

SUPPORT
for the
THINKING
RIDER

WINTER|SPRING
2011

VOL. XXIV
NO. 1



Prescription for Equestrian Safety

The Equestrian Medical Safety Association (EMSA) is dedicated to the philosophy, principles and application of safety of people in equestrian activities. This purpose is achieved through education, research and resource.

MISSION STATEMENT

EDUCATION of health care professionals, organization representatives and individuals, including an emphasis on public awareness;

RESEARCH to better define injury patterns and risks, efficacy of safety measures and equipment, and assistance in equipment design;

A RESOURCE of experience and expertise to be shared and utilized for the benefit of equestrian safety.

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Courtney King Dye: a Champion on Every Front

MARGARET GOODMAN, MD

All it takes is a peak at Courtney King Dye's resume to know she epitomizes the word champion, but she is so much more.

King Dye, a United States Dressage Federation Gold Medalist, has accumulated countless accolades. In addition to several USDF Regional Championships, she represented the USA with Idocus at the 2007 Las Vegas World Cup, finishing in 6th place competing against 30 of the finest riders in the world. She competed in the 2008 Netherlands World Cup, and in 2008, represented the USA at the Hong Kong Olympic Games riding Harmony's Mythilius.

However, the definition of a champion surpasses a winner; it also means a fighter. It means coming back following a loss—after succumbing to adversity. Following devastating circum-

stances, this is where King Dye truly excels and serves as an example to us all.

After losing two of her top dressage horses—including Mythilius to inoperable colic, while riding a six year old horse in Florida in March 2010, he tripped and fell—taking her with him. Courtney struck her head on the ground and was rendered unconscious.

Paramedics transported her to St. Mary's Hospital in North Palm Beach for a skull fracture and severe shear injury (tearing within the brain). Once regaining consciousness, she worked with Kessler's Institute for occupational, speech and physical therapy and the International Brain Research Foundation—both in New Jersey.

"At first I couldn't move my right side at all. I couldn't make a sound, and I couldn't stand. I still have trouble using my right side fully, and



Sharon Packer photo

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Letter from the President

Deborah F. Stanitski, M.D.
EMSA President

injury in a very well-known rider to refocus attention on helmet use.

As we all know by now, use of properly fitted approved helmets will not eliminate all head injuries but will help reduce the severity of many. It appears that the dressage community is getting the message that top hats, while elegant, provide no protection. Currently the USDF is "recommending" but not mandating helmet use. Hopefully this will change.

Meanwhile the eventing community became even more stringent with the passage of rule change EV114.1 mandating a properly secured, ASTM/SEI-certified helmet for anyone mounted from the moment they

step on competition grounds. This is an additional step from the prior requirement requiring head gear once the competition officially started.

There has been a lot of non-scientific discussion concerning the use of air vests. Currently there are only two brands, of vastly different expense, available in the U.S. The real issues are: do they work, how do they work or not, and how fast is fast enough for expansion. Finally, last month, the first real statistics became available through British eventing. The bottom line on these vests is yet to be known but they are certainly currently under scrutiny.

The EMSA has continued to edit the Saddle Up Safely organizations' upcoming safety brochures and has already been involved with their rider injury pamphlet. The EMSA has also been featured in an article on the Riders4Helmets website (riders4helmets.com). There is interest in modification of the safety video (2008) and its use as a teaching tool. There was a presentation of the current video as well as a head injury update in the open EMSA meeting at the recent USEA Convention which was not only well-received but well-attended.

The EMSA would also like to issue a special condolence to BOD member Sarah Kelly on the passing of her mother Rebecca Broussard. Through Ms. Broussard's efforts the Rebecca Farms Horse Trials has become one of the major events in North America.



Board of Directors

Wayne Quarles

Director of Activities for the United States Pony Clubs at their national headquarters in Lexington, Ky., he is serving his second term as vice chair of the USEF Eventing Technical Committee, is a member of the Connemara Pony Technical Committee, the USEF Youth Sports Committee, USEF Nominating Committee, USEF Eventing Test Writing Committee, the USEA Eventing Officials Committee; co-author and panelist for the Training Program for Eventing Officials, Eventing Continuing Education Panelist, US Contact for the IEOC, USPC representative to USEA and a founding member of the Masterson Park Equestrian Trust Foundation.

Wayne holds FEI "I" Eventing Judge and Technical Delegate, USEF Registered ("R") judge for both Dressage and Eventing and "R" Eventing Technical Delegate licenses.



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Courtney King Dye: a champion on every front

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“I never thought I was immune to getting hurt, but I never pictured a brain injury.

some stuff that requires balancing—like walking. Everything is getting better, bit by bit, but nothing has become perfect.”

Her strength and discipline have helped her as a rider and in her recovery. “It’s part of my nature, but it definitely helped,” notes King Dye. “I never thought I was immune to getting hurt, but I never pictured a brain injury. I think that’s one good thing about my accident. It shows that even if you’re very good you can get seriously hurt.”

“I didn’t get bucked off. A horse simply tripped and fell on me. It couldn’t have been prevented.”

Regarding lessons she has learned, King Dye said, “... I have learned that brains are pretty important, and you can’t train a horse not to fall or be unpredictable. So wear a damned helmet!”

King Dye previously used a helmet when riding young horses or horses where there were additional concerns. Although she never had a problem with the horse she rode the day of her accident, she would wear a helmet riding him, too. But, the day of her accident she was in a hurry.

On her website blog she recently wrote, “Who knows if

a helmet would have saved me; I couldn’t have made the horse not trip, but I know any protection is good protection.”

Dressage riders have been extremely reticent to wear helmets. King Dye believes they should be made a rule. “I know from personal experience that it’s pretty uncomfortable to wear a helmet for eight hours, so most professionals don’t. The WEG made me realize we are setting an example, and if the rules are changed, helmets will become the norm.”

King Dye is now using a therapeutic regimen called hippo therapy. She notes, “It’s mostly just letting the horse move my body. A few times they’ve actually had me fully control the horse. It is definitely working that brain/body connection. It’s still hard work in a saddle, and I am used to that.”

“When I was first going to ride, I thought it would be very emotional, I might even cry. I was more nervous, by far than before the Olympics! My therapists, Meredith and Sara at Starlight Farm, told me it was okay to cry. But once I was on, it was like home. And I may have been working on different things, but I was still working! And I am used to working! I get

the best of both worlds—I get the therapy and seeing horses. Smelling them is good for me and makes me happy.”

She is a positive person. She notes that getting mad or sad doesn’t help and admits it helps to be surrounded by great people.

No one would ever blame her for never riding again, but she has no fear. She said, “Luckily the coma made me forget everything, so I am not afraid. I just know if I fall it will be bad. Day-to-day, I do extra work on my own to get physically stronger. I think I am pretty strong mentally.”

“I think what’s important for me is to compare how I am now to right after the accident, not how I was before. Work hard, keep a positive attitude, and know you are getting better. It took me a while to accept that it might take more time than I want, but it will happen.”

King Dye should not be the poster child for helmet wearing. It is a cautionary tale—something that happens all too often in every riding discipline at every level. The incidence of head injuries can range from a minor concussion to the type of trauma incurred by this talented Olympian.

As someone who has worked with thousands of professional boxers and mixed martial artists, no matter what precautions are taken, serious brain injuries can happen any time anywhere. However, as in combat sports, when there are precautions that can save an athlete’s life, there is no excuse to avoid them. Besides

her grace, skill and accomplishments, Courtney King Dye has taught us all a valuable lesson we should never forget.

Margaret Goodman is a Las Vegas Neurologist and former Nevada State Athletic Commission Chief Ringside Physician and Medical Advisory Board Chairman.

Interests sought from the EMSA Membership

I would like to know your topics of interest for our newsletter.

Please send all correspondence to Debbie Stanitski; stanitsd@yahoo.com.

Thank you in advance for your interest.

Debbie Stanitski, MD

Teaching Safely Really Works!

BY KIMBERLY CARLTON

Yesterday, I started the day full of positive energy and enthusiasm for the day and my job as a riding instructor. I felt grateful for the gift of another day, and thankful for the interest and passion I have for a job I love after over thirty years. My job is to safely teach people how to ride horses.

Of course, I was still brushing my teeth!

As I continued to prepare for the full day of lessons, I couldn't find two matching gloves, and three people left messages that they needed to change their lesson time. Running down the steps toward the barn, I was starting to feel harried, when my husband asked if I had heard we were going to get afternoon wind speeds of over 40 mph. As I slowed to a walk and entered the barn, I was still cheerfully undaunted and the smell of hay, leather and horses made me take a deep breath, glad again to be a riding instructor.

But then I found that Eugene had lost a shoe, and Easy's front leg looked swollen and I quickly began to deflate. Mentally, I started to reconfigure the lesson horses slated for the day and, as riding instructors so often must do, I threw out the day's plan and made a new one, that figured in new times for three students, lesson plans suitable for high winds, calling the farrier, and cold hosing the forelimb of my grey. Once again, I had to meet my goal of teaching people to ride despite being confronted by obstacles that were beyond my control.

Certainly as professional riding instructors we often experience a similar day. We also share a common goal. We want our students to learn. Some of us may want our students to learn how to ride dressage, while others want our students to grasp the skills of equitation. Some of us want our students to successfully jump the next fence. But whether we want our students to learn to ride astride, or execute the perfect sliding stop, certainly we all want our students to learn.

As professional riding instructors associated with the ARIA we also want our students to learn SAFELY. We understand the risks, as our well-written liability releases so often remind us, "inherent" to horse back riding, which involves an "unpredictable" animal. So we commit ourselves to avoiding unnecessary accidents. Arming ourselves with knowledge and our students with safety gear, we try to teach riding, and we try to teach it SAFELY.

As we agonize over well-fitting equipment and the safest way to teach, students tell us that one of the most important things that they want to learn is how to control their horses. At the most basic level this might include simply halting, and at the more advanced level the perfect, subtle half-halt, but as they commonly share their interest in control, their need for a sense of security and a feeling of safety is clear. While we are motivated to keep our students safe so that we can obtain insurance, become certi-

fied, teach carefully and avoid lawsuits, just as importantly we need to focus on teaching safety and SAFELY because it is how our students learn best.

Psychologist Abraham Maslow was a pioneer in developing a clear framework that explained human needs. He explained that humans share a set of common needs. People can function if these needs are not met fully, but they only thrive, bloom and LEARN to the extent their human needs are met. Maslow developed an order of importance for human needs which he called a hierarchy, and found that the human need for the feeling of safety and security was second only to the biological needs for basics such as food and water.

Modern educational psychologists applied Maslow's work and also recognized that students who feel safe and in control learn better. In their book, *THE SKILLFUL TEACHER*, Saphier and Gouer write, "The degree to which one's psychological needs are met determines how much energy and attention is available for learning. If an individual is hurt or wanting in any of these needs, learning slows or crawls to a halt. If these needs are adequately met, learning proceeds normally, and if they are met at a high level and nourished, learning flourishes; learning accelerates."

Modern scientists support these psychologists by having discovered that the part of the human brain that supports learning is closely tied with the part of the brain that controls

emotion. The brain's limbic system is the "on-off switch" to learning. Instructors are called upon not just to follow safety guidelines, but as teachers, recognize that our students will learn better if they FEEL safe. Recall in your own life how unreceptive you were to learning when you couldn't "think straight"?

ARIA professional riding instructors are in a wonderful position to use this knowledge to improve our teaching skills and serve our students better. We can "accelerate" learning. First, our commitment to safety supports the students' need to feel safe. Second, beyond safety helmets, proper equipment, lesson horses, and plans, our commitment to knowledge and education makes us concerned enough to be aware of simple things that good riding instructors can do and control every day that will support optimal student learning. Here are some practical things we can control and focus on each day to promote our students' sense of security and safety.

- 1. Be vigilant about barn cleanliness and organization.** Good riding instructors know that it's important to keep tack functioning and aisles clear so no one trips. Great instructors know that the visual chaos of the messy barn depicts chaos, not security, and diminishes our student's ability to learn, when it could enhance it.
- 2. Be professionally attired.** While all of us struggle to look professional and neat in a usually messy job, dressing

in appropriate, neat riding attire for the season allows us to demonstrate our professional attitude and creates an educational atmosphere in the barn. Additionally, instructors dressed as such, stand out as a knowledgeable authority figure that can be depended upon, again ensuring a visual sense of security and safety and trust for our students.

3. Be thoughtful when assigning lesson horses.

We all know that our wonderful lesson horses will teach our students more than we ever will. At the ARIA convention this year, Denny Emerson shared a numbering system that his farm applies to all his lesson horses. The system allows them to designate horses that are currently appropriate for the level of a student in their program in a very clear and definable way. Those of us with smaller programs might want to dedicate more time not just to choosing a lesson horse appropriately challenging to our riders while keeping them safe, but we may want to ask our students which horses they prefer to ride, and why. We owe it to our students to recall that while we may “know” they are safe on a certain horse, if they don’t FEEL safe on a certain horse, they won’t learn well.

4. **Plan lessons.** Constantly creating lesson plans that are suitable and interesting can be fun, but it’s also time consuming, especially since we know they will also need to

be modified once the day unveils itself. Still, it’s imperative that we resist any urge to “just wing it”. Not only do we need some structure to provide framework for a solid curriculum, students simply learn better when they feel safe. Creating lesson plans that challenge students with high expectations but do not over-face them beyond their current skill set requires time and finesse. However, since students will learn better and their learning will “accelerate”, it will be time wisely spent.

5. Manage inevitable change.

All of us well know how unexpected weather, horse ailments and missing horse-shoes throw us just a little off our own game. A bit of change and surprise is an inevitable part of life, and is often positive, exciting and invigorating. Instructors need to manage the amount of change that we expect our students to manage and still learn well. While it’s often a wonderful moment when a rider is ready to move to a new horse, a higher level, or to a group lesson from a private one, as instructors we need to recognize that change brings a certain level of uncertainty to our students’ learning. By changing Eliza’s lesson to a riding group on Wednesday, if we have also changed her to a new group of classmates, a new mount and different instructor, we need to recognize that her optimal learning level may decrease,

at least for awhile, from the uncertainty of so much change. We can be sensitive to, and aware of the amount of change we ask a rider to handle, in our learning environments. As riding instructors we need to evaluate and be considerate of the changes we ask our students to make and have solid educational reasons for the decisions we make. These changes may decrease their ability to learn when in fact our intent was the opposite.

There are many other ways that as riding instructors we can either promote our goal of helping our students learn, or deter ourselves and our students from that goal. Constantly monitoring and evaluating what we do, and how it impacts our students is a good place to start in our effort to insure that we are teaching the best we can. When we act in ways that are proven to help students learn we make ourselves work, as Denny Emerson aptly phrases it, “smarter, not harder”. Riding instructors are challenged to teach a high-risk activity in a safe manner in a world of weather, and surprise on an unpredictable animal. Just as we recognize that students need skills to control and progress with their riding, just as surely we must teach with awareness that in order for students to learn what we are teaching, they must have a sense of safety, security and control.

Today, I hope we all find two gloves, have no cancellations, or weird weather

forecasts. I hope the shoes are on your horses, and mine, and that we don’t need to call the vet. And in all the uncertainty, I wish you this certainty: that our commitment to safety, and our knowledge and awareness of how our students learn best will help us meet our common goal.

Our job is to safely TEACH people to ride horses.

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Helmet Safety Symposium

On January 8, I attended the Helmet Safety Symposium in Wellington, Fla. This was initiated and chaired by U.S. Equestrian Team (USET) physician Dr. Craig Ferrell, and organized by Lyndsey White, representative of Freedom Health LLC and co-manager of the Riders4Helmets campaign.

This symposium brought together members of the equestrian world to discuss the importance of helmet wear and the current status of helmet technology. Vanderbilt University neurosurgeon Dr. Allen Sills discussed traumatic brain injury and its anatomic and biochemical mechanism as well as brain injury recovery.

Attendees and presenters included helmet industry representatives: Dr. Richard Timms for Troxel, Roy Burek for Charles Owens, Don Bassin for GPA, Mr. Len Clement for Tipperary and Dr. Ken Phillips for Phillips Helmets U.K.

U.S. Equestrian Federation (USEF) President David O'Connor stressed the importance and necessity of helmet wear. Kemi O'Donnell, whose daughter died from a traumatic brain injury while wearing an "apparel only" hat, and I added some non-scientific human interest to the symposium. There were Jockeys Guild representatives present as well as a longtime polo devotee.

Helmet testing and standards were discussed and explained by Dean Moran by the Safety Equipment

Institute (SEI) and Dr. Dave Halstead from Southern Impact Research. Tom Cafara of G-form LLC presented an innovative material currently used for knee and elbow pads. He demonstrated its ability to prevent M&Ms candies from crushing against concrete with a dropped bowling ball when protected with this material.

Notably, there was a panel consisting of Managing Director of Eventing for the USEF Sara Ike; Grand Prix dressage rider Lauren Sammis; Executive Director of the U.S. Polo Association Peter Rizzo; former female jockey and Kentucky Horse Racing Commission P.J. Cooksey; and Olympic jumpers Bezie Madden and Ann Kurzinski. Each spoke in favor of approved helmet use.

At the conclusion of the symposium, Dr. Ferrell and USEF CEO John Long summarized the meeting and elucidated an action plan to, at the least, impact USEF sanctioned activities. The hope is that improved education will influence those outside of the competition situation as well. All involved felt that the symposium was a great success and will hopefully be repeated.

DEBBIE STANITSKI, MD
President, EMSA

*Click to see
Dr. Stanitski interview
at the symposium*

*Read the Nancy Jaffer (The
Star Ledger-Ledger/NJ.com)
article on the seminar*

Survey Highlights Need for Equestrian Safety

LEXINGTON, Ky. (Dec. 2, 2010) – A survey conducted in September 2010 by Saddle Up Safely, a rider safety awareness coalition of 40 community organizations led by the University of Kentucky College of Agriculture's Equine Initiative and UK HealthCare, reveals that equestrians are having too many riding accidents that could be prevented or minimized.

Of the 500 equestrians selected from a national search panel, 221 (45.5 percent) had been injured at least once due to a riding accident or handling injury with an average of four injuries reported. Of the 221 individuals injured, 57 percent sought out medical treatment.

A little over a third (35.7 percent) of riders rode alone the last time they rode and only 43.8 percent of all riders wore a helmet. Of those injured, 23 percent had quit riding for an extended period. Of the 221 who were injured, 66 percent said it was due to rider error.

"Our study and a number of others have shown that many injuries can be prevented or reduced in severity by practicing safe horsemanship," says Fernanda Camargo, assistant professor, equine extension specialist, at the UK College of Agriculture.

Every year, millions of Americans participate in horseback riding activities. Riders are often six feet above the ground on horses weighing more than 1,000 pounds capable of 35 miles-per-hour speeds. In 2007, 78,000 people were seen in the U.S. emergency

rooms due to horse-related injuries; 9,000 of those were admitted to the hospital for further treatment.

The most common injuries in horseback riding are fractures, bruises and abrasions, sprains and strains, internal injuries and concussions. Injuries are most often caused by falls, but people can be kicked, stepped on or fallen on by horses.

"The most severely injured riders are seen here at UK HealthCare's Chandler Hospital Trauma Center," said Dr. Julia Martin, associate professor in the Department of Emergency Medicine at the UK College of Medicine. "If there was one recommended behavior we would like to see, it would be for every equestrian, whether novice or experienced, young or old, to wear an approved, correctly fitting helmet."

Saddle Up Safely is one of a number of organizations including the Certified Horsemanship Association and the 4H Clubs who are trying to make the great sport of horse riding safer. To learn more about what you can do to improve your knowledge of horse riding safety, go to saddleupsafely.org or call 859-323-5508.

Protecting Mind and Body: Helmets and Safety Vests

Pegasus Helmets - Pegasus Classic Black Velvet Helmet

No more mushroom head! These helmets sport trimmer, smaller exteriors that are less top heavy and fit closer to the head. They have extra, concealed air vents and built-in hair pockets above the ears, keeping riders cool and dry. Each Pegasus helmet is constructed to fit a precise head size and shape, with both regular and 'long oval' models available. Pegasus also offers show helmets that taper in the rear, protecting the soft spot at the base of the skull. The Pegasus patented four-point harness further ensures that the helmet will always stay secure by keeping the straps comfortably tight. Pegasus also offers children's helmets, as children's heads have different ratios of circumference-to-width-to-length than adults', and the Pegasus Children's Collection incorporates those differences. \$99.95 (Classic Microsuede, \$69.95; Euroblack, \$89.95)

www.pegasushelmets.com

Jeffer's Equine — Ussepa Schooling Helmet by Devon-Aire

Lightweight, comfortable and SEI approved. Uses the Easy Fit Dial™ system for a correct fit. Colors: black, white, blue or purple. Sizes: S/M or L/XL. \$39.95

www.jeffersequine.com

SmartPak — Point Two 'Pro Air' Jacket

The Point Two 'Pro Air' Jacket, previously sold only

in Europe, has revolutionized safety in the equine world by combining the latest airbag technology within a lightweight and comfortable jacket. The 'Pro Air' available at SmartPak is the first inflatable jacket for the equine market sold in the U.S. and is their newest design — faster than the previous versions available in Europe. The Point Two 'Pro-Air' Jacket is worn over a traditional protective vest to reduce impact and absorb shock. If the rider is separated from the saddle, the jacket inflates, offering fantastic coverage to the collar of the neck, spine, coccyx and rib cage. The jacket reaches full inflation in 0.1 seconds. Worn by many riders during the Cross Country phase of the recent Rolex Kentucky Three Day, including team SmartPak riders Kim Severson and Allison Springer, the Point Two 'Pro Air' Jacket has accumulated a loyal following of top riders. "We are thrilled to be able to bring this innovative piece of safety equipment to our customers," said Rebecca Minard, founder of SmartPak Equine. "The Point Two 'Pro Air' jacket isn't just for four star competitors; anyone can benefit from the additional measure of safety it provides, whether you're competing at training level, schooling at a local horse trials, or just enjoying an afternoon on the trails." \$675.95

www.SmartPakEquine.com

Charles Owen — The jL9 Body Protector

The jL9 Body Protector provides the feel of gel with

the performance of foam. The gel material is extremely malleable and less rigid in fit, enabling the product to mold closer to the body, in particular the ribs, while being lighter in weight. The rider feels supple, allowing them to perform to the best of their ability. Certified to BETA level 2, the jL9 body protector provides the maximum in protection without the unwelcome bulk. A dual security and fastening system over the shoulders ensures that the garment remains in place. Elasticated hook and loop fastening straps which go over the shoulders are additionally secured by press studs. The front of the jL9 zips up and features a covered padded flap which in turn protects the zip. The quick release three-pronged elasticated belt provides additional garment security. Available in sizes: Child Medium, Large and X Large. Adult Small, Medium and Large. Panels are interchangeable for a customized fitting.

MSRP is \$215 for the Childs Med, \$228 for the Childs L & XL, and \$258 for the Adult sizes.

www.CharlesOwen.com

Tipperary Equestrian — The Competitor XC 1037

The Competitor XC 1037 is the latest vest from Tipperary Equestrian, the makers of the popular Eventer 1015. The Competitor XC exceeds ASTM standard F2681-08. Made with the utmost comfort, safety and durability in mind, the Competitor XC is the perfect fit for any equestrian athlete from

Eventers to Drivers to Jockeys. The Competitor XC is made with lightweight, high density foam which provides powerful protection and superior impact energy displacement. Its innovative foam construction results in the ultimate kinetic fit. The Competitor XC features a higher cut torso, which encourages agility hip angle. The shoulder straps are designed for maximum shoulder reach and rotation. Its construction allows for superior air-return circulation and cooling the body in high temperatures. The Competitor XC also features reinforced elastic side closures to ensure a custom fit, and comes in ultra-breathable Durasport material. Stock colours for the Competitor XC1037 are Black, Hunter Green, Purple, and Navy, with custom colours, trim, piping and embroidery available at an extra cost. Suggested Retail: \$279.95

www.phoenixperformance.com

Jeffer's Equine — ASTM/SEI Body Protector w/ Ultra-Flex Cooling Technology

50% lighter and 100% more flexible than any previous body protector, this vest features a slotted interior panel to allow air filtration. Unique two-layer design allows each layer to move independently of each other for a more comfortable ride without compromising the rider's safety. Waterproof outer shell. SEI certified Level three.

Child's \$89p; Ladies' \$95.00; Unisex \$104

www.jeffersequine.com

A Zoonotic Threat

A Case Study of MRSA, Humans, Horses, and Companion Animals

CAROL RAE HANSEN, PH.D.

Director, Equine Therapy Associates, a NARHA Premier Center

If you asked a hundred riding instructors and stable owners what first comes to mind when one says “zoonotic threats,” you might see a lot of pursed brows, fingers scratching heads, and maybe hear a few “Ebolas.” It is doubtful that you’d hear a loud chorus shouting “MRSA!” or the names of other community acquired (CA) or hospital-acquired (HA) [nosocomial] pathogens. Yet, spreading under the radar of the horse community is the very real threat of Methicillin-resistant *Staphylococcus aureus* (MRSA) contamination, largely from humans to equines¹ and to our feline and canine barn companions², although there is a growing threat the other way from infected horses and ponies to their owners, stable managers, vets and veterinary assistants. With this general lack of awareness in the equine community comes a true infectious threat to equine businesses, liability concerns, privacy and publicity issues, and potentially massive losses from enforced barn closures. What do you need to know about this growing zoonotic threat if you are to safeguard yourself, your family, your animals, and your business? This brief discussion will introduce the area of concern, but we encourage you to delve into the issue further by reading the references cited below, among others.

Our Premier Operating Center (Equine Therapy Associates, Potomac, Md.) of North American Riding for the Handicapped (NARHA)

faced just such a challenge in June, 2009, from possible MRSA contamination, and suffered an expensive month-long closure, which could have been a public relations disaster. During that time we cancelled all lessons, skipped Special Olympics and other horse shows, consulted with two veterinary practices (small animal as well as equine) as well as specialists at two veterinary colleges. We also paid to test volunteers, staff, ponies, and several families of riders. Why? All because our pony, an instructor, a volunteer, and two families might have been exposed to a client returning to our Center after surgery, whose recent hospitalization may have infected or colonized the client with MRSA and or other pathogens. Our vets were met at a locked gate in 90+ degree heat, and asked to robe with gowns, gloves and masks; we also used a shoe washing station and booties. The pony ridden by our potentially infected client had to be removed to an isolation stall, and fed, watered, and exercised 130+ft. downwind of our other equines, but only after the non-affected animals were cared for. I undertook all of his care, clad as well in gown, gloves and masks³. I also had to issue nearly daily emailed briefings to our concerned staff, advisers, clients and their families in this unprecedented situation.

Needless to say, this was a challenging situation, but our Center weathered the storm. Had I as Director not had previ-

ous experience with the danger of MRSA through a close family member who had acquired MRSA in the hospital and in her rehab centers; had our vets not taken the challenge most seriously, and shared a host of research data; and had our clients, staff and volunteers not been so reasonable and supportive, the result might have been catastrophic. This article is written to alert you to growing challenges in the field, and to share much of what you need to know, should you face the same or similar circumstances with other antibiotic-resistant zoonotic infections.

What assets did ETA have to cope with the MRSA threat?

Unlike many smaller groups or individual barns, the 800+ member centers under the NARHA umbrella require posted and written policies and procedures that determine who and how one can participate, and they all adhere to NARHA's over-arching “Do No Harm” philosophy. All Centers require NARHA's updated medical forms from clients who have hospitalizations, surgeries, and/or other major medical events, and when there are changes in medical, physical, psychosocial concerns, and so forth. We must also follow NARHA guidelines on proof of consensus by the entire treatment team with regard to the decisions made, and we follow NARHA, ETA, and Markel (insurance) guidelines on risk management, especially NARHA's key Precautions and possible Contraindications

associated with diseases, conditions, syndromes and occurrences. Further, we follow NARHA guidelines on securing secondary diagnoses data, additional data on acute flare-ups (also known as exacerbation), and follow a process to assess whether ongoing participation after a major event such as surgery is appropriate, along with procedures for discontinuation of services. We also are careful to follow a NARHA standard (J-11) that requires us to contact physicians and/or therapists, not just parents, on any Precaution or possible Contraindication wherein we have concerns, although it is often extremely hard to get physicians to respond! None of the above, however, helped ETA in this instance, as the family of the rider in question did not share all the data that we needed to be fully informed, nor did they return to us our requested physician's re-evaluation form post-surgery, post-hospitalization.

This case of possible HA infection was socially and professionally difficult because ETA had a history of five years of successful service to this family. Despite excellent and cordial relations, the family chose not to return to ETA the written document required by NARHA post-surgery and post-hospitalization. Further, the family neglected to respond to the clarification requested by ETA, as to whether the rider in question had acquired any infectious (or colonized)⁴ patho-

gen in the hospital. (ETA had been alerted to the MRSA threat in the pediatric ward in the hospital⁵ by the rider's father.) ETA had also asked for the requisite three negative cultures post-antibiotics if the rider was found to be actively infectious (or colonized) with any infectious agent in the hospital. (ETA only asked for one negative culture post-hospitalization and post-antibiotics if the rider did not receive a positive culture in the hospital.) Finally, before returning to lessons, we asked the rider's family to secure from the physician most familiar with these issues the signed NARHA physician(s) forms normally needed annually, and which give him/her the chance to update our Center on hospitalizations, surgeries, changes in conditions, medications, and so forth. In the absence of these documents, because the issue of MRSA had been raised by the family and hospital physicians, ETA was advised by our insurance company to postpone lessons until we could secure the documents, review them, and secure any additional data needed by our Medical Review Committee. Our insurance company advised us that the risk was too high without those documents, in terms of possible contamination of the staff, instructors, other families arriving or departing at the same time, the facility itself, our equines and our felines, all of whom had come in close contact with the rider post-surgery.

The issue was especially acute because the rider in question had a history of sneezing, coughing, and drooling routinely, such that normal contact precautions by the instructor and volunteers were difficult to effect within the three foot radius for contamination as the

rider often sneezed dozens of times each session. Families departing from an earlier lesson and a family who came immediately after always stopped to chat within that three foot zone, as well. The rider was also was keenly attracted to felines, and they to the rider, so many barn cats were touched or hugged, as was the pony that was ridden. Moreover, the rider came to us for several lessons post-surgery before the issue became clarified, for a total of some 8+ contact hours at ETA. None of our instructors, staff, volunteers or equines was symptomatic, but they were all tested for nasal colonization, as was the pony, given the risk to themselves or others.

In the absence of the requisite data from the family, ETA was advised by our very fine equine and small animal veterinary practices to set up a voluntary quarantine, to postpone all lessons, to test the equines for MRSA and other hospital-acquired pathogens, to test the volunteers, staff, and instructors who came in contact with the rider in question, along with the riders and families who came before and after the rider in question and his family, and to attempt to decontaminate as a prophylactic measure the parts of the facility the rider and his family were in, as well as the equipment used. We were advised to dispose of any items, however valuable, that could not be decontaminated⁶.

ETA's vets worked with the U.S. and Canadian veterinarians who had undertaken the greatest amount of research on transmission of MRSA from humans to equines, and we consulted the infectious disease and internal medicine specialists regarding contamination

of our felines at the veterinary research school for Delaware, Maryland, Virginia and DC (Virginia Tech). So little is known of infectious MRSA transfer from human to feline populations, as well as the testing and treatment of felines, that we postponed any action with regard to our 15 barn cats beyond research until the results of the equine and human cultures returned⁷.

When the human cultures came back the individual with the greatest contact with the rider, the instructor, proved not to be infected or colonized, whereas the rider's volunteer, also in very close contact, showed a light growth of *Pseudomonas aeruginosa*, now recognized as "the epitome" of an "opportunistic pathogen of clinical relevance....The fourth most commonly-isolated nosocomial pathogen accounting for 10.1 percent of all hospital-acquired infections...." The case fatality rate of patients hospitalized with cancer, cystic fibrosis and burns who acquire *Pseudomonas aeruginosa* is near 50 percent⁸. This volunteer went on antibiotics for 14 days, and was pronounced subsequently as "clear."

The pony ridden by the client in question tested positive for *cineobacter banmannii*, but neither he nor the volunteer (or, indeed, the other families) tested positive for MRSA. After several weeks of worry, and roughly \$1,000 spent on veterinary care and testing, it appeared that his colonization was merely transitory, as the internal medicine equine specialist we had consulted at the Dupont Equine Medical Facility in Leesburg, Va., had surmised. The preliminary results of his huge study of equine nares cultures suggested that in

a healthy equine like ours a heavy nasal colonization could be cleared in fairly short order, due to the large equine sinuses and nasal passages, as well as their long necks.

To this date, we still have no proof as to where the *cineobacter banmannii* came from, or why our volunteer was colonized with *Pseudomonas aeruginosa*. These are not normally found in human or equine nares, but are most often associated with human hospitalizations, hospital-acquired infections, and human catheterizations. Each is resistant to 3.5-4 classes of antibiotics, leaving but one effective class of antibiotics to use against them. These pathogens could have come from other humans, from equines, from the soil or the grass. Either or both could have come from the rider. They could have been there for years. We had absolutely no way of proving the issue definitively. However, because we tested, we were able to reassure our instructors, staff, and volunteers, as well as the other families that they were at no risk. All of our ponies, staff, instructors, volunteers and the other families were free of pathogens. Because these two antibiotic resistant pathogens turned up in the pony and in the volunteer, we informed the family of the rider, and asked them to be tested as well. We offered to cover the cost of all testing, including that incurred by the veterinarians, and antibiotics, if needed. Until all results were in, we kept our Center and the entire farm, in quarantine at considerable cost.

We hope that others will take our "wake-up call" to heart, and prepare policies in advance that they can put into effect, should the need arise⁹.

MRSA

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A number of worrisome issues arose in the literature shared by the veterinarians that should be considered by horse and pony owners, barn managers, and instructors. These include (1) the fact that MRSA may be colonized in the anterior nares of roughly 7 percent of horses or more, particularly in barns with 20 horses or more, where the percentage may rise much higher¹⁰; that (2) horses are usually not persistently colonized, and will clear the MRSA on their own if re-exposure can be prevented¹¹; (3) studies have identified colonization as a risk factor for infection in horses, as in humans, with attendant mortality and morbidity concerns¹²; (4) there are five major risk factors for horses and ponies that make them particularly susceptible to MRSA¹³; (5) large animal veterinary personnel are more likely to be colonized with MRSA (15.6 percent in one study) than small animal personnel (4.4 percent), and they can transmit MRSA to equines in their care¹⁴; (6) there is no indication that antimicrobial therapy is useful decolonizing horses¹⁵; (7) at least some researchers have found an “unusually high prevalence of MRSA colonization among horse farm personnel (13 percent)¹⁶ As such, “because transmission from humans to horses is possible, a high prevalence of MRSA colonization in people who work with horses puts animals under colonized persons’ care at a higher risk for colonization or infection¹⁷,” and finally, (8) the following information was shared by my veterinarians: Because there is no indication that antimicrobial therapy is useful for decolonizing equines, it is not

general veterinary practice to treat colonized equines through nasal antibiotics or IV antibiotics. This is generally not done because of the fear that such activity would make this bacterium even more resistant to the four classes of antibiotics that still work. Thus, it appears to be conventional veterinary wisdom that colonized MRSA equines that do not self-clear should either be slaughtered, be sequestered together or individually, and or be treated in very special situations.

All of the above raise profound questions about our horses, our families, our students, our companion animals, the risks to all, and their treatment. As urban areas encroach even more upon rural areas, as horses are mixed more and more in suburban areas with humans, and as boarding barns grow ever larger, with more and more equines cared for by a relatively small number of people, the likelihood of MRSA contamination will grow, as will the likelihood of other antibiotic resistant infections. I believe that each of us needs to take a stand, and ask our colleagues, staffs, and veterinarians if they have been tested for colonized nasal MRSA and other pathogens not normally found in the human nares. If not, why not? If our colleagues, veterinarians, and or the staff caring for our equines are colonized, then they should be using a daily antibiotic in their nares, such as Bactroban, which is low cost, easy to use, and which can, if used for a lengthy period, decolonize a human. If I could help clear my 89-year-old mother Lillian’s nares four times in one year,

at a very small cost, then there is likely no excuse for the rest of us to allow our equines, our companion animals and our families to unnecessarily be put at risk.

If the above is new to you, you may wish to consult the 77-page online article regarding MRSA and VRE from the Centers for Disease Control, which is superb, as well as the most useful documents listed below that describe research studies on equines, felines and canines as recommended by our equine and small animal vets.

This summary of the challenges posed by MRSA and other zoonotic antibiotic-resistant pathogens to equines, their owners, and stable companions, is long overdue. EMSA’s founder and former leader, Dr. Bixby-Hammett and its current president, Dr. Debbie Stanitski, were most helpful to me during that challenging time. I remain deeply appreciative of their kindness, professionalism, and concern, as always.

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(Endnotes)

¹ Maureen E.C. Anderson, DVM, DVSc and J. Scott Weese, DVM, DVSc, Diplomate ACVIM. “Review of Methicillin-Resistant *staphylococcus aureus* in Horses and Veterinary Personnel who Work with Horses,” AAEP Proceedings: volume 54,

2008; Maureen E.C. Anderson, DVM and J. Scott Weese, DVM, DVSc, Diplomate, ACVIM. “Review of Methicillin-Resistant *Staphylococcus aureus* (MRSA) in Horses,” in AAEP Proceedings: 2006, volume 52; and D. Paul Lunn, BVSc, MS, Ph.D. and Josie Traub-Dargatz, DVM, MS. “Managing Infectious Disease Outbreaks at Events and Farms; Challenges and the Resources for Success,” in AAEP Proceedings: volume 53, 2007; and Stephanie Kottler, DVM, “Must Knows About MRSA and Skin Infections,” in *dvm360.com*: May, 2009, with a further reference to www.dvm360.com/infocus509.

² Kottler, Stephanie, DVM. “Must Knows About MRSA and Skin Infections,” *DVM 360 News Magazine* (May, 2009): pp. 8-23.

³ Lunn and Traub-Dargatz, pp.2-5, 7, 8-9, and 11.

⁴ Kottler, p. 8: “The host animal is considered ‘colonized’ when *staphylococci* are part of the normal flora. Infection occurs only when the bacteria are found outside of their normal niche and are associated with tissue inflammation and pathogenic changes. Infection with *S. aureus* and MRSA may cause ‘significant morbidity and mortality’, whereas colonization usually does not. However, people colonized by MRSA are at a much higher risk of developing MRSA infection in certain situations. A recent study that evaluated colonization with MRSA in people associated a four-fold (400 percent) increase in the risk of infection with MRSA. Colonized pets may serve as a reservoir source of infection for people or animals within the household.”

⁵ Kottler, p. 8ff: "In general, H-MRSA are more multi-drug resistant than CA-MRSA strains. In addition to the B-lactams, HA-MRSA and CA-MRSA strains are frequently resistant to erythromycin; HA-MRSA strains are frequently and CA-MRSA are occasionally resistant to clindamycin, and there is recently an increased likelihood of resistance to fluoroquinolones in both types of MRSA. HA-MRSA strains are also frequently resistant to aminoglycosides and tetracyclines. In animals, a high-level resistance to mupirocin and variable resistance to erythromycin, fluoroquinolones, and indcible resistance to clindamycin have been reported. Infections with HA-MRSA or CA-MRSA can cause skin and soft tissue lesions, life-threatening necrotizing fasciitis, necrotizing pneumonia, and sepsis. Fatal cases of both HA- and CA-MRSA have been reported, even in people without known risk factors. The mortality rate is higher for invasive MRSA infections such as bloodstream infections (50 percent) and pneumonia (33 percent [per lobe]) than for simple skin lesions. Risk factors associated with developing a clinical infection in people include prolonged antimicrobial therapy, surgery, prolonged hospitalization, trauma, concurrent infection, skin lesions, treatment in an intensive care unit, and close proximity to other patients infected or colonized with MRSA."

Author's note: the CDC recommends gowns, gloves, and masks for contact with a colonized human. I was first sensitized to MRSA when my Mother, Lillian, post-stroke, contracted double-lung pneumonia twice in the same hospi-

tal (66 percent mortality risk x two), along with a MRSA bloodstream infection (50 percent fatal), and vancomycin-resistant enterococci (VRE) in the same hospital! That hospital intended to release her to rehabilitation still infectious, but not surprisingly, not one of several dozen facilities was willing to accept her. Subsequently, although all infections were cured, she was "colonized" in her nasal passages. We fought successfully with Medicare via two tenacious physicians such that she was given daily doses of an antibiotic. Subsequently, she was cleared four times of the "colonized" nasal condition, but reinfected yet again in rehabilitation facilities or hospitals.

⁶ Ibid.

⁷ Kottler, p. 11 and p. 23.

⁸ Todar, Kenneth. "Pseudomonas aeruginosa Opportunistic Infections," *The Microbial World* (University of Wisconsin, Madison: 2008): 1-2.

Author's note: the volunteer showed no symptoms, and had not become infected, but went on 14 days of antibiotics, at her physician's request. When tested subsequently, she was free of *Pseudomonas*.

⁹ See Lunn and Trai-Dargatz.

¹⁰ Anderson MEC. Unpublished data, January 2006.

¹¹ Weese, JS, Rousseau, J. "Attempted Eradication of Methicillin-resistant *Staphylococcus aureus* Colonization in Horses on Two Farms," *Equine Veterinary Journal* (2005): 37: 510-514.

¹² Weese, JS, Rousseau, J., and Wiley, B.M., et al. "Methicillin-resistant *Staphylococcus aureus* in Horses at a Veterinary Teaching Hospital: Frequency, Characterization,

and Association with Clinical Disease," *Journal of Veterinary Internal Medicine* (2006): 20: 182-186.

¹³ Weese, J.S., Lefebvre, S.L., "Risk Factors for Community-Associated Methicillin-resistant *Staphylococcus aureus* Nasal Colonization in Horses Presented to a Veterinary Teaching Hospital," *Canadian Veterinary Journal* (2007): 48: 921-926.

¹⁴ Hanselman, B.A., Kruth, S.A., Rousseau, J., et al. "Methicillin-resistant *Staphylococcus aureus* Colonization in Veterinary Personnel," *Emerging Infectious Disease* (2006): 12: 1933-1938.

¹⁵ Anderson and Weese, p. 303.

¹⁶ Weese, J.S., Rousseau, J., Traub-Dargatz, J.L., et al. Community-Associated Methicillin-resistant *Staphylococcus aureus* in Horses and humans who Work with Horses," *Journal of the American Veterinary Medical Association* (2005): 226: 580-583.

¹⁷ Anderson and Weese, *ibid*.

New CPR Guidelines

As of October, 2010, the American Heart Association has released revised Cardio-pulmonary Resuscitation (CPR) guidelines that recommend untrained bystanders begin CPR with chest-compressions immediately (instead of checking the airway and starting with rescue breathing) on anyone who is unresponsive and not breathing normally. Since 2008, the American Heart Association has recommended that untrained bystanders perform hands-only CPR (CPR without breaths) for an adult victim who suddenly collapses. Hundreds of thousands of Americans die of sudden cardiac arrest every year, and since sudden cardiac arrest can strike at any time or place, it is important for someone nearby to begin chest-compressions right away.

Please take a few minutes to view the following website for an instructional video: Learn Sarver Heart Centers Continuous Chest Compression CPR.

Please refer to the following website links for further information:

- American Heart Association's 2010 Revised Guidelines
- Links to CPR and First Aid News
- Science Daily/Washington University School of Medicine in St. Louis: Chest Compression-Only CPR Improves Survival in Cardiac Arrest Patients, Study Finds
- The University of Arizona American Heart Association Endorses Chest-Compression-Only CPR