American Medical Equestrian Association
Safe Riders Foundation NEWS

Support for The Thinking Rider

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Guidelines for MEDICAL COVERAGE at Equestrian Events

In preparation for your particular equestrian venue, always remember the need for medical coverage. The type and degree of coverage depends on many factors. Emergency Medical Services (EMS) Systems throughout the United States are very diverse. Local, State or Regional authorities may govern EMS in your community. Therefore, it is difficult to create a rule or document that can explain exactly how to obtain coverage for your particular show, clinic or other venue. This document will attempt to explain the basic information regarding EMS coverage and assist you to obtain the proper coverage for your venue.

RULES: First, you need to understand the rules of medical coverage for the organization that is sanctioning your show, clinic or other equestrian setting and what is required. Certain organizations, such as USA Equestrian, require EMT-Paramedic or equivalent coverage for Eventing and Hunter/Jumpers. For schooling shows or clinics, the United States Eventing Association (USEA) requires a first aid kit on site and EMS on call. Some counties or municipalities have ordinances that require a certain amount of EMS coverage depending on the number of participants and spectators. Contact local authorities for more information. If your show or venue is not sanctioned by some organization or association (unless local laws or ordinances require EMS coverage for your particular setting), you may not be required to provide medical coverage. But, it is always strongly recommended to have at least an action plan with someone designated to be able to summon help immediately and a person or persons present certified in First Aid/CPR to provide immediate aid until professional help arrives.

COVERAGE: Once you have determined your coverage needs and/or requirements, the appropriate agency should be contacted for assistance. In certain areas Municipal Fire Departments or EMS Departments provide coverage. In other areas private EMS providers or ambulance services are contracted for coverage. Typically EMS systems run by municipalities or government agencies are easier to work with and may provide their services free of charge. Private services charge fees for standby coverage and additional fees for transporting someone to the hospital. Volunteer services may provide services for a donation to their fund or organization.

CAPABILITIES: It is very important that you understand the capabilities of the EMS personnel. In most EMS systems, the EMT-Paramedic, Advanced EMT or equivalent is the highest trained pre-hospital care technician. These professionals can provide for an advanced airway, administer IV fluids and emergency medications, perform EKG interpretation and defibrillation and have advanced trauma training. The EMT-Basic or First Responder is trained in basic life support and can only provide basic treatment such as CPR, care of fractures and basic trauma care. Advanced Life Support (ALS) providers typically employ Paramedics or equivalent. Basic Life Support (BLS) providers typically employ EMT-Basics or First Responders. Some systems are tiered as to where the BLS provider responds initially and begins aid prior to the arrival of the ALS provider. In certain settings, it may be appropriate to have a BLS crew on site and an ALS crew on-call for back-up. Upon arrival at your particular setting, EMS personnel should

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MISSION STATEMENT

The American Medical Equestrian Association/Safe Riders Foundation is dedicated to the philosophy, principles and application of safety of people in equestrian activities. This purpose is achieved through education, research and resource.

- ▲ EDUCATION of health care professionals, organizational 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.

AMEA/SRF Vision

by Rusty Lowe, EMT-P, Executive Director, AMEA/SRF

GETTING FIXED

In late July, Carolyn and I attended the Atlanta premier of *Seabiscuit*. What a movie! I encourage you all to see this incredible story of hope, inspiration and determination. You will literally be on the edge of your seat during the races and will cry at the end.

I opened the mail recently and read a note that had the same effect on me. It was card from a good friend of the AMEA/SRF. Dr. Debbie Stanitski (donor, member and presenter at the 2002 AMEA/SRF Conference) took the time to write me and say that she felt like a "useless toad" lately because she had been doing nothing to help. What a gesture from a person who has endured a life similar to Seabiscuit.

Debbie had a terrible fall while foxhunting 3 years ago suffering a brain injury that from the onset looked like she would die or have permanent damage ending a career as a brilliant orthopedic surgeon. After her surgery and extensive treatment, she began and continued to improve. Debbie beat the odds. Walking with a cane and slightly slurred speech, not only is she practicing medicine again, but also is she is eventing at the novice level. She worked as our event physician at Foxhall this year and immediately was loved by those who did not know her. Affectionately, co-workers called her "Dr. Debbie" on the radio.

A few years ago I was giving a presentation at the US Combined Training Association's (now US Eventing Association) annual meeting in Dallas. When talking about EMTs' and Paramedics' duties and how we work, I mentioned that most of us consider ourselves **NOT** to be heroes because we're only doing our job. A small figure in the crowd raised her hand and immediately corrected me stating that EMTs and Paramedics had saved her life and that we **WERE** heroes. That was how I started a wonderful working relationship with "Dr. Debbie".

I don't know about you, but I consider Debbie to be the hero. What a wonderful person who could have been on the "receiving end" the rest of her life. Now, she has again dedicated her life to be on the "giving end." Hippocrates would be proud. I think that Lellie Ward (event rider, trainer, and openly opinionated friend) summed it up well when she said, "What a wonderful person in a broken body."

In the last scene of *Seabiscuit*, Red (Toby McGuire) talks about most people thinking that they bought a broken horse and fixed him. He ends with, "I think he fixed us." Go see the movie.

Seabiscuit, Debbie and others, thanks for "fixing" us. It truly is better to give than to receive.

MEMBERSHIP REMINDER

Dues notices have been mailed to the address listed for your *AMEA/SRF News*. If you are not up to date on your 2003 Membership Dues, please verify that your information is correct and submit your dues. We are also asking you to consider a donation in addition to your dues to help us continue with our present activities and to be able to broaden our capabilities. The AMEA/SRF is a 501c3 not for profit organization. Your dues and donations are tax deductible.

Please encourage others to join and thanks in advance for your cooperation and kindness.

— Rusty

The President's Corner

Joe Carr
President, American Medical Equestrian Association/Safe Riders Foundation
equinect@hotmail.com

Greetings from Kentucky!

As we are moving into the fall of the year the leaves are turning, the children are back in school and the summer show season has come to a close.

As members of the AMEA/SRF, what have we all done to promote safety within our sport?

Here are a few things that come to mind that have been done this summer:

- We have promoted the AMEA/SRF
- We have placed a full-page advertisement about our association in most US Eventing show programs.
- We promote rider safety every day with every equestrian to whom we talk….
- We encourage equine rider safety at all equine events we attended.
- We stood firm on the use of ASTM/SEI helmets at all levels of equine activity.
- We watched *Every Ride, Every Time* again.
- We have encouraged people to be aware of the NEISS Reports.
- We have been proud of the wealth of information within the AMEA/SRF and through it's members.
- We stood proud for rider safety.
- We brought in at least one new member to the AMEA/SRF.
- Thanked everyone involved with the AMEA /SRF for all their countless hours of hard work in the name of equine rider safety.

Look forward to all of you having a wonderful fall season. See you around the show ring.

All the best,

Joe Carr

USEA Safety Committee Report

Summer 2003

The USEA Safety Committee has had a busy year. Our thanks go to Julie Ballard, MD, who resigned as Chair in December. Julie spent countless hours and oversaw many positive changes in eventing. She still remains active as my "mentor and consultant." The sport owes her much gratitude.

Presently, we are working with other committees to determine the best course to follow specifically addressing concussions. Persons not medically trained find this a difficult topic. We are hoping to reach a compromise and possibly a rule change or modification specifically to address the mandatory retirement of competitors who sustain multiple concussions. Education of persons in the sport is paramount to reduce the number of competitors that are allowed to continue in competition with concussive symptoms. These riders who continue to ride significantly increase their chance of another accident due to impaired judgment.

Several bad falls have occurred this year, many of which have caused serious injuries. I am glad to say that partly due to protective equipment (helmets, vests, etc.), the victims have either recovered fully or are recovering nicely with no permanent disability. The mandatory ASTM/SEI helmet rule that went into effect January 1, 2003 has proven its worth.

The USEA's Instructor Certification Program is up and running at full steam. This program has been in the works many years and the first group of candidates has graduated with honors! The Safety Committee had great input with developing the requirements, especially that all candidates at all levels are first aid- and CPR-certified. Other safety requirements include proper helmet fitting, barn safety and pre/post planning for emergencies. AMEA/SRF has had a positive influence on this program in several different areas.

Frangible Fencing has become a hot topic due to the efforts of the USEA Education Department and the Course Designers and Builders. The safety committee, in conjunction with AMEA/SRF, contributed significantly to initiating this process at the 2002 USEA Annual Meeting. Both organizations are excited to see the potential of making cross-country courses safer for horse and rider teams. We strongly support this program.

The USEA Safety web page, http://www.eventingusa.com/competitions/safety/safetyhome.htm, is fully functional thanks to staff assistance. The web page contains valuable safety information, resources and forms for use. In addition, we are coordinating efforts with the Equine Welfare Committee (Veterinary Safety Committee) to address safety issues relative to horse and rider. For example, a concussed rider may be a threat to his/her horse's safety, just as a lame or injured horse may threaten the rider's safety. Therefore, both committees will look at issues together for proposed solutions. Finally, one of our members is doing research on safety stirrups to investigate their potential benefits.

Our committee has become very diverse with members representing all aspects of eventing. This diversity greatly helps us to determine the best course of action as it relates to the sport. I appreciate the time and effort spent by the committee to protect the safety of eventing.

Rusty Lowe, EMT-P, Chair

Guidelines for MEDICAL COVERAGE at Equestrian Events

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be prepared to show their credentials and level of training.

AMBULANCES: In certain settings, ambulances can not be dedicated to staying on-site at your venue or the expense makes it almost impossible to afford. Immediate aid can be started by your on-site EMS personnel and continued until the ambulance arrives for transporting the victim to a hospital. Typically, the aid rendered in the first few minutes after the injury or illness occurs makes the most difference in the outcome. If the ambulance is not on-site, make sure that there are provisions for immediate communications such as cellular, radio or landline phone to request the ambulance to respond. Once care is initiated, transport to a hospital or trauma center in a timely manner is imperative. Ambulance response time to your facility should be kept in mind when making this decision. A response time of 5-10 minutes is reasonable. Longer response times should be taken into account when deciding whether to provide an ambulance on site.

HOSPITALS: The local emergency room or hospital can handle typical injuries or medical problems. In situations of major trauma or certain medical emergencies, a specialty hospital such as a trauma center may be necessary. EMS personnel should recommend the appropriate facility for the appropriate problem. To a lay person, bypassing a local hospital to transport a critically injured victim to a trauma center may seem ludicrous, but studies show that the trauma victim's chances of survival are increased by doing so. Local protocols also dictate where a person should be transported.

HELICOPTERS: Local EMS protocols dictate the proper use of medical helicopters. Some large Three Day Events have helicopters on stand-by at their venues to augment medical care. In remote areas, helicopters may be the quickest means of transport and can be contacted to respond by your stand-by EMS crew when needed. Consult with the EMS providers for their protocols and need for helicopters. In the small non-sanctioned show setting with no medical requirements, the responding EMS agencies can determine the need for helicopter transport. However, a phone call to the proper agency prior to your clinic or show may help them formulate a preplan to consider helicopter transport while responding.

PHYSICIANS AND NURSES: Typically Physicians and Nurses are not trained in pre-hospital care. If their specialty relates to emergency procedures or pre-hospital care, they can be valuable members of your medical team. If the local EMS provider is unable to provide ALS, it may be necessary to contact a Physician for support and equipment for advanced airways and other treatments. Interaction of medical professionals with EMS personnel is strongly regulated by EMS laws and protocols. Medical professionals on-site wishing to assist EMS personnel should identify themselves and their credentials upon arrival at your venue. This eliminates confusion in the emergency setting.

COMMUNICATIONS: Make sure you have the appropriate communication tools to summon your EMS crew. Walkie-talkies, cellular phones or PA systems are common means. The EMS crew needs to understand that they need to be readily accessible with their equipment handy. Test communications equipment prior to the start of your show or venue. Be ready to have a secondary means of communications in case of failure. Have a contact person (in Eventing, this is a Safety Coordinator) whose sole responsibility is making sure that the EMS crew is on site and can be located quickly.

EXPENSE: The expense of providing medical care at a show, clinic or venue can vary tremendously. Research the options in your area. Some providers may volunteer their time and service. Others may charge. If your show benefits a charity, the service may be willing to donate their time.

Once you determine what is required (if anything), contact your local EMS provider for assistance in formulating a plan. These professionals are willing to assist in any way and will appreciate a good working relationship. Contacting your local EMS authority and at least advise them of your location and activity will facilitate any needed response. The EMS workers may even come to the property to become more familiar with the surroundings to improve their response. Check your cellular capabilities and other means of communications. During an emergency is not the proper time to find out that your cell phone does not have coverage in your arena, but will work at the barn!

Again, if your particular situation does not require medical coverage, it is strongly recommended to have an action plan to provide for someone to summon help immediately should an accident or medical emergency occur and someone trained in First Aid/CPR to provide quick aid prior to the arrival of EMS.

For more information regarding EMS coverage, contact your local EMS provider, sanctioning organization or consult the USA Equestrian Safety Committee, USEA Safety Committee or the American Medical Equestrian Association/Safe Riders Foundation. You may also contact the USEA for the ***USEA Safety Coordinator's Manual*** and/or ***Safety Coordinator's Job Description***. Links are available at www.ameaonline.com.

Note: This guide was prepared for the purpose of recommendations only; to assist lay persons in understanding EMS coverage and planning for equestrian venues. In no way is this guide absolute, nor does it supercede rules of organizations such as USA Equestrian or ordinances of local, state and/or regional EMS authorities.

Rusty Lowe, Exec Dir. AMEA/SRF

Selecting a Safe Riding Instructor

Part II

By Jan Dawson

Preliminary choices of possible riding instructors are made based on the instructors' own backgrounds, philosophies of teaching, and the facilities that they use. From these initial selections one must find the best fit. This usually means some observation of lessons. Observation is a much better and safer way to evaluate an instructor than taking sample lessons, especially at the beginner level. It is difficult to evaluate the whole of a lesson in which one is riding.

This observation and evaluation should not be done in a haphazard fashion. The time should be spent attempting to get answers to some prepared questions. These are not questions for the instructor but questions that need to be answered about the teaching, the program, and the attention to the concern for the safety of the students.

The following is a suggested list of questions with their desired answers that should help describe the shape of any program regardless of discipline.

1. **Does the instructor present him/herself in a neat, clean, workmanlike manner?** Presentation is the first aspect we see and "workmanlike presentation" is all that is necessary. Do not let frills or expensive turnout overshadow a lack of competence and preparation. This goes to personal turnout and expensive frills around the barn. We should never put form over substance; however, if the instructor is slovenly, he or she is probably careless as well.

2. **Does the instructor sit during the lesson or actively participate?** A safe instructor will keep a careful eye on all of the students all of the time, especially beginners. While an upper level instructor may be able to sit and talk to his or her students (and they may be doing this eight or more hours a day), they will be up and around the arena when necessary. Beware of the lower level instructor who is inactive.

3. **During a lesson, does the instructor remain quiet after giving an instruction or does he or she continue to talk while the student is trying to follow the instructions?** This becomes rather like trying to type or do exercises in school while someone continues to talk. Upper level riders may have the reflexes to factor in what the instructor is saying but novices certainly do not. New material makes novices out of all riders for a bit of time.

4. **Do the instructions and explanations in the lesson make sense?** This is not rocket science. If the instructions do not make sense to you outside of the ring, they won't make sense to you inside of the ring. We assume that you are observing the relevant level of lesson. Novice lessons should be clear to anyone. Lessons at the appropriate level should be clear to the students taking them.

5. **Does the instructor continue to give the same instruction without telling the student "how to" follow the instruction?** A common problem in riding lessons is an instructor who gives a direction that, for one reason or another, does not get the desired result from the student. The instructor continues to give the same instruction each time expecting the result to be different. Look for an instructor that goes to a "how to do it" direction or backs up or breaks the instruction into smaller skills. The goal is for the student to gain the skill, not interpret the instructor.

6. **Can one tell from the review at the beginning of a lesson generally what the student(s) did in their last lesson? Did the instructor elicit the review from the students or did s/he simply recap the last lesson? Was there a review?** The review not only tells the instructor what was retained, it also is the guide for whether it is safe to proceed. It lets the instructor know what needs to be repeated. Without this information, the instructor is flying with one eye shut.

7. **At the end of the lesson, can one tell from the summary (which also should be elicited from the students), if the lesson was effectively taught? Did the lesson contain an effective**

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Pattern of equestrian injuries presenting to a Sydney teaching hospital

Lim J, Puttaswamy V, Gizzi M, Christie L, Croker W, Crowe P. ANZ J Surg 2003; 73(8): 567-571.

An abstract of this excellently researched article can be found on the Internet at www.safetylit.org. The article reports a three-year study on all persons with equestrian related injuries that presented to the Prince of Wales Hospital complex in New South Wales, Australia. The figures for the most recent three years were compared against and combined with collected data over the previous three years at the same center.

221 injured equestrians were admitted during the most recent three years. 208 were admitted during the previous three years. During these six years, 81 percent of riders were wearing a helmet at the time of their injury.

1. Those riders wearing helmet at the time of their injury had a significantly lower admission rate (27 percent) compared with those who did not wear a helmet (55 percent).

2. Recreational riders had a higher admission rate than professional riders.

3. Recreational riders had a significantly higher head and spine injury rate that the professional riders.

4. Helmet use increased from 72% in the earlier three years to 91% in the most recent three years.

5. Total horse related admissions decreased for these same periods from 43% to 14%.

Doris Bixby Hammett, MD
Consulting Editor

(Editor's Note: At the website provided, search for "Sydney and Equestrian" and you will find the abstract approximately one-third to one half of the way into the Aug. 4, 2003 issue)

Selecting a Safe Riding Instructor, Part II, *Continued from page 5*

summary? The summary will keep the instructor on course for the next lesson. Did today's summary also include a review of the upcoming lesson goals? This is an opportunity for an instructor to get an evaluation of the lesson. It may foretell problems, but it should not be just a recap of the lesson.

8. While teaching, does the instructor insure that no horse gets closer than 12' from another horse? Poor spacing causes many accidents. One rarely gets kicked if proper spacing is maintained. Maintaining spacing in a class of novices requires constant attention.

9. Are all the students in a class occupied so that no one is standing with nothing to do? Inactive students become bored and inattentive. Inattention is dangerous. Inattentive students are not paying attention to their horses or the class, and that is also a waste of money. Inactive horses are not listening to their riders and tend to get into mischief as well.

10. In novice classes are all the horses kept together so that no horse is ever isolated (which can be dangerous)? This is a good idea in any class, but is especially important with less experienced riders.

11.When the teaching phase of the lesson is finished, does the instructor supervise the putting away of the horses? If the students are using school horses that are saddled for them this is not an issue. However, if they are novice boarders, it is an important issue. It is a critical issue if the students are using school horses, which they saddle and unsaddle themselves.

12. Does the instructor make sure that the students are out of the way (either off toward home or in an appropriate waiting area), before leaving or taking his/her attention away from them? This is a good indicator of how the instructor views his or her responsibility. The customer (whether adult rider or parent) needs to know that the instructor is consistently vigilant of the students (at the appropriate level for their knowledge, *not their age*). Learning requires repetition and correction. Even school horses can be dangerous because they are still horses and they are always bigger than the students.

ONE LAST QUESTION

13. **"Do you wear a ASTM/SEI helmet when you ride?"** This will tell you if the instructor is a role model. Good safety habits are usually learned because we copy the actions of someone we respect.

JAN DAWSON is an attorney and President of the American Association for Horsemanship Safety Inc. She is the author of *Teaching Safe Horsemanship,* and through AAHS, has conducted many clinics teaching safe riding by the *Secure Seat* [sm] method. Jan and her husband Dr. Bob Dawson (a law professor at the University of Texas) are long time friends of the AMEA/SRF and are responsible for maintaining our website and providing valuable support. For more information about AAHS, go to www.ameaonline.org and click on "links."

Frangible
Is it a real word?

By Aileen Elliott – with grateful thanks and acknowledgement to British Eventing

Yes, indeed it is, even though it sounds a bit like a made-up hybrid. Webster's Dictionary gives its definition as follows:

Frangible – adj. ME < OFr.< Med. Lat. *Frangibilis* < Lat. *Frangere,* to break.

Now, in the world of eventing, this very old word is being used to describe very new equipment, the "frangible pin" which, when incorporated in the construction of a cross-country fence results in the "frangible fence." So, we have a "breakable fence" built with "breakable pins."

Why does the sport need such a concept?

Over the past four years, eventing has seen a number of serious accidents, some of them fatal, which caused the sport's "Great and Good" to establish an investigation with a view to resolving the problem. The Lord Hartington Committee was thus formed in 1999, as an FEI/British Eventing joint initiative. Its mission was to investigate the fatalities which had occurred and to look closely at safety across the sport. The committee ultimately issued a report calling for the collection of specific data on falls, and British Eventing's own Safety Committee, chaired by Mike Tucker, himself an international course designer, then decided to take matters a stage further and look at the possibility of a creating a solution which would minimize potential injury and the severity of cross-country falls.

Criteria for the attempt to solve the problem of potentially fatal falls were: cost-effectiveness, simplicity of use, hard-wearing qualities, and no detraction from the integrity of the cross-country phase. During the 2000-2001 season in the U.K., an incident report form applying to all kinds of falls of both horse and rider was developed to gather information. Meanwhile, a film analysis of 100 accidents (75 cross-country and 25 show jumping fences) was conducted by the U.K. Transport Research Laboratory, which determined that the potential for a crushing injury was related to the rotating motion and landing angle of the horse. Serious and fatal falls at fences were most likely to result when a horse collided with a horizontal rail between the knee and elbow, somersaulted over the obstacle in a rotational manner to land on the opposite side, often trapping its rider underneath it. A landing angle of more than 90 degrees was considered to provide a significant risk of this happening. Hit a fence below the knee and a horse can scramble over, but above the knee it's more likely to either stay behind the fence with the rider staying seated or being ejected over the fence, or worst of all, somersault over the fence with potentially disastrous consequences.

How could a workable solution to this situation be achieved? A means of testing fences had to be devised, but the Transport Research Laboratory (TRL) had to come up with a way to do this.

It was clear that live riders and horses couldn't be used in a test situation, unlike car crash simulations with their expendable dummies, so the University of Liverpool Veterinary School was invited to help by devising a mechanical horse based on the skeletal and muscular composition of many dissected equines. A mathematical model was developed, affectionately known as NED, (for New Equestrian Dummy), for use in simulated falls carried out under very precise conditions by the Transport Research Laboratory.

Through these simulations, TRL established that if the rail anchorage of a fence was designed to break at a controlled load to ensure that the rail would fall, this would remove the vertical load between the horse and the fence. The solution wasn't easy, and it wasn't swift. It was reached through painstaking research and tireless effort and is — *the frangible pin* — which, when combined with precise measurements, accurate roping, and used in specific circumstances with specific materials, creates the *frangible fence.* This breakable (frangible) pin has a precise failure strength, which allows a fence rail to drop, thus stopping the horse from rotating or somersaulting. This means that the horse can hit the rail reasonably hard without the fence collapsing, and still keep its feet, but if the critical load is reached, the pin fails, with the potential of minimizing risk of injury to both horse and rider.

The frangible pin was then used in extensive trials during the 2002 season in the U.K. where 13 British Eventing horse trials from pre-novice (U.S. equivalent to training) to advanced levels employed them, and at 14 FEI events, including Badminton, Burghley, the World Equestrian Games, Adelaide, Boekelo and Fair Hill. Video and eyewitness records were kept which confirmed the viability of the system, its performance under testing conditions, and its ability to withstand repeated hits of all types. Only two incidents involved the pins breaking, at Weston Park novice horse trials (U.K.), and Boekelo CCI*** (Netherlands), and in both instances the fences behaved as predicted, with horse and rider escaping unharmed.

This successful trial period is now being followed by a roll-

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(800) 867-5467 to subscribe.

Dear Sir:

I read with great interest—and appreciation—Bridget Imparato's letter "A Disturbing Trend" (Aug. 22, p. 47) But I see another disturbing trend among those who don't wear helmets: trainers and other adults not wearing helmets, approved or not, when schooling, jumping or hacking.

Granted, no one can "require" them to wear helmets at those times. But it absolutely sends the wrong message to children or other adults who want to emulate "the pros."

I've discussed this situation with some professionals, who argue that they and their over-18 riders are "adults" who "know the risks" and are free to make their own choices.

I'm a neurosurgeon, neurologist, a veteran show hunter, and a survivor of a major concussion. That occurred while hacking a dead quiet horse, who spooked, bolted, bucked me off, and then kicked me in the head. Or I'm told. Six years later, I still remember none of it, even though I was wearing an approved helmet when it happened. I believe I would have been killed if I weren't.

My argument is that most adult riders—and trainers—really do not know the risks. Do they know that there is a greater risk of death from head injury in equine sports than in hockey or football—sports no one would consider playing without a helmet? Do they know how terribly disabling even a "minor" concussion can be in terms of permanent cognitive and emotional changes? I've seen executives unable to return to work—ever—after head injuries in which they didn't even appear to lose consciousness.

In the face of these risks, would someone please tell me the benefits of not wearing an approved helmet?

Elizabeth A. Doherty, MD, Lockport, NY

ACRONYMS — What do they mean?

Recently, with all the changes in equestrian governance and organizations, there have been many new acronyms being thrown around. I hope that this guide will help you understand who is who!

USA Eq (USA Equestrian) is the current federation responsible for regulating all equestrian disciplines. Formerly, they were AHSA (American Horse Shows Association).

USEA (United States Eventing Association) is the organization responsible for the development of eventing at the grass roots level. Formerly, they were USCTA (United States Combined Training Association). Combined training is now called eventing.

USET (United States Equestrian Team) is currently the organization responsible for Olympic level equestrian competition.

USEF (United States Equestrian Foundation) is the new national governing body for equestrian sports that is currently being organized to combine the USET and USA Eq.

USDF (United States Dressage Foundation) is the organization responsible for the development dressage at the grass roots level. As far as I know, they have not changed their name in awhile!

Rusty Lowe
AMEA/SRF Executive Director

Frangible: *Is it a real word?* *Continued from page 7*

out of the pin's distribution and use internationally. British Eventing expects to have it employed more or less universally in the United Kingdom by the 2006 season, certainly where new-build fences are concerned, and here in the United States plans are underway to train and qualify more individuals in its use, to hasten the distribution process.

The reality of frangible fences is undeniable. Not only do they exist, and work, but the number and type of fences where the concept may be employed is growing. At Badminton this year an ingenious method to incorporate frangible pins in a five bar gate, a true upright, was devised by the Willis brothers. It won't be long until frangible fences are an accepted and normal part of cross-country design and fence construction, and the fine old word "frangible" will be normal currency in our 21st century eventing vocabulary.

Aileen Elliot is the Manager of Educational Activities for the USEA. Her responsibilities include coordinating the roll out of the training aspect of Frangible Fencing, Instructors' Certification Program and many other educational activities. Aileen hails from England and formerly worked with the Blenheim Horse Trials, a large event. For more information, contact Aileen at aileen@useventing.com.

Executive Director's Note:

Although not mentioned above, AMEA/SRF and the USEA Safety Committee helped to spearhead the roll out of Frangible Fencing in the United States. AMEA/SRF brought Tim Hadaway (British Eventing) to speak at the 2002 AMEA/SRF Convention in conjunction with the USEA Annual Meeting. After his presentation to a crowd of over 200 people, course designers, builders, and officials had the opportunity to meet with Tim to discuss further details of this important concept, to gain additional education, training, and information. Since then, the ball has been rolling for inclusion of Frangible Fences in the United States. Our leadership in the initiation of this project is yet another example of AMEA/SRF making a difference in horse/rider safety. The USEA has apologized for the omission.

Rusty Lowe, Executive Director
AMEA/SRF

Dangers in Horseback Riding vs Hockey

The question has been posed relative to the level of response to injury in horseback riding and hockey. Direct comparison of the two sports is difficult for several reasons. Hockey involves one species, the human, in which those participating are closer in physical size, speed, range of motion, and thinking processes. In horse activities, team members always consist of two species (one predator and one prey animal), making it more difficult for communication between each two-member team. The weight of the horse may be ten times that of the human, and the height of the human will be more than five feet above the playing surface.

The United States Consumer Product Safety Commission[1] records injuries that are treated at a sample of hospital emergency rooms, and these data are extrapolated to national figures. This allows for a direct comparison between the two sport activities. The last year for which figures are available (2001) reports a total of 64,440 hospital admissions for hockey, which includes ice hockey, field hockey, street hockey, hockey not otherwise classified, and roller hockey. This compares with 79,745 hospital emergency room admissions for horseback riding activities. In this instance, we have direct comparison of hospital emergency room admissions for the two sports.

__NOTE:__ In the last edition of the AMEA/SRF News, *I mentioned that a member of the Executive Committee of USA Equestrian had compared hockey to equestrian sports and that the Safety Committee's recommendations for increased medical coverage at shows was "overkill". I asked Dr. Hammett to do some research comparing the two sports, and here are her findings. Form your own opinion.*

Rusty

When comparing data for the age at which injuries occur, Hockey injuries resulting in admission occur in higher percentage in participants between 4 and 24 years of age; while Horse activity participants have a higher percentage of injuries in those that are under 4 years of age and greater than 24 years of age (Table 1).

TABLE 1: AGE of THOSE ADMITTED

AGE	Hockey	Horse
0-4	1.0%	1.7%
4-15	33.5%	17.8%
15-24	42.1%	16.9%
25-64	23.1%	60.6%
65+	0.1%	3.0%

Table 2 shows that of the hockey injuries, 99.1% were treated and released, with only 0.2% transferred to other treatment facilities such as pediatric hospitals (which may be level I trauma centers) or trauma facilities. However, 0.5% had sufficient injuries to require hospitalization in the facility in which the emergency room was located. From these figures, one might surmise that, in general, the injuries in hockey are less severe than those in horse activities.

TABLE 2: TREATMENT of THOSE ADMITTED

	Hockey	Horse
Treated and Released	99.1%	87.7%
Transferred	0.2%	2.2%
Hospitalized	0.5%	10.0%

Head injuries are the most common cause of death in horse activities. Due to insufficient numbers of deaths in hockey, any "hockey death" figures would be unreliable. When evaluating head injuries in both sports (Table 3), the percent of head injuries in hockey are much lower (1.5%) when compared with horseback head injuries (14.3%). Hockey is primarily an organized event in which headgear is mandatory. This headgear is fastened at two points on each side of the head in hockey helmets. Many horseback riding participants commonly ride as a recreational activity, and many riders do not wear protective headgear. In addition, of those riders who wear helmets, many of the helmets do not meet standards of protection (ASTM/SEI certification).

TABLE 3: HEAD INJURY

Head Injury	Hockey	%	Horse	%
Number	994	1.5%	11,426	14.3%
Total	64,440		79,745	

Head injuries in hockey occur most often in the 25 years of age and under age groups (Table 4). This is not surprising, since over 76% of the overall hockey injury admissions occurred in those age

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groups, as compared to 36% of the horseback injuries. However, the small percentage of head injuries relative to overall injuries could be explained by the acceptance of helmets in the hockey rink. Horseback participants in the older age groups may choose to enforce helmet use by youth, but not wear helmets themselves. In addition, many experienced riders exhibit a mindset that "they know how to ride," so they do not need a helmet, except when jumping. Also, an older person may be more likely than a youth to suffer a head injury with the same amount of force to the head.

TABLE 4: HEAD INJURY BY AGE

HEAD INJURY	Hockey		Horse	
Age	Number	%	Number	%
0-4	—		418	3.7%
>4-15	347	34.9%	2,419	21.2%
15-24	547	55.0%	2,141	18.7%
25-44	100	10.1%	3,588	31.4%
45-64	—		2,672	23.4%
65+	—		189	1.7%
Total	994		11,426	

Number of Participants

No list of direct comparison of participant numbers is available for either sport. The National Center for Catastrophic Sport Injury Research Data Tables for high school and college provides average yearly participants at 63,477 in ice hockey and 122,576 in field hockey. The greatest participation in hockey injuries is found in these ages. This omits the younger and older ice and field hockey players, as well as the participants in roller, street and hockey otherwise not classified.

The National Sporting Goods Association (NSGA) has figures in their biannual reports for both horseback riding and field hockey (1996 and 2000). In 1996, the NSGA reported that 1 million people greater than 6 years of age participated in field hockey, and 8.7 million people participated more than once in horseback riding during the year. In 2000, 1.4 million people participated in field hockey, as compared with 9.5 million people in horseback riding.[2] The 1996 American Horse Council economic impact study stated that 7.1 million people participated in the horse industry as horse owners, service providers, service provider employees, and volunteers; while horse showing and recreation involved an estimated 4.3 million people each year[3]. Therefore, horse activities in general, involve far more people than hockey.

Mechanism of injury

The majority of horse related injuries result from a fall from the horse[4,5,6,7]. When on a horse's back, the rider is approximately five feet above the ground, and the landing surface is usually hard dirt, sand, jump poles, blacktop or concrete. In addition, the surface may be irregular, therefore, potentially causing additional pressure on the first "body part" to hit surface. Injuries in ice hockey are somewhat mitigated by the tendency to slide after a fall. The boards of the rink are frequently impacted both at the time of fall and by sliding into them. Field hockey is played on a prepared level field, rather than the uneven surfaces over which horses travel.

In injury after the fall, if the horse falls on the downed rider, an excess of 1000 to 2000 pounds of added weight can seriously compound any initial injury to the rider. The most additive weight that a downed hockey play would experience would be that of a peer, who may weigh between 150 and 250 pounds. If a hockey player intentionally hits the downed player with his stick, skate, or body, he will be penalized for this action. This reduces the likelihood of an intentional action. However, when the rider falls, the horse may kick the downed rider without penalty (or for that matter, knowledge).

In 1988, the first catastrophic injury in field hockey (high school and college) was reported (since the study began in 1982). The ball struck the college level athlete after a free hit. She received a fractured skull, had surgery and recovered from the injury. The 1996 data shows two field hockey direct injuries at the high school level, involving a head and an eye injury, because of being hit by the ball. The 1999 data show one non-fatal injury at the high school level (loss of an eye after being hit with the stick during a drill) and serious injury at the college level (a fractured skull after being hit by a ball). No deaths were recorded.

When the specific reported injuries in hockey falls and collisions are evaluated, they are apparently not the cause of serious accidents. Those accidents appear to result from the ball, puck, or stick-related injuries. The ice hockey players use leg, shoulder and body padding, and the goalie wears a full coverage facemask and extra padding. In addition, helmet use is universally required at all levels of ice hockey play. Field hockey players often use shin guards as their only defense from being injured by sticks or the hard rubber composite ball. Conversely, most horseback riders have no "padding," and may or may not wear protective headgear, and falls and collisions are frequent and cause most of the serious injuries in this sport.

Response to accident, morbidity and mortality

The National Center of Catastrophic Sports Injury Research was established based on the fact that:

1. Research, based on reliable data, is essential if progress is to be made in sports safety.

2. There is a scarcity of information on injuries in all sports.

Their findings showed college ice hockey was associated with four serious and four non-fatal injuries in nineteen years. The injury rate was 5.50 per 100,000 participants for non-fatal and 4.13

for serious injuries.

Ice hockey catastrophic injuries usually occur when an athlete is struck from behind by an opponent, slides across the ice in a prone position, and the crown of his/her head makes contact with the boards surrounding the rink. The results are usually fractured cervical vertebrae with paralysis. After an in-depth study of ice hockey catastrophic injuries in Canada, the authors, F.O. Mueller and R.C. Cantu, recommended Dr. Charles Tator continue epidemiological research of the injuries.[8] The National Center of Catastrophic Sports Injury Research has no figures on horse-related injuries.

Conclusions

There are several differences in the both the sports and the injuries associated with horse activities and hockey:

1. Horse activities involve two species of which the size, speed, mobility and different thinking processes (predator vs. prey) of two species make horse activities at greater risk.

2. Horse activities have greater numbers of participants that are injured and admitted to hospitals.

3. Of those admitted to hospitals, participants with horse-related injuries are older (>24 years) than hockey participants (>4 and <25 years).

4. A greater percentage of the horse-related injuries were of greater severity than those injuries of hockey participants.

5. The percentage of head injuries (the most severe injuries) are ten times more frequent in the injuries of horseback riding than hockey. In hockey, greater than fifty percent of head injury occurred between the ages of 15 to 24 years, while greater than fifty percent of head injuries in horse activities occurred in participants between 25 and 64 years of age. The older person is more likely to suffer a more severe head injury with the same amount of force to the head.

6. Horseback activities (and thus, injuries) often occur in non-supervised recreational activities, where most hockey injuries occur in organized activities (which have more control and supervision).

7. Due to the higher participation in horse-related activities, there should be a greater responsibility for the horse community to provide leadership, role models, rules and regulation based upon sound scientific studies.

8. The most common mechanism of injury in horseback riding is a fall, while the hockey injuries usually result from the stick or the ball. Horse falls are on different types of surfaces and with consequences that the horse may fall, step on or kick the fallen participant. Hockey players wear more effective protective equipment to prevent their injuries

9. Recommendations from research based on reliable data are essential for safety and injury reduction for all sports.

10. The responsibility for research and recommendations is far greater for horse activities than hockey, based upon the number of participants in the horse sports, the possibility of accidents, and greater severity of the injuries associated with horse activities.

Doris Bixby Hammett, MD
Advisor, USPC Safety Committee
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[1] US Consumer Product Safety Commission, National Injury Information Clearinghouse, National Electronic Injury Surveillance System, Washington, DC 20207.

[2] National Sporting Goods Association, 1661 Feehanville Drive, Suite 300, Mt.Prospect, IL 60056 www.nsga.org/public/pages/index

[3] 2000 Horse Industry Direction, American Horse Council, 1700 K street NW, Suite 300, Washington, DC 20006

[4] Ghosh A, DiSccala C, Drew C, et al. Horse Related injuries to Pediatric Patients, J Pediatr Surg 2000

[5] Holland AJ, Roy GT, Goh v\V, et al. Horse Related Injuries in Children: Med J. Aust 2002 1; 176(7):352

[6] Moss PS, Won A, Whitlock MR. A changing pattern of injuries to horse riders. www.emjonlinde.com

[7] Perry JL. Injuries I Equestrian Sports. Chapter 13; Sport Specific Injuries p 655-664.

[8] Mueller FO, Cantu RC. Nineteenth Annual Report National Survey of Catastrophic Sport Injury Research www.unc.edu/depts/nccsi

LETTERS

Dear Editor:

I propose the consideration of a new category of membership for the American Medical Equestrian Association/Safety Rider Foundation. This category would be the organization membership. I would suggest that the organization pledges that the organization will:

1. *Give safety in the activities of the organization priority.*
2. *Mandate secured fitted helmet in all mounted activities.*
3. *Use the safety standard for ASTM equestrian helmets or higher and certified to meet this standard by SEI or similar organization for the helmets.*
4. *Keep records of accident and injuries in its activities.*
5. *Have a standing safety committee which reviews the records at least annually*
6. *Have these records for review as indicated.*
   7. Offer membership in the AMEA/SRF in its newsletter at least annually.
8. *Offer input to the AMEA/SRF and articles to the NEWS on matters of safety.*
9. *Membership in the AMEA/SRF to be at least at the level of professional membership.*

I hope that the AMEA/SRF will review these suggestions, add or delete as indicated and make this a new category of membership for the year 2005.

Doris Bixby Hammett, MD
BOD AMEA/SRF Emeritus

INSIDE

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MEMBERSHIP APPLICATION

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Safe Riders Foundation
Rusty Lowe, Executive Director
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