



American Medical Equestrian Association Safe Riders Foundation

Support for The Thinking Rider SPRING/SUMMER 2005
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P.O. BOX 91883 • ALBUQUERQUE, NM 87199 • 1-866-441-AMEA (2632) • E-mail: amearf@equestriansafety.com • www.ameaonline.org

Back Online

Hello,

After a ten-month hiatus AMEA/SRF is back online with the *Newsletter*. During our ten months out of the public eye, this organization has been very busy and has moved forward in several important areas. Now we are ready to tell you—our members and prospective members—all about what has been happening and to enlist your support of the efforts of the AMEA/SRF in fulfilling our mission.

First, the culmination of years of effort, countless hours and resources:

At the USEF meeting in January of 2005 the USEF board passed a rule regarding the wearing of helmets while jumping. Basically, the rule states that if you are a HUMAN competing in a USEF recognized jumping competition, you have to wear an approved helmet with chinstrap fastened. To those of you born after the flood this may not seem like much, but to the AMEA, its board members (Dru Malavase, Doris Hammett and Rusty Lowe leading the way) and to the rest of us it seems like a long journey to a place that we belong. The research, investigations and the education that accomplished this rests within the AMEA. I, for one, am proud to be associated with the people who "got it done"

This year also saw our first monetary assistance. AMEA/SRF was able in a small way to help with a catastrophic injury and the enormity of the finances connected to such an accident. We have also offered help in two cases where volunteer help was needed and have been beaten to the punch by the community of those accident victims. I have to say that that response from us and from the person's own community is exactly the kind of response that we are all hoping for and who gives it is much less important than the awareness of need.

The last past tense item is that we have reworked our administration into a streamlined and responsive office. And that our board members, new and old, have stepped up to the plate to provide management of the various aspects of our mission. Please look at the *AMEA Newsletter* and make sure that you have the updated contact info, new membership forms and the answer to "Why AMEA/SRF?"

So that you as a member can help us help others.

The most current administrative accomplishment is the production of a brochure that is both an invitation to membership and a thumbnail sketch of what AMEA/SRF is all about. The brochure is in a form for mailing, is easily downloaded from the Website and is designed to be attention getting when on display. Ben Jensen, a graphic artist from California, helped us produce this

Under the heading: biting of huge pieces, AMEA/SRF has joined forces with the United States Equestrian Federation and United States Eventing Association to focus attention on an area of safety involving head injury, specifically concussion. Under the management of Dr. Pat Maykuth and titled "*The Concussion Discussion*," information relating to this type of injury is being formatted and distributed to those people who are in positions of making decisions relating to athletes in the sport of eventing who potentially have had a concussion.

This information is widely used in other sports under the

"Return to Play" guidelines. Dr. Maykuth and her crew are making this information into a usable form by organizers of events, EMTs serving at events, coaches, parents, friends who might be accompanying a rider at events, and emergency room physicians who might be seeing a rider injured in such a way.

This is a huge project with each application requiring its own research and development aspect; that followed by the education of those specific users. Fortunately the "Return to Play" guideline has had a lot of prior exposure in other sports and the medical basis for it is well established but we know from our experience with the "Helmet Rule" that we need to be ready for the long haul to acceptance. Production of the various pieces needed in each area is already in progress and distribution is set for July 2005.

So that is where we are and where we are headed. I am so pleased to be involved with this organization and see a productive and useful future for both the education and assistance arms of AMEA/SRF.

To each of you, a fun and safe ride until the next *News*...

Jeffrey Ryding
President, AMEA/SRF

Be Smart! Ride Safe.



American Medical Equestrian Association/
Safe Riders Foundation

P.O. Box 91883
Albuquerque, NM 87199



MEMBERSHIP APPLICATION

Application for: Member (50) \$
 Organization (100 or less members) (100) \$
 Large Organization (more than 100 with staff) (250) \$
 Other donation

Enclosed: NEW RENEWAL

The AMEA/SRF is a 501 c3 not-for-profit organization.

Your membership fees fund our work and help in the production of the newsletter which is available online at www.ameaonline.com. If you wish to have the newsletter mailed to you, please check here

Send application and dues to:
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 Wanda Franks, Administrative Director
 PO Box 91883
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Editor's Corner

Dear Reader,

On behalf of the AMEA-SRF Board of Directors, thank you for taking an interest in equestrian safety. We hope that you will find the information here valuable, regardless of your role in the equestrian world. This newsletter is a product of the board, but it belongs to YOU, the reader. If you see a topic you'd like to know more about, have an equestrian safety or medical question that begs an expert answer, or want to sound off regarding something you read here, please let us know. And don't forget to JOIN AMEA-SRF so you don't miss an issue!

Eve Flanigan
evenron@hotmail.com

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Get to know us The AMEA-SRF board is here for you

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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.

THIS JUST IN — New helmet-fitting poster available!



Colorful 11" X 17" poster gives six easy-to-follow instructions on fitting riding helmets correctly.

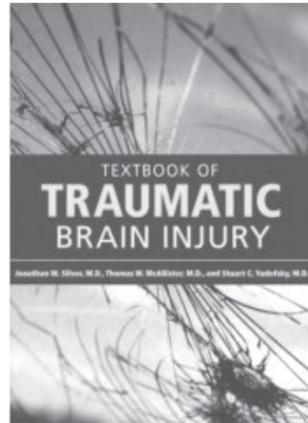
Just \$2.00 each for 0-49 posters, \$1.50 each for 50-99, or \$1.00 each for 100+, plus shipping/handling.

Contact AMEA-SRF Board Member Dr. Betsy Greene at Betsy.Greene@uvm.edu, or call Bonnie Tucker at 802.656.2070.

Sponsored by the University of Vermont Equine Extension Program and Vermont Horse Council.

New Text quotes Brooks and Hammett

David McLain



Textbook of Traumatic Brain Injury (Hardcover)

by Stuart C., M. D. Yudofsky, Jonathan M., M. D. Silver (Editor), Thomas W., M. D. McAllister (Editor), Stuart C. Yudofsky (Editor)

List Price: \$99.00

Availability: Usually ships within 24 hours. Ships from and sold by Amazon.com. Used and new available

A text entitled *Textbook of Traumatic Brain Injury* has been published by American Psychiatric Publishing, Inc., 2005. The authors are Silver, McAllister, and Yudofsky.

In the section on sports injuries, Bill Brooks and Doris Bixby-Hammett are quoted. This book is available at Amazon.com from where the following description comes:

Book Description

Each year in the United States, more than 3 million people sustain a traumatic brain injury (TBI). Associated annual costs exceed \$48 billion, yet media and policy makers have largely ignored this major public health problem. Moreover, most clinicians lack experience in treating and evaluating patients with TBI and thus are unaware of its many subtle but disabling psychiatric symptoms.

This critically important textbook—the timely successor to the popular 1994 compilation by the same editors—fills

that void, providing a wealth of scientific, yet easy-to-understand information on the complex neuropsychiatric sequelae of TBI. Written by recognized experts and designed to help treat patients in the clinical setting, this volume presents a truly comprehensive, clinically relevant approach based on current research and clinical practice. As such, it is the ideal tool for helping to educate mental health care professionals about the devastating consequences of TBI.

This thoroughly updated and expanded textbook contains 40 chapters and more than 100 clinically-relevant figures and illustrations. It is organized into seven sections that address epidemiology/pathophysiology, neuropsychiatric disorders and symptomatology, special populations and social issues, and treatment and prevention, covering topics such as aggressive disorders, cognitive changes, fatigue and sleep problems, chronic pain, mood disorders, family systems, pharmacologi-

cal therapy, and-of critical importance-prevention.

Updates from the 1994 predecessor work include

- Separate chapters addressing structural imaging, functional imaging, and electrophysiologic techniques (the 1994 volume contained just one chapter on neuropsychiatric assessment)
- A chapter dedicated to specific issues that arise during neuropsychological assessment
- Extensive revisions to all chapters covering neuropsychiatric disorders
- Chapters discussing the multiple neuropsychiatric sequelae experienced by patients but not encompassed by the usual psychiatric

syndromes—including apathy, reduced awareness of deficits, fatigue, pain, headaches, balance problems, visual difficulties, and sequelae of sports injuries

- New chapters on social issues and systems of care
- The full range of treatment modalities, including a chapter on alternative therapies

These distinguished editors have brought together the leading-edge work of a stellar group of renowned contributors in a practical, deeply informative textbook that will be welcomed as a “must read” by psychiatrists, neuropsychologists, clinical psychiatrists, physiatrists, neurologists, and other professionals, including residents and trainees, involved in brain injury rehabilitation.

More Brain Injury Resources

Brain Injury Association
(800) 444-6442

www.headinjury.com

Centers for Disease Control
www.cdc.gov/ncip/tbi

The Concussion Discussion

Concussion – a rider’s perspective

My horse, being the creative genius that he is, has taught me a world of knowledge about veterinary science. I can explain gram negative versus gram positive antibiotics on demand, recommend the perfect blend of acne medication and anti-fungal shampoo to treat any skin disease, and list a multitude of ways to administer bute. Often, when I spout some bit of medical knowledge, my friends assume I picked it up from my job in the orthopaedics industry. Nope, I learned it from my horse.

The way I take care of myself is a completely different matter. While I will spend hours at the barn monitoring Channel’s health and fitness, I can hardly say the same for myself. I’m convinced that a cold can be cured by a bowl of chicken noodle soup and a couple of Gilmore Girls reruns. If not, well, I don’t have time to worry about it. I don’t even think I own a bottle of Advil.

At 24, I’m pretty sure I’m still invincible. I’m told that this attitude will change with age and children, but for now I still drive too fast, stay up too late, and forget to take my vitamins on a regular basis. I’ve also had three concussions.



After the worst of the three concussions, at 18, I was carted off to the hospital, put

through a series of tests (so I’m told), and forbidden from riding or driving a car for two weeks. “But I feel fine!” I told my doctor, which was almost

the truth. Well, my head felt fine, however, I could barely move my neck from the whip-lash involved with becoming a human lawn dart from a very tall bucking OTTB.

The problem, my doctor explained (and then explained again the next day), was something called Second Impact Syndrome. The concussion, or “brain bruise,” left my head susceptible to further injury if I wasn’t careful.

damage. SIS can occur days or even weeks later (some studies have shown 60% of victims suffer cognitive impairment and

neurological problems up to a month later). The scariest part, however, is that the second impact usually has fewer symptoms than the first. A rider may not lose consciousness, although the second impact is more likely to cause complications such as brain swelling, permanent damage, or even death.

While death from SIS is very, very rare, there is no argument that repeated concussion can cause problems down the line. Athletes who have had a first concussion are three times more likely to receive a second than those who have never had one. Concussion increases the chances of long-term cognitive dysfunction (memory loss, inability to focus, headaches) and early-onset Alzheimer’s.

“Well, if I have a fall, I’ll know if I’m okay.” You might not. Often, adrenaline, the pressure you are putting on

95% of concussions do NOT result in any loss of consciousness.

As mentioned in the President’s Letter, AMEA-SRF has partnered with the United States Equestrian Federation and United States Eventing Association to educate riders, their companions, and competition officials to identify signals of concussion.

yourself to finish that last qualifying round for NAYRC, the hope of having a great last ride before the end of the season, or simple determination can mask the fact that you are not okay. The Concussion Task Force has put together a great brochure entitled, “Wake Up to Concussion!” (available on the USEA website). Print a copy and keep it in your trailer, trunk, or truck.

Continued on page 7

Barrel Racer Joins Troxel Helmets in Promoting Head Protection and Equestrian Safety

Delores Toole First Ever Barrel Racer to Wear Troxel Riding Helmet at National Finals Rodeo

SAN DIEGO, Dec. 12, 2004—Some were surprised, even shocked, to see barrel racer Delores Toole trading her cowboy hat for a helmet during competition at the Wrangler National Finals Rodeo, which took place on Dec. 3-12 in Las Vegas. But Toole, who competed in the elite, championship-deciding rodeo for the third time, and who finished second in the opening round, saw an opportunity to make a statement.

"I want riders...to know that it is okay to wear a helmet," said the Manter, Kan., homemaker and pro rodeo competitor. "Helmets have become an accepted part of other dangerous sports, and it is time they became an accepted part of western riding and rodeo too."

Troxel, the leading manufacturer of certified-riding helmets, signed Toole as a sponsored rider and endorser as part of a campaign to promote helmet use in the western riding segment of equitation.

An appreciative parent of an aspiring barrel racer commented, "As the parent of a daughter who rodeos and wears a helmet, I thank you more than you will ever know. I've let my daughter run some weekends with her cowboy hat on but most every other time she wears a helmet. The photo



of you at the NFR with the helmet on will be in my trailer dressing room tomorrow."

Thank you Delores, stay safe! You're the best!

Each year, roughly 70,000 people are treated in emergency rooms because of equestrian-related injuries. Tens of thousands more are treated in physician's offices. Head injuries account for about twenty percent of emergency room visits and are the leading cause of hospitalizations and death. Studies published in the professional journals *Injury* and *Pediatrics* concluded that "a significant decrease in those admitted with head injuries is associated with the increasing use of protective helmets."

While the English component of North American horse riders have widely adopted helmets as part of their riding attire, tradition continues to dominate among western riders who by-and-large prefer cowboy hats.

While hats provide shade from sun and rain, they offer little or no protection during falls and collisions. But the western world and rodeo com-

petitors are becoming more aware of the dangers of horseback riding and the catastrophic injuries that can result.

In 2003, two prominent barrel racers—not wearing helmets—were involved in serious accidents resulting in head injuries. Tragically, one was fatal. Such high-profile cases disprove the idea that injuries only happen to the young and inexperienced. In another study published in *The Journal of Family Practice*, it was shown that risk of injury correlates with the amount of time spent riding and working with horses, not with a rider's level of expertise. Horseback riding is a relatively dangerous activity when compared with other sports; equestrians suffer as many accidents per hour of activity as motorcycle riders.

According to Rick Timms, MD, and Troxel CEO, the use of ASTM-certified headgear can greatly reduce the severity of head injuries and deaths among riders. "We were glad to have the opportunity to work with Delores Toole at an event of the caliber and scope of the National Finals Rodeo," said Timms. "It is our hope that her participation and enthusiasm will encourage many others to consider riding helmets as part of their equine activities."

About Troxel

Troxel is the world's leading provider of ASTM/SEI-certified equestrian helmets for competitive, schooling and recreational



riding. Established in 1898, it is recognized for its innovative design and research leadership in helmetry, including award-winning helmets for US cycling and equestrian Olympic teams. Based in San Diego, Calif., Troxel currently dedicates all its resources to equestrian helmets and helmet accessories, and has provided over two million helmets to the equestrian market. Troxel's CEO, Dr. Richard Timms, is a research scientist and former physician dedicated to products that address public health and injury prevention.

Thanks!

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In Memoriam

STEVEN JOHN BENNETT, former Executive Director of the Horsemanship Safety Association and Director of the Heartland Horse Therapy, passed away after a brave struggle with a long illness on June 10, 2004.

Born in Milwaukee, Wisconsin, Bennett moved to Lake Placid in 1994. There he taught windsurfing, helped found the South Ridge Soccer Association, and was an active member of the First Assembly of God.

In Madison, Wisconsin, he directed the Horsemanship Safety Association, represented HSA at Industry and Trade Shows, and served as an expert witness in cases involving riders injured in horse riding accidents. He was also controller for Greater Insurance Services and General Manager of Hoofbeat Ridge Ranch, a children's summer camp and school of horsemanship.

Bennett worked for the AGA Stockholm, Sweden industrial and navigational aids company, and trained accounting staff for the AGA's 26 subsidiaries. His education included a BBA in Accounting from the University of Wisconsin (Madison) and a BS in Recreation Resource Management. He held many certifications with the American Heart Association, American Horse Council and Florida and Wisconsin State Horse Councils, as well as serving the American Medical Equestrian Association.

As an Expert Witness, Steven took the stand in eighteen legal cases involving horseback riding accidents—never losing a case.

Survivors include his wife Cheri, children John, Joe, Lindsey, Stephanie, and Meghan, his mother, Betty Bennett-Talbot, stepfather Dr. John Talbot, brothers Tom, Bill, and Dan, and sisters Cynthia, twin sister Sally, Nancy, Jane, Mary, Amy, and Molly.

What are some Key Signs and Symptoms of Concussion?

- Feeling like "you had your bell rung" or getting "dinged" or "seeing stars"
- Not knowing what happened (little or no memory just before and/or just after a fall)
- Headache
- Loss of balance and/or equilibrium
- Dizziness
- Confusion
- Fuzzy and/or blurry vision
- Poor concentration or inability to carry out a set of simple instructions
- Drowsiness and/or fatigue
- Nausea and/or vomiting
- Poor memory or forgetfulness about "routine" things like "losing" your keys
- Irritability or unusual aggressiveness

WAKE UP to Second Impact

During the recovery period from concussion, people are at risk for other types of additional accident or injury. In a fit, healthy person, a second trauma to an already injured head that has not yet completely healed may have disproportional consequences. It *does not matter* how mild a second hit nor does it matter what causes a second trauma, hit, snap or jerk to the head. It could be as simple as friendly slap on the back or being rear-ended in a traffic accident.

It is *essential* that the brain be given adequate time to "heal" from *any* concussion.

The concussion, the head trauma, is what matters, not the fall from a horse, the traffic accident, another sports-related injury such as skiing, soccer, etc.

There are serious risks if the brain is not allowed to completely heal from a concussion. Second Impact can be catastrophic. *Second Impact is no joke.*

Protect yourself from repeated head injury before the original concussion has healed. Do not ride or participate in any other sport until all symptoms of a first concussion are totally and completely resolved.

Never "tough it out" after a concussion!

For more information about the management of concussion in sport, contact or log on to:

Brain Injury Association
(800) 444-6442
www.headinjury.com
brain@headinjury.com
Centers for Disease Control
www.cdc.gov/ncip/tbi
USEA Safety Committee
concussion@equestriansafety.com.

Excerpted from *Wake Up to Concussion* (2005), a brochure produced by partnership of the AMEA-SRF, United States Equestrian Federation, and United States Eventing Association.

A Brief History of Equestrian Helmet Use Rules in the U.S.

This is the first in a two-part series on the history of helmet use rules in the U.S.

by **Drusilla Malavase**

PART ONE: EDITORIAL DISCLOSURE

The author is biased in favor of such rules. Research in highway safety and other sports have shown conclusively that educational programs and positive publicity alone have small or no effect on modifying adult behavior to use safety devices voluntarily. For example, before the state of New York passed a law to require the use of safety belts in cars, the usage rate was about 18 per cent, in spite of publicity campaigns and education in driver education and health classes.

The state legislature passed the law, unpopular at the time, only because not doing so would have resulted in a major loss of federal highway funding. At first the law was enforced in a secondary way, with arrests being made only after a traffic stop for some other violation. With additional money being provided for special enforcement initiatives, the law was enforced as a primary law, with observation of an unbelted driver or passenger being used as probable cause for a stop and a ticket. Highway checkpoints were also used. Police departments, government entities and private employers required employees to wear belts, and enforced sanctions on those who did not do so. The current

usage rate in New York is around 90 percent.

The author is also biased in favor of encouraging high profile equestrian athletes, trainers/coaches, parents of riders, and recreational riders who are not obligated to use helmets under any existing rules to do so every time they mount a horse or drive one in any kind of horse-drawn vehicle. Role models have a greater effect than they know, and by setting a good example their actions speak louder with young riders than any preaching they may do.

The author is biased against rules which have "opt out" provisions. For Example, article 318.3 of the rules of the United States Equestrian Federation: "It is the responsibility of the rider, or the parent or guardian or trainer of the junior exhibitor, to see to it that the headgear worn complies with appropriate safety standards for protective headgear intended for equestrian use, and is properly fitted and in good condition, and the Federation, show Committee, and Licensed Officials are not responsible for checking headgear worn for compliance." Accordingly, Licensed Officials and Competition Management are not required to have all Hunter/Jumper juniors who are participating at recognized shows remove their helmets so that their insides can be checked to ascertain whether they are ASTM/SEI approved. The responsibility for doing that rests

under the rule with each junior's parents, guardian or trainer.

Licensed officials and show/event organizing committees are the only practical agents available to enforce helmet use rules, and without primary enforcement, a rule is toothless.

Again to quote the example of New York State; in 2000 the Vehicle and Traffic Law and the General Obligations Law required the use of ASTM (American Society for Testing and Materials) F1163 standard helmets certified by SEI (the Safety Equipment Institute) on public thoroughfares for riders under the age of 14, and in teaching/hack/trail ride facilities for "inexperienced" riders. As of December 31, 2004, there has not been a single arrest by any enforcement body in the state of New York for the violation of these laws.

Has the climate changed among New York's recreational riders? Although no official surveys have been conducted in the state, there are still unhelmeted riders of all ages along roadsides, and trail ride operators are allowing riders to sign "no-helmet" releases. And some pony rider operators continue to offer unhelmeted rides for children who are technically infants.

Some liability insurance companies do require their insureds to offer and provide helmets as part of their risk reduction programs. In New York,

the cost of liability insurance for lesson and trail ride programs has increased dramatically, and many facilities feel that not having insurance will protect them from lawsuits.

(Their individual homeowner policies may come into play after an injury on one of their horses, as some of them have found out to their surprise. And any personal assets they have can also be in jeopardy. Eventually this realization may make requiring helmets more palatable.)

Want to do your part to prevent injuries through education and assist an injured equestrian?

Your donation to American Medical Equestrian Association-Safe Riders Foundation is tax deductible.

Locking the Stable Door: Preventing Equestrian Injuries

Monash University Accident Research Centre

Report #103

Authors: C. Finch & G. Watt

ABSTRACT

The medical and sports literature databases were searched for equestrian sports-related injury published in English since 1980, together with conference abstracts, and discussions with equestrian sporting bodies. This literature was critically reviewed, with emphasis on countermeasures. While there is considerable literature available on the epidemiology of injury incurred in most equestrian sports, there is little on the prevention of these injuries. Case-control or other studies evaluating the effectiveness of the countermeasures suggested by authors do not seem to exist. There is a good body of epidemiology that supports the proper use of approved helmets as a means of preventing injury in these sports. However, protective helmets do not always prevent injury as expected, and many riders do not choose to wear them because of perceived poor design. The search for the ideal equestrian helmet should continue. Ideally the effectiveness of helmets should be assessed scientifically. The use of rules and regulations for conduct of events, knowledge of horse behaviour, well-conducted lessons, contraindicated medical conditions, public education, rider education, appropriate equipment and clothing, the riding environment, rider experience, safety stirrups, body protectors, falling techniques, and first aid

measures are among the other countermeasures discussed. Even though the injury rate for equestrians is relatively low by comparison with other sports, the injuries that are incurred are usually severe. In large part, prevention is difficult because the behaviour of the horse is unpredictable. Countermeasures used for prevention should be evaluated for effectiveness to reduce the frequency and severity of injuries to equestrians.

Executive Summary

The medical and sports literature databases were searched for equestrian sports-related injury published in English since 1980, together with conference abstracts, and discussions with equestrian sporting bodies. This literature was critically reviewed, with emphasis on countermeasures.

While there is considerable literature available on the epidemiology of injury incurred in most equestrian sports, there is little on the prevention of these injuries. Case-control or other studies evaluating the effectiveness of the countermeasures suggested by authors do not seem to exist.

There is a good body of epidemiology that supports the proper use of approved helmets as a means of preventing injury in these sports. However, protective helmets do not always prevent injury as expected, and many riders do not choose to wear them because of perceived poor design. The search for the ideal equestrian helmet should continue. Ideally the effective-

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The use of rules and regulations for conduct of events, knowledge of horse behaviour, well-conducted lessons, contraindicated medical conditions, public education, rider education, appropriate equipment and clothing, the riding environment, rider experience, safety stirrups, body protectors, falling techniques, and first aid measures are among the other countermeasures discussed.

Even though the injury rate for equestrians is relatively low by comparison with other sports, the injuries that are incurred are usually severe. In large part, prevention is difficult because the behaviour of the horse is unpredictable. Countermeasures used for prevention should be evaluated for effectiveness to reduce the frequency and severity of injuries to equestrians.

Ideally, the effectiveness of all equestrian injury countermeasures should be demonstrated before they are implemented or widely promoted. However, where there is good reason to believe that a particular countermeasure is highly effective, despite a lack of direct scientific evidence for its effectiveness, then the use of that countermeasure should continue, provided there are no known negative effects or disbenefits associated with the particular countermeasure. This would particularly apply to the use of protective helmets. Although there is evidence from the field and the laboratory that helmets may

not be capable of preventing all head injuries, they have been shown to be effective in reducing injuries to bicyclists. With the emergence of new materials, the search continues to design the ideal helmet which will satisfy riders involved in many equestrian sports.

There is ample epidemiology that demonstrates equestrian injuries, although relatively infrequent, are generally severe, disabling and too often, fatal. Information needs to be collected on the extent of the implementation of, and attitudinal barriers against the use of existing equestrian countermeasures to inform the development of new and improved countermeasures.

With a high injury frequency during lessons having been reported, it would seem that an assessment of the quality of rider education programs and facilities is needed. Standards and practices of riding schools should be subject to accreditation and inspection by an external body, where accreditation is not in place.

Where countermeasures are aimed at primarily preventing injury, such as modification of the environment, and increasing skills and knowledge, they should be evaluated and then fully implemented. Where countermeasures are aimed at reducing injury severity, but for which there are doubts concerning their effectiveness, such as the use of safety stirrups or body protectors,

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Locking the Stable Door: Preventing Equestrian Injuries continued from page 5

formal evaluation should be conducted, preferably by case-control studies. Little work seems to have been done on evaluating the teaching and use of falling techniques. These could present a cheap and effective avenue of reducing a wide range of injuries, including those to the head, neck and upper extremities.

Many equestrian sports bodies actively promote safety in their sport. Sometimes this promotion is formal, where internal or external official rules and regulations are applicable and enforced, at other times it consists of informal verbal advice and the supply of safety literature. There is scope for considerable variation in the advice and enforcement of safety issues, with a consequent possible variation in the frequency of injury to riders.

No single equestrian organisation would have sufficient funds nor the expertise to properly assess the effectiveness of countermeasures. It may require coalitions of umbrella sports bodies, equestrian sports groups and researchers to conduct appropriate investigations. However, while there is so little knowledge of the effectiveness of countermeasures, equestrian injuries will continue to occur. It is not sufficient to claim the injury rate amongst equestrians is low, when the severity of the injuries which do occur is so high.

The range of countermeasures considered in this review and the specific recommendations for further research,

development and implementation are given below.

RULES AND REGULATIONS

- Rules and regulations for rider safety in equestrian sports should continue to be enforced.
- The extent to which these rules and regulations are actually enforced should be established. If found to be lacking, efforts should be made to improve their enforcement.
- Equestrian sports without regulations for safety should consider developing these.
- Guidelines for rider safety aimed at informal or unsupervised riding need to be prepared and disseminated to the general riding and farm communities.

RIDER EXPERIENCE AND KNOWLEDGE

- Riders should develop their riding skills progressively and thoroughly and have a good knowledge of horse behaviour.
- Over time, riders and horse handlers should develop a bond with their horse.
- Handlers of horses should be aware of the significance of the horse's movements, safe ways to approach a horse and the relative position of the horse in relation to the surroundings and themselves.
- Riders and handlers should exercise extreme caution when riding in the presence of objects or animals that could frighten the horse (eg other horses, dogs, vehicles). This is particularly applicable to children.
- Extreme caution should be taken when riding in situations that could upset the horse and cause unexpected behaviour.

- Small children should be separated from horses. Safety precautions around horses should be taught from an early age under close supervision.
- Further research on identifying the injury risk factors amongst horse handlers (as distinct from horse riding) is needed.
- Horse handlers should avoid the back legs of horses at all times.
- The standards and practices of riding schools should be subject to mandatory accreditation and inspection by an external body.
- Riding instructors should be certified, experienced and have a good knowledge of horses and horsemanship.
- The choice of instructor should not be solely based on salesmanship or convenience (eg, the accessibility to the riding school or the availability of instructors).
- Education of parents in the general principles of horse riding and handling safety should be included in public education programs.
- The extent to which public education programs are effective in reaching their target groups, eg recreational riders, farmers, parents, etc should be determined.
- The effectiveness of public education campaigns in reducing horse-related injuries should be evaluated. Results from such evaluation should be fed back to improve the education campaigns.
- In rural areas, where much of the supervision of child riders is done by parents, train-

ing of parents in riding safety should be considered.

- Educational programmes need to be targeted at recreational riders, encouraging them to have lessons with accredited instructors.
- The teaching and use of appropriate falling techniques to prevent injury should be evaluated.

APPROPRIATE EQUIPMENT AND CLOTHING

- Horse riders should conduct routine checks of their tack (or saddlery) before mounting. All equipment should be checked for signs of fatigue and correct adjustment of fit.
- Regular maintenance checks of all equipment should be undertaken.
- Riders should avoid wearing loose clothing that could catch on trees, etc.
- Riders with long hair should ensure that it is tied back.
- It is strongly recommended that stirrups are matched to the size of smooth heeled and soled boots with elastic sides.
- Non-slip gloves may help to prevent friction burns associated with holding the rein.
- Effective hand, particularly finger, protection for rope handling needs to be further investigated.
- Sturdy boots should be worn when undertaking horse handling activities.

ENVIRONMENTAL FACTORS

- Where possible, riders should avoid excessively soft/muddy ground and ditches, holes and uneven terrain with

I do appreciate the USEF's Safety Committee's work in passing any helmet rules at all, and admire your courage under the fire I know you are experiencing. I would rather serve in Afghanistan than confront those riders who have been writing to *The Chronicle* and *The Horse of the Delaware Valley!*

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Drusilla "Dru" Malavase was a founding member of the AMEA and is currently a member of the AMEA-SRF Board of Directors. Dru has been instrumental in promulgating accurate information about helmet safety to a variety of audiences for many years, acting as a consumer advocate for horsemen. Her background as the original chairman of the ASTM subcommittee on equestrian protective headgear and her experience as a consultant in legislative language for highway safety-related bills for New York State has led her to be uniquely qualified to comment on helmet legislation and safety.

The Crash

Continued from page 8

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⁴Sauerland S, Nagelschmidt M, Mallmann P, Neugebauer EAM. Risks and benefits of preoperative high dose methylprednisolone in surgical patients: a systematic review. *Drug Saf* 2000; 23: 449-61.

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FACIAL INJURIES

Dangers of horseback riding

By Hannah Woolf 8/26/04

The thought of horseback riding might evoke images of carefree, wind-in-the-hair gallops across plains and beaches or perhaps of jockeys vying for the finish as they loop around the racetrack. But horseback riding is a dangerous sport, and injuries from horseback riding and being around horses are thoroughly documented. These researchers wanted to learn more about maxillofacial injuries in particular, which are injuries affecting the face and upper jaw.

What the researchers wanted to know

What patterns are there in injuries to the face caused by horses?

What they did

The researchers got detailed information on every case of horse-related maxillofacial injury that had been brought to Legacy Emanuel Hospital in Oregon over five consecutive years, which totaled 62 pa-

tients. After getting data on age, gender, and date of accident, the researchers classified each injury according to type, cause, and which part of the face was affected. They also noted circumstances surrounding the accident: Was it related to recreation, competition, or work? Had the patient been wearing any protective gear? Using statistical analysis of the data, they compiled a summary of their findings.

What they found

The most common cause of injury was falling from the horse, accounting for 45 percent of the injuries, with injury from being kicked following at 35 percent. However, kicks usually resulted in more serious injury to the face than falling from the horse. Of the patients who had worn helmets—all were in competitions, most as jockeys at a nearby track—none suffered fractures, the most serious type of injury. But helmets didn't protect the face from injury. None of the recre-

ational riders had been wearing helmets, and they amounted to the vast majority (85 percent) of patients. Most of the patients were female, and 17 were 12 or younger.

What it means to you

Helmets are a great way to decrease the impact of accidents.

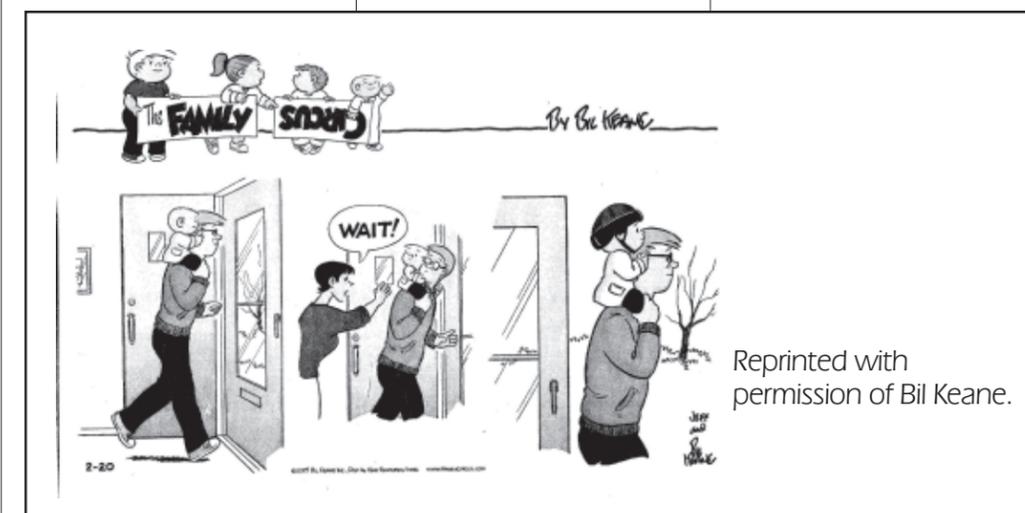
Caveats

It's a small observational study, so you can't tell whether some people are more likely to be injured than others.

Find out more

Tips on buying a helmet: www.equine.com/shop/eqheadgear118/

Read the article: Ueek, B.A., Dierks, E.J., Homer, L.D., and B. Potter. Patterns of Maxillofacial Injuries Related to Interaction With Horses. *Journal of Oral and Maxillofacial Surgery*. June 2004, Vol. 62, No. 6, pp. 693-696.



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Commentary on Proposed Legislation, continued from page 9

and another could opt for CPSC/ Underwriter's Labs or CPSC/ British Standards Institute. This could be a nightmare for the horseman who shows under different rules. Would such a system be an improvement to the safety of the riding community?

I have been quoted by *The Chronicle of the Horse* as saying that without primary enforcement of a law, you might as well not have the law. Apparently the Dodd bill will leave enforcement of a new helmet standard requirement to the CPSC. So defective products will find their way onto the market, and be recalled after the fact. Unfortunately we know by past experience that when CPSC recalls a product a really successful recall results in about 40% of the defective product being returned, leaving 60% with consumers with bad products which they trust. Wouldn't it be better to make sure that no bad self-certified products make it to the marketplace?

How would I alter S 2254? I would make it a bill to name ASTM F1163 the only acceptable national consumer standard for equestrian helmets, with the proviso that products made to it must be independently tested and certified by the Safety Equipment Institute according to their charter and practices.

I would establish the fact that any other helmet not conforming would be considered in violation of a consumer product safety standard promulgated under the Consumer Product Safety Act (this language is in the proposed law)

AND set the sanctions for violation. These would be fines substantial enough that they will actually act as a deterrent; enough to counteract any potential profit to be made by cheating. Additional provisions to the law would include seizure and destruction of any nonconforming products, whether domestic or imported, without any compensation to the offending company and/or importer. I believe such a bill would remove the possibility of well-meaning parents being sold inadequate riding helmets, since many of them take the word of people in the horse industry who are either ignorant of the dangers these helmets pose, or who are more concerned about superficial appearance and making a profit than the safety of our riders.

It should be mentioned that the manufacturers who sell "item of apparel only" helmets would most likely be relieved to remove them from their product lists, since even with clear labeling they are assuming the risk of being sued when these hats fail to protect in a fall. In the past few years there are fewer and fewer of these being sold, but without rules forbidding their use in all divisions by the horse sports organizations, a market for them will remain and no legislation is going to be successful in keeping them out of the country. And please note that I am not commenting on the hats used for Western, Saddle Seat, Paso, Andalusian, etc. These will be the riders who will rise up against the possibility of a broad helmet rule of any kind, and believe it or not the motor-

cycle rights groups will come to their aid, since their DC lobbyist has been closely watching this bill. (I know this because I was an invited speaker at one of their meetings held two years ago in my county, and he told me so himself.)

I have a quibble with Sec. 7/2 of the 2004 bill, under "Definitions." The term *equestrian helmet* means "a hard shell head covering intended to be worn while participating in an equestrian event or activity."

The helmets which test best to ASTM F1163 are the sports helmets which have a soft shell, so I guess under the law these would have to be banned. Of course they are the least expensive products, and the lightest in weight, making them especially suitable for children and lower income riders. I fear the endurance and competitive trail people, and many eventers would be sad to see them go.

Section 6 gives the Department of Commerce \$100,000 for each of three fiscal years for educational grants to encourage approved helmet use and to buy helmets for low income people. Somehow I don't see \$2,000 per state going very far to accomplishing anything significant. And the \$500,000 for CPSC to develop and enforce the standard also seems unlikely to be adequate if the result of the bill is dozens of recalls of defective products.

If you need a copy of the second version of the bill you can Google it: it was S. 2254 in the 108th Congress, 2004, and it's called the Christen O'Donnell Equestrian Helmet Safety Act of 2004.

After the original bill was filed in 2002 Mrs. O'Donnell called me to ask for my support. She told me that her concern is getting the "confusing" products off the market. My personal feeling is that a product labeled "This is not protective headgear. It is an item of apparel ONLY" is not particularly confusing. Non-riding parents rely on the judgment of their children's instructors and trainers, as well as the people who work in tack stores to help them choose helmets for their children. All of the latter are influenced by equestrian organization rules and, in the case of the show world, by their perception of what is acceptable to judges. For many years the then AHSA rulebook told judges they were not to penalize for protective headgear in many divisions, yet there are still judges out there who are not "helmet blind". I can assure you that they have more influence over who wears what than anything \$2,000 per state can buy in education programs, and that influence filters down to non-sanctioned shows and even recreational riders.

Of course the current H/J threats of lawsuits to contest the adult helmet rule to start later this year are no surprise to me. Since the largest percentage of riders injured are ages 25-44 while riding on the flat (75%) as opposed to those jumping (25%) I continue to marvel at rules which allow items of apparel for flat classes, dressage and all those other disciplines whose headgear consists of felt only.

Continued on next column

rocks and exercise caution if these surfaces are unavoidable.

- Riding in outside paddocks should be limited to experienced riders.
- During horse handling activities, the horse should be isolated from all other horses, if possible.

PROTECTIVE EQUIPMENT

- All horse riders should wear a standards approved helmet.
- Children in the vicinity of a horse should always wear a helmet, whether or not they are mounted.
- There should be further standards development and improvement for helmets.
- More developmental research needs to be undertaken to improve the design of helmets must be improved that are low cost and versatile.
- Educational campaigns to increase helmet wearing rates need to be very well planned and implemented. Such campaigns should also be formally evaluated.
- Attitudinal barriers towards helmet wearing need to be assessed and addressed in education campaigns.

- Manufacturers should consider developing a helmet which meets both safety requirements and the aesthetics of different equestrian activities.
- Consideration should be given to conducting formal evaluation of the effectiveness of equestrian helmets in the field.

- The preventive effectiveness of the different types of safety stirrups needs to be formally

evaluated.

- The circumstances under which body padding is likely to be effective needs to be determined.
- The effectiveness of such body padding needs to be formally evaluated in the field.

FIRST AID

- Organisers of equestrian events should ensure that adequate first aid and medical services are provided.
- Recommendations for the minimum level of first aid equipment and personnel at all events should be prepared and disseminated to equestrian sports bodies.
- All horse riders should receive basic training in first-aid principles as part of their rider education.

OTHER COUNTERMEASURES

- Choose a horse of appropriate size, temperament, character and age for the rider's size and skill level, in conjunction with a trained and experienced horseperson.
- No beginner or child should have a horse aged less than five years. Older horses are better for beginners.
- Inexperienced riders, especially children, should always be supervised when riding.
- Alcohol use before riding should be avoided as this could impair coordination and judgement, lengthen reaction time, and reduce the ability to adjust to the movements of the horse

Sponsor: Sport & Recreation, Victoria, Australia
Watt GM, Finch CF. Preventing equestrian injuries. Locking the stable door. *Sports Med* 1996 Sep 22 (3); 187-197 Monash University ABN 12 377 614 012
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Editorial Comment

The AMEA-SRF supports the holistic approach to equestrian safety promoted in this article. We also know that there is a dearth of statistical evidence regarding some widely accepted safety equipment and practices, such as the use of body protectors. While Locking the Stable Door presents a worthy reminder about our daily horse-handling practices, it is our hope that it will also serve as a call for well-designed research on equestrian safety issues.

—Dru Malavase

Concussion

continued from page 3

We withdraw our horses if the ground is like concrete, if they don't feel quite right in dressage, or if we're worried about an old injury. We do everything to ensure they have a long, happy, and healthy career. We train for hours in rings, gyms, and training tracks, ensuring both we and our horses are prepared and fit. Eventing requires precision and accuracy, no more so than on cross country, where we must integrate speed. Your horse deserves the best ride possible. Make sure he gets it. If you've had a bad fall, know the symptoms of concussion. There's always another event, another lesson, and most importantly, another day.

Erin Hoffman

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The **CRASH** Trial Changes Views of Steroids in Head Injury

For many years we have treated head injuries with steroids¹. Now, a study in *The Lancet*² shows that not only is there no benefit to the use of steroids in head injury, but there is an increased risk of death within two weeks in the patient group given steroids.

Each year millions of people worldwide suffer head injuries. Increased intracranial pressure is the most serious complication of such injuries, because it can cause impairment of cerebral blood flow and lead to herniation and death. Steroids have commonly been used to reduce intracranial pressure following head injury. However, in the 1990s meta-analysis of existing data called into question the effectiveness of steroids in this setting. This resulted in a reduction in the proportion of physicians who gave corticosteroids to brain-injured patients. The lack of sufficiently large trials to definitively address the subject led in 1998 to the idea of the CRASH trial (Corticosteroid Randomization After Significant Head Injury).

In the CRASH trial, 10,008 adults with head injury and a Glasgow coma score of 14 or less within 8 h of injury were randomly assigned to a 48-hour infusion of corticosteroids (methylprednisolone) or placebo. Primary outcomes were death within two weeks of injury and death or disability at six months. Prespecified subgroup analyses were based on injury severity at randomization and on time from injury to randomization. Analysis was by intention to treat. Effects on

outcomes within two weeks of randomization are presented in the current *Lancet* article. The detailed protocol of the CRASH study is available at www.crash.lshtm.ac.uk

Compared with placebo, the risk of death from all causes within two weeks was higher in the group allocated to corticosteroids (1052 [21.1%] vs. 893 [17.9%] deaths). The relative risk was 1.18 [95% CI 1.09–1.27]; (p=0.0001). The relative increase in deaths due to corticosteroids did not differ by injury severity or time since injury.

Six-month study results are still being analyzed, and are expected to be released in an upcoming paper.

Most clinicians expected the CRASH trial to confirm the benefits of steroids, while others suspected that the effectiveness of steroids would turn out to be minimal. The results of CRASH are therefore a complete and alarming surprise.

The CRASH study provides a definitive and valid answer to the clinical question of the benefit of steroid use in head injury. However, a key issue that remains unclear in the CRASH trial is that the mechanism(s) of the increased mortality are unknown. The increase in mortality is indisputable, because neither type nor severity of injury affected the results. The results of CRASH also raise doubts about the effectiveness of steroids in patients with

other neurological or skeletal injuries. Steroids are a well-established therapy after injury to the spinal cord, but criticism has recently focused on the validity of the trials supporting this practice³. In patients with major fractures, steroids reduce pulmonary complications⁴ but most clinicians remain apprehensive of possible side-effects of high-dose corticosteroids. Thus, the CRASH study may lead to a reexamination of the use of corticosteroids in many settings.

In an accompanying editorial⁵, Stefan Sauerland, from the University of Cologne in Germany, comments that the key message of CRASH “is that

applying treatments with unproven effectiveness is like flying blindly.” He goes on to write, “In the future, we should avoid trusting in underpowered clinical trials with surrogate rather than clinical endpoints and transferring evidence from one disease to another.”

Following initial publication of the results of the MRC CRASH trial in October 2004, the data after six months of follow up were published in June, 2005 (*The Lancet* 2005; 365:1957-1959). Follow-up data were obtained for 9,673 (96.7%) patients. The risk of death was higher in the corticosteroid group than in the placebo group (1,248 [25.7%] vs. 1,075 [22.3%] deaths; relative risk 1.15, 95% CI 1.07–1.24; p=0.0001), as was the risk of

death or severe disability (1,828 [38.1%] vs. 1,728 [36.3%] dead or severely disabled; 1.05, 0.99–1.10; p=0.079). There was no evidence that the effect of corticosteroids differed by injury severity or time since injury. These results lend support to the earlier conclusion that corticosteroids should not be used routinely in the treatment of head injury.

Maureane Hoffman is a Professor of Pathology at Duke University Medical Center in Durham, NC. She directs the Blood Bank and Hematology Laboratories at the affiliated Durham VA Medical Center and has an active research program in blood coagulation. She has been riding and training horses since childhood and competes in eventing. She has been on the AMEA board for several years. Even though she hasn't had a concussion or other head injury from eventing, she still can't remember exactly how long.

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References continued on page 11.

UPDATE: Commentary on Proposed Legislation Senate 2681 (2002), 2254 (2004)

Senator Dodd's speech to the Senate on this bill and Christen O'Donnell's parents' intentions in asking him to sponsor it are laudable. Who can be opposed to removing inadequate, dangerous and deceptively packaged “item of apparel only” helmets from the U.S. market?

In my opinion, should S2254 be adopted as drafted, there would be some unfortunate and counterproductive consequences which would weaken the quality of equestrian helmets currently available in this country.

There are several areas of concern about the current bill. The implication that ASTM F1163 (with SEI Certification) needs more study at taxpayer expense (\$500,000 in S2254) by a government agency is a slap in the face to the many ASTM volunteers who have provided untold hours developing, refining, and improving a standard reached by democratic consensus, and recognized for its excellence by the horse sports federations of the U.S., Canada, Australia, and the U.K. Those of us who have promoted its development since 1984 know that there is no substitute within the Consumer Products Safety Commission for the talents of the many experts in the field who have donated their services to decrease rider head injuries and deaths. There are many precedents within the government for the outright adoption of currently proven consensus standards as approved national standards,

and in fact this is one of the charges of the CPSC.

One of the most serious flaws in a CPSC standard is that it takes, literally, an act of congress to change it. The 1998 CPSC Bicycle helmet standard has not been revised since 1998. By contrast, ASTM F1163 has a long history of revision whenever the committee sees a need to improve it in light of new information becoming available, and there have been times when there have been two updates in one year. A CPSC standard which is untouched for 7 years is an out of date standard. ASTM requires that all its standards must be revisited every five years and revised if necessary. Obviously F1163's oversight committee has far surpassed the minimum ASTM requirement.

Since S2681 and S2254 were written to mirror the CPSC Bicycle helmet standard, it makes sense to look at the result of that legislation. At the time the CPSC began to write its bicycle standard, there were three U.S. standards, Snell, ASTM, and ANSI. The latter (a government standard) had not been revised for many years and was far inferior to the first two; it was considered dormant. The CPSC wrote a few new requirements, which meant that Snell and ASTM needed to revise their existing standards in order to comply; this was done in short order, and neither organization had any problem getting CPSC approval, since their internal re-

quirements far surpassed those of CPSC. Whether the changes actually improved the existing products made to Snell and ASTM from safety or consumer points of view is open to debate.

Both Snell, which certifies products with internal testing, and ASTM, which writes the standards and leaves testing/quality control/and consumer issues to an impartial, internationally certified outside agency, continue to share the market with products which claim to meet the CPSC bicycle standard. Obviously many of the latter helmets don't do so, based on several announced recalls by CPSC.

This self-certification problem with bike helmets was less prevalent under the old system, since now the helmets are marketed without impartial outside testing. Anyone buying a Snell or ASTM/SEI bike helmet was (and is) assured of a quality product, all products being tested in the same way in the same lab, and all companies being required to submit to a stringent quality control audit BEFORE the helmet was allowed to enter the market. *Consumer Reports* found in one survey several years ago that there were some products falsely claiming certification under standards to which they were not entitled, but based on the current recall numbers, there are more false certifications now than anyone would have believed possible. Why? Manufacturers whose bike helmets were certified by Snell and

SEI dropped out of those programs, since there was no requirement for certification in the CPSC procedures. The checks and balances were removed. Do we really want to see this happen with ASTM/SEI equestrian helmets? As S. 2681 was written, there were no provisions for a certification system, a quality control system, or mandatory liability insurance against the chance of defective products. There were no stated penalties for misrepresentation of products. S2254 (the most current 2004 version) in its Section 5B mandates certification “by an organization that is accredited to certify personal protection equipment in accordance with ISO Guide 65.” SEI meets this requirement, but so do dozens of other testing labs in this country.

Many of these do both product testing and quality control. In my opinion, that removes the check and balance of separate testing and quality audits. SEI also requires mandatory insurance coverage, something not necessarily required by other ISO Guide 65 organizations, and which is an important provision for consumer protection. Do we really think that weakening an excellent system is to the rider's advantage?

There is an additional consequence of allowing multiple certification systems to operate; one horse sports organization could specify CPSC/SEI as is now done with ASTM/SEI,

Continued on page 10