consideration when trying to resolve a crack.

"Some farriers and horsemen use the edge of a file and rasp across the top of a crack," Moshier said. "This is an old practice that theoretically halts upward progress of the crack, but it doesn't work. In order to stop a crack, you must go all the way through the wall, and you don't want to rasp that deeply or you've created another crack and seriously weakened the hoof wall. You have now invited the crack to go east and west.

Hoof crack repair

some kinds of toe cracks, we don't need clips because that's not the motion we are trying to prevent. With that type of crack we don't need to keep the foot from spreading out on each side of the crack.

This kind of toe crack has a tendency to roll inward when the horse puts weight on that foot. When putting the polyurethane or acrylic in, it is important to do it with the foot unloaded, with the crack



HORSE COUNTRY
KENTUCKY

VISIT HORSE COUNTRY

KENTUCKY

*Experience Kentucky's Horse Country.
Our Gates are Open.*



VISITHORSECOUNTRY.COM

“Foot imbalance must be addressed to resolve a crack, but there are some other things to try to halt the top of a crack,” he said. “With a full wall crack we can burn a round hole at the top, using a pritchel, turning it as it burns the hole. This must be a full wall thickness hole, and causes a cul-de-sac effect. As stress travels up the crack, it can’t continue in any single direction so the stress travels back down.”

A small, smooth, round hole/circle is much more effective than a rasped line across the top. But at the same time the cause of the crack must be addressed, or burning the top of it will be of no value. The cause might be a flare, a too-long foot, hoof imbalance, or some other pressure-causing situation that has to be resolved.

Lameness is caused by a full-wall crack.

“It might occur right away or might be a worsening crack that is not addressed early on, and then becomes infected when it gets into sensitive tissue,” Moshier said.

“For a small crack I might use a rasp to put a little V-notch in the bottom at the ground surface. This is just to keep any debris from collecting in there; any dirt and debris will fall back out instead of getting caught in the crack and forced up in there. If there is any white line stretching, I want to make sure there is no

debris or rocks wedged in there.

“For a deep crack, I pack it with a small piece of chair foam and treat the foam with a thrush product,” he said. “This stops any foreign matter from getting in there and continuing to wedge the crack upward, while at the same time treating the bacteria and fungi that are weakening the wall. I have treated many cracks successfully, using this technique.”

QUARTER CRACKS

Quarter cracks can be serious issues. Moshier says a common cause of a quarter crack is hoof imbalance where one heel bulb is higher than the other (sheared heels).

“This combined with heavy work leads to shearing of the internal laminae at the quarter until it ‘blows,’” he said.

“Distal quarter cracks originate at the ground surface on the side of the hoof, usually about the middle of the quarter,” O’Brien said. “They are usually on the flared side of the foot of horses with either base-narrow or toed-out conformation. Balancing these feet to the horse’s conformation and the temporary use of frog support such as a heart bar shoe, will allow the distal quarter crack to grow out. Maintaining proper hoof balance will prevent flaring, keeping these cracks from returning.



Sample of a hoof crack laced together

QUILLIN
Leather & Tack

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

Plus MORE Great Custom Made Leather Goods
Full Service Repair & Engraving - All At Our 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
(800) 729-0592 • www.Quillin.Com • facebook.com/QuillinLeather

“Proximal quarter cracks begin at the coronet band, the top of the hoof wall.”

Often causing lameness, they can be challenging to fix.

“The farrier and veterinarian need to work together with the cooperation of the horse owner to find the cause and solu-

“Radiographs often show the medio-lateral orientation of the coffin bone to the ground is in opposition to the medio-lateral orientation of the hoof wall. Many farriers and veterinarians have successfully treated this type of quarter crack by patching and/or stitching the crack.

“The one thing consistent in all successful recoveries from a proximal quarter crack is the proper balancing of the foot to the horse’s conformation.”

—HEATHER O’BRIEN

tion for these cases,” O’Brien said.

“Proximal quarter cracks are found in the rear third of the hoof wall, at or near the point where the laminae go from boney attachment to P3 (coffin bone), to the soft tissue attachment in the heel region, following the angle of the horn tubules in that region. These horses are usually toed-out, base-wide, or base-narrow, which contributes to unequal loading—creating shearing forces on their hoof wall and lamina that cause the proximal quarter crack,” she explained.

Using heart bar shoes transfers the load off the affected heel. In some cases, frequent barefoot trimming has been effective,” O’Brien said.

“The one thing consistent in all successful recoveries from a proximal quarter crack is the proper balancing of the foot to the horse’s conformation. Without this, the quarter crack will keep returning until proper balance is restored.”

Boudreau said: “Make sure the feet are landing level. You don’t want any extra pressure on any one part of the hoof wall.

When the hoof is out of balance, it creates too much pressure on one side of the capsule. This will push into the coronary band and cause it to jam up. With all the extra pressure in one spot on that side of the foot, it can make it break out and crack.

“On many of these, I often use a heart bar shoe that has a tongue that rests against the frog, to help take the pressure and weight,” he explained. “It supports a good portion of the weight that would normally be on the heels. Before I tack on the shoe, I make a notch or trim off a little bit of hoof wall in that area, so it doesn’t touch the shoe—from the quarter crack back to the heel of the shoe. I don’t want the hoof wall in that area to be taking any weight.

“That will give the quarter crack a better chance to grow out and heal because you are taking away all the pressure that might keep spreading it,” he said. “You can take that treatment a step further in severe cases, lacing the quarter crack together with a small stainless steel wire. You can then put acrylic over the top of that, to stabilize the crack. Then there will be no movement and it can grow out.

“When I apply a patch like that, I run it up within a half inch of the coronary band,” Boudreau said. “If you apply the patch properly, you can keep trimming the patch just like the hoof wall as it grows down. If everything works the way it is supposed to, it will grow right on off and then you’ll have a strong, healthy foot again.”

Boudreau also uses pour-in pad material on some feet.

“I use the kind that has copper sulfate in it,” he said. “A horse with a quarter crack can be shod with the heart bar shoe, and then I use duct tape to block off the area where I’ve trimmed out the hoof wall, so the pour-in material can’t get in under the shoe. Then I fill the sole up with pour-in pad material and it gives the foot and sole more support and stability so there’s no pressure on the quarter crack, and it can grow on out.” **BH**

Heather Smith Thomas is a freelance writer living in Idaho.

Dandy Products, Inc. Padding & Flooring Specialists



“Padding At Its Best”

Breeding Sheds, Stocks, Stalls, Trailers, Exercise & Training Areas,
Induction & Recovery Rooms Table & Surgical Pads, Neo-Natal Foal Beds

Non-Slip Safety Floors for All Areas

Pavesafe Bricks & Tiles, Trac-Roll & Vet-Trac Floors, Wash Stall, Grooming, Aisleway and Trailer Mats

Toll-Free 888-883-8386 • 513-625-3000 • FAX 513-625-2600
3314 State Route 131, Goshen, Ohio 45122 • www.dandyproducts.net

EQUIADE PRODUCTS

**11% OFF
RETAIL
Online Orders
Code: EPMB**

**From the Creators of
Body Builder™
this New Amazing Product**

EPMX™

**Helps support immune system to aid in natural
immune response to parasitic infestation**

Also Used as Pre Event

16 Oz. Bottle

Call Andy with any questions; a successful horseman for over 50 years: 201-568-5551

EPMX is an ALL NATURAL product that works in fighting Equine EPM.

EPM, a neurological disease in horses caused by Protozoa, now can be controlled in a natural way by EPMX!

This product supports the immune system, aiding it naturally to fight this parasitic infestation.

The common symptoms of EPM infection are uncoordinated movement of the rear feet, worse on one side. Also, lameness issues that come and go, often switching sides, changes to gate and lethargy, hind end weakness, worse on ground that slopes left to right or front to back.

EPMX not only helps to kill the parasites causing EPM, but it is also good for pre-event!

**This natural product that has undergone vigorous testing for 2 years now,
both for efficacy and negative testing, has also been found excellent as a pre-event enhancer.**

Try it for yourself. It WORKS!

Available through Tack Shops, Distributors, Veterinarians.

www.equiade.com • 800-413-3702 • Fax: 727-562-2892 • Info@equiade.com