

American Medical Equestrian Association



NEWS

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American Medical Equestrian Association and Safe Riders' Foundation CONVENTION 2002

*The American Medical Equestrian Association
and
The Safe Riders' Foundation
in conjunction with
The United States Eventing Association*

ANNUAL MEETING

December 5-6, 2002

USEA Annual Meeting continues through December 8

Renaissance Cleveland Hotel

Tower City Center

24 Public Square

Cleveland, Ohio 44113

(216) 696-5600 or (800) HOTELS-1

(Please ask for "USEA Convention" Rate)

Meeting registration form — page 11.

Please make plans to attend this informative, unique convention. The AMEA and the Safe Riders' Foundation (SRF) are pleased to work together with the United States Equestrian Association (USEA) to provide a format of speakers and activities appealing to not only the medical and professional community, but lay persons and all equestrians. The AMEA and SRF are presently investigating the possibility of a merger to combine forces.

The convention will begin on Thursday, December 5th with a strategic planning session, Board of Directors meeting and Annual Banquet.

Friday, December 6th will be a day of interesting speakers and learning sessions.

For further details regarding sponsorship, registration and schedule for the convention:

AMEA Website:
www.ameaonline.org

AMEA E-mail:
amea@charter.net

AMEA Toll Free:
(866)441-AMEA (2632)

Please join us to increase safety awareness in our sport.

AMERICAN MEDICAL EQUESTRIAN ASSOCIATION

A tax exempt 501c3 organization.

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MISSION STATEMENT

The American Medical Equestrian Association 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 Vision

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



One reason that I like the title of my quarterly article is that it keeps me focused on the future of the AMEA and our place within equestrian sports. Without vision and without being able to “see the writing on the wall,” I feel that I could not adequately

do my job. Success in my position involves teamwork with so many people through listening to their advice, experiences and propositions. It not only takes vision, but also the use of the rest of my senses such as hearing and touch. So, like the CPR courses teach, it's time to “look, listen and feel.”

LOOK: While I was looking at options to further the AMEA cause, an excellent opportunity has surfaced. A newly created organization, the Safe Riders' Foundation (SRF) has formally approached the AMEA to investigate the possibility of a merger of the two organizations. The SRF began as the idea of two career eventers that wanted to create an organization to provide assistance to persons injured or disabled as a result of equestrian accidents (See *Practical Horseman* July 2002 pg. 18). Not only does the SRF want to help “after the fact,” they also want to assist with prevention of accidents within our sport. SRF gained 501c3 (not for profit) status in December of 2001 and has been formulating a plan to get up and running.

LISTEN: Why reinvent the



Julie, Carolyn, Drake (the horse), Russell & Rusty Lowe.

wheel? The AMEA has been working to prevent accidents for years. We have done a good job with research and education of

medical and other professionals, but are we really reaching the masses? Indirectly, the AMEA members reach the masses via service on national safety committees, outstanding personal influence, and the *AMEA News*. Now that we have laid the groundwork for research and education, we can be assured that the SRF can work directly with anyone requesting aid or assistance. The experience and expertise of AMEA can help this newly formed organization progress quickly. This also may provide an opportunity for grants, corporate sponsorships, greater membership, and added respect within all areas of our sport. This opportunity will allow us to directly reach the masses and come full circle with our mission.

FEEL: How do I feel? I feel that with the blessings of the SRF and AMEA Boards of Directors, we can create a unique organization unlike any other in the world. While AMEA maintains focus on accident prevention and education, SRF will be able to assist riders in times of trouble. This will take some work, intestinal fortitude and bravery, but the forward

motion is in progress to create combined forces. I am willing to take this risk, are you? If we have a fall, we will get up, dust ourselves off and keep going as we always have because we'll be wearing our helmets! Let's do it! Please send your opinions to amea@charter.net.

On another note, I would like to make an appeal from our organization to USA Equestrian and the United States Equestrian Team. It is time to come together and form a plan to end this bitter fight that has been going on for too long. Our sport has suffered greatly and will continue to suffer, possibly compromising safety and sportsmanship if an agreement is not reached. Look, Listen and Feel!!!

AMEA/SRF Convention 2002 promises to provide a good format for all including non-medical professionals interested in equestrian safety.

Thursday December 5, 2002 starts with a Strategic Planning Session and Board Meeting. After the USEA Board of Directors Welcome Reception, the Annual Banquet will take us into the future.

Speakers for Friday December 6, 2002 will speak on a variety of topics including MTBI Research and Equestrian Sports, Legal Issues in the Equine Industry, Barn Safety, Recovery and Rehabilitation from Serious Injury, Emergency Response Procedures and E.D. Evaluation of Equestrian Accidents. These topics should allow Physicians and other medical professionals apply for CME credit.

Please join us for this exciting and informative convention.

A Note From the President

I hope that everyone enjoyed his/her summer. There are numerous horse riding competitions, trails to ride, cattle to herd, and thousands of horse related activities every year. Summer, of course, is when most injuries occur since the exposure to risk increases dramatically due to increased numbers of both participants and equine related events.

Recently I attended a local combined training event and thought about all the behind the scenes organization that went into a production of that size. I wondered how anyone could manage all the safety and medical aspects. How-

ever, as I thought about it, I realized that several great articles have been written on heat prostration, dehydration and first response to trauma involving equestrian events. Then, I remembered that Dr Tom Byrd literally wrote the book on equine event organization from the medical standpoint for the AMEA several years ago. There is a wealth of good practical advice available from throughout the years on a wide variety of equestrian medical topics, in written and video format.

As you will see later in this edition of the newsletter, we have an opportunity to broaden

our educational audience via a partnership with the Safe Rider's Foundation. This is a new, not for profit, organization for the benefit of injured riders. More details will appear in Rusty's article and future editions of the newsletter.

Finally, our long awaited annual meeting will occur in conjunction with the United States Eventing Association meeting in Cleveland, Ohio in early December. Look for information in this newsletter and



on our website (<http://www.ameaonline.org/>).

Have a safe and happy fall and we look forward to seeing you in Cleveland in December,

*Janet M Friesen MD
President, AMEA*

Profiling Equestrians Injured in "At Home" Riding Accidents: Part II

Susan Anthony-Tolbert, Ph.D.
Gallaudet University

In this, the second of three reports on "profiling equestrians injured at home" emphasis will be on summarizing the results from those parts of the Equestrian Injury Questionnaire that dealt with the physical consequences of the accidents. Safety precautions in terms of wearing a helmet, both before and after the accident, as well as safety tips offered by the injured equestrians will also be presented.

Physical Injuries From "At Home" Equestrian Accidents:

(A). Gaits At Which The Accidents Occurred:

One of the first questions

that arise when a riding accident has occurred is the gait at which the accident occurred. This research is no exception. The gaits at which the "at home" riding accidents within this sample happened are summarized below. Nine categories were included: halt, walk, trot, canter, hand gallop and gallop, rein back, upward transitions, downward transitions. Although not a "gait" per se, mounting and dismounting were also included. These results do **not** include the groundwork accidents reported in the sample, nor do they in-

clude the driving accidents (all of the driving accidents involved some type of runaway on the part of the horse or pony from a walk or trot).

TABLE I

GAIT	Percent
Canter	30%
Walk	20%
Hand Gallop/Gallop	20%
Trot	14%
Mounting/Dismounting	8%
Halt	4%
Upward Transition	2%
Downward Transition	1%
Rein Back	>1%

There were no differences in these percentages between riding styles (English, Western or Bareback).

Also, "gait at which the at home riding accident occurred" was not related to how much the rider worried about another accident once they started to ride again, to their enjoyment level once they started to ride again, to any of their attributions for cause(s) of the accident, either at the time of the accident or post accident, or to their feelings of depression, nervousness or anger nor to how long these feelings lasted ($p > .05$). However, it should be

Continued on page 4

Profiling Equestrians Injured in "At Home" Riding Accidents: Part II

Continued from page 3

emphasized that those who had an accident while mounting or dismounting were significantly more safety conscious after the accident than those whose accident occurred in any of the other categories listed above ($p < .05$). Please refer to AMEA Newsletter (June 2002, Volume XIII, No. 2) for specific information related to psychological responses to injuries.

(B). What kind of injuries were sustained?

Fifty-five percent of the riders/handlers suffered multiple injuries. Multiple was defined as an injury to more than one body region. For purposes of this research, the following body regions were used: head (including ears); face (including eyes and teeth), neck and shoulders, back (spinal cord, vertebrae, tail bone), trunk (area of the body from shoulders down and including groin and buttocks) and extremities (arms, wrists, elbow, hands, fingers, legs, knees, feet, ankles and toes). In the table below are the percent of body areas injured from both multiple and single injury riders/handlers.

TABLE II

Area Body Injured	Percent
Extremities	42%
Trunk	33%
Back	26%
Head	25%
Neck and Shoulders	15%
Face	10%

**Percentages will add up to more than 100% because some respondents did receive multiple injuries.*

(C) Severity of the Reported Injuries

It should be noted that, as mentioned in Part I of this report (June 2002, Volume XIII, No. 2), it took equestrians an average of 2.3 months to return to riding, although this varied from 1 day to twelve months. (*Fifteen were still healing at the time they answered the questionnaire and 5 kept their horses but never rode subsequent to the accident*). The participants viewed their injuries as consequential. **None** of the respondents self rated their injuries as slight or nothing at all. See the table below for the distribution of responses.

TABLE III

Self Rating	Percent
Slight but more annoying than painful	7%
Somewhat severe but not too painful and not life threatening	18%
Severe, painful and serious but not life threatening	65%
Very severe/life threatening	10%

**Ten percent of 405 subjects did not answer the question.*

When comparing responses, the more severe the self rating of the injury, the more depression at the time of the accident ($p = .001$); the longer the anger lasted ($p = .000$), the greater the persistence of visible injuries ($p = .000$), the longer to return to riding ($p = .000$) and the more multiple injuries were reported ($p = .000$).

It should be noted that 62% of the sample reported that they still had visible signs of the accident at the time they answered the questionnaire. "Visible signs" were defined as a limp, and/or an inability to

use the limb, hand, fingers or feet that was noticeable to others (limited mobility), and/or scars, and/or disfigurements. Though respondents did report "psychological signs" after the accidents, only physical visible signs were counted in this part of the report. It should be noted that this rating was asked in terms of how they looked "now" at the time they were answering the questionnaire. Some of these visible signs may well heal given more time. This needs to be taken into account when assessing these results.

(D). What was the horse's behavior at the time of the accident?

In addition to the gaits at which the "at home" riding accidents occurred, the question of what behavior the horse was exhibiting at the time of the accident was also of importance. To answer this question, 26 categories of equine behaviors, from the riders' accounts, were identified and coded. First, whether the accident occurred while riding on the flat, before or after a fence, or at a transition was noted. These were considered the main categories. Second, for each of these main categories, behaviors such as bucking, spinning, bolting, spooking/shying, rearing and all the possible combinations were counted. Accidents that occurred while the horse was behaving normally but tripped and fell constituted another category. For other riders, the horse was behaving normally but the rider lost balance and fell off. All these descriptions

from the riders yielded the 26 categories. Behaviors that were reported in **more than 5% of the accidents** are listed below.

TABLE IV

Horse Behavior	Percent
Buck on the flat (ring) or on trails	20%
Combined spook, buck, rear and bolt	12%
Trip or fall of the horse	12%
Rider lost balance/horse behaving	12%
Bolt on the flat (ring) or on trails	11%
Spook or shy with a spin (ring) or on trails	10%
Mounting/Dismounting	8%
Bolt and spin	6%

**Will not add up to 100% since categories with < 5% of horses' behaviors are not included.*

(E) What costs did the equestrians in this sample report for their medical treatments?

Recently, in some horse related magazines and in AMEA Newsletters, there have been articles concerning the medical insurance industry's responses and concerns over the cost of horse-related accidents. As a horsewoman, this researcher wanted to gain some understanding of these costs as reported by the equestrians in this sample. To keep the "cost" analysis more current, only participants who indicated that they had suffered an injury within the last three years were included in the table below. It should also be noted that the question on cost in the Equestrian Injury Questionnaire might have confused some participants. Many responded to "what was the total cost of your injury?" by saying that the insurance company paid. Therefore, only data from par-

ticipants who clearly indicated that the figure they gave included total cost (both their own and the insurance company's payments) were included (n= 180).

For these 180 participants, the average cost of their accident was \$9624, with a minimum of \$80 to a maximum of \$180,000. (Note: To participate in this research, all respondents in this survey had to have received medical attention/treatment from a trained medical professional (doctor, nurse, dentist, etc) either in a private office or in a hospital/ emergency facility.)

TABLE V
Costs by Riding Activity For At Home Riding Accidents For Equestrians Injured Within The Last Three Years*

Riding Activity	Ave Cost	Median	Minimum	Maximum
Groundwork	\$10,095	\$2,250	\$150	\$75,000
Mounting/Dismounting	\$5,764	\$3,500	\$300	\$22,000
Halt	\$9,131	\$2,300	\$650	\$42,500
Walk	\$16,887	\$5,000	\$330	\$180,000
Trot	\$6,720	\$800	\$100	\$40,000
Canter	\$9,524	\$1,500	\$100	\$60,000
Hand Gallop/Gallop	\$8,525	\$3,000	\$100	\$59,000
Bolt*	\$4,488	\$1,500	\$100	\$30,000
Jumping	\$11,968	\$5,450	\$80	\$40,000
Transition Up or down	\$8,266	\$3,000	\$400	\$20,000

*The numbers reflect total cost of injury.

(F) Safety Precautions

In light of the physical injuries sustained (N= 450) and the reported cost (N= 180), the question of safety seems relevant. However, only 396 respondents answered this question. Did the respondents report wearing safety helmets before the accident as well as after the accident? Did the use of safety helmets change after the accident? Self reports of wearing a helmet before the accident correlated with self reports of wearing a helmet afterward (rp(394) = .812, p= .000). This means that riders who reported wearing a helmet before they were injured reported wearing one afterward. Riders who reported that they did not wear a helmet before the injury also claimed not to wear one afterward.

TABLE VI

Helmet Use	Before	After
Never	24%	16%
Infrequently	6%	6%
Sometimes	10%	7%
Frequently	11%	7%
Always	48%	63%

*Twelve percent of respondents did not answer this question.

When the responses were coded as to whether helmet use increased/decreased or remained the same post accident, 23% reported

increased use; 72% reported that their helmet use was the same before and after the accident and 4% reported decreased helmet use after a riding accident. The extent of reported helmet use correlated negatively with number of horses owned (rp(388) = -.265, p= .000). This means the more horses reported owned by the equestrian, the lower the self reported frequency of helmet use. Reported helmet use did correlate positively with education level (rp(386) = .271, p= .000). The more educated the equestrian, the more self reported use of a safety helmet. Males (only 5% of the sample) reported less frequent helmet use than females.

For those of us, who are avid readers of horse magazines, we receive many fine tips on safety from professional riders and editors. What do the equestrians in this sample have to offer in terms of safety precautions that they have followed since their accidents? **Seventy percent** of the respondents shared their thoughts on safety. The ten that were mentioned most often are listed below.

TABLE VII

Safety Tip	Percent
Buy better equipment/ check it often	30%
Beg, borrow, buy and celebrate the "Steady Eddy" type of horse	28%
Wear a safety helmet more often.	20%
Slow down and "smell the roses"/be less competitive	14%
Ride in a better/ safer environment	13%
Watch the footing.	8%
Get in better shape physically.	8%
Acknowledge, accept/listen to fear—it is nothing to be ashamed of	7%
Have control of your horse and have a horse you can control	6%
Face/accept limits in your riding	4%

In the third and final report, riders' coping strategies, statistics on riders' enjoyment subsequent to the accident as well as some provocative vignettes will be presented.



Susan Anthony-Tolbert, Ph.D.

Susan Anthony-Tolbert's complete bio will be featured in the next edition of the AMEA News with her Part III and final article.

PREGNANCY

— To Ride or Not To Ride...

That is the question. But...what is the answer? With most equestrian sports dominated in numbers by women and with a large percentage of them riding during their reproductive years, this question comes up very frequently.

What about equestrian sports? The professional published answer to the question of whether to ride or not while pregnant is... NOT. Horseback riding is included with other "dangerous sports" such as downhill skiing, ice-skating, gymnastics, and martial arts that should be entirely avoided while pregnant. The risk of falling and subsequent injury to mother and baby is simply felt to be too great. (ACOG Committee Opinion-Exercise during pregnancy and the postpartum period, number 267, Jan 2002)

As an obstetrician, I tell my pregnant patients that exercise is good for them. Most women can continue to exercise in the same manner as they did prior to pregnancy. Pregnant athletes can usually continue their training program with only slight modification. Unfortunately, all sports and exercise routines are not the same; some are safer than others.

We all know that regardless of the professional byline that many pregnant women continue to ride. For some it is a matter of livelihood-their income depends on their riding, while for others it is a matter of passion, fun, relaxation, or fitness. Whatever the reason, many women continue to ride

their horses against the advice of physicians and professional sports organizations. Are there guidelines that can be followed by women who insist on riding during their pregnancies?

I have provided the following information and recommendations for women that insist on riding during pregnancy. Any decision to ride while pregnant should be made only after a discussion with your personal physician. Since the professional recommendation is not to ride at all while pregnant, the medical profession as a whole would accept none of the following guidelines.

In order to make an educated decision, it is important to understand what happens physiologically during pregnancy. As the baby develops, a woman's body undergoes several changes, which may determine whether it is safe for her to ride. Hormones cause ligaments to soften, making them more prone to injury. Pregnant women are therefore at a higher risk of joint sprains, muscle strains, and joint separations. While not life threatening perhaps, these injuries can cause significant pain and reduced mobility.

A pregnant woman's center of gravity shifts forward as the baby grows. The curvature of the lower spine increases. Together, these changes reduce mobility and balance increasing the likelihood of falling while riding, mounting and dismounting. Emergency dis-

mounts are more difficult to perform and uncontrolled dismounts (falls) are much more dangerous.

It is, after all, the danger of falling that is a major concern. Not only is the pregnant woman more susceptible to falling, but also she is also more susceptible to injury if she falls. The results to the pregnancy may be severe. In the first three months of the pregnancy, the developing fetus is extremely well protected by the bony pelvis. Nevertheless, a severe fall could result in a miscarriage. In the second three months, the uterus moves out of the pelvis; and in the last three months the uterus is completely unprotected, and at major risk of blunt trauma in the event of a fall. Although blunt trauma to the uterus usually does not actually injure the baby, it often does result in pre-term labor, ruptured membranes, placental abruption, or even uterine rupture, all of which are serious and potentially life threatening complications.

Besides falling, various obstetric risk factors can make riding dangerous. Consider these guidelines for riding while pregnant:

Do Not Ride

In First Three Months If:

History of repeated miscarriage

After 20 Weeks of Gestation If:

High risk of pre-term labor:
Twins/multiple gestation
Prior pre-term labor

Prior pre-term ruptured membranes
Uterine structural abnormalities

At All During Pregnancy If:

History of prior pregnancy loss before 24 weeks
High-risk conditions during current pregnancy
Vaginal bleeding
Uterine contractions
Placenta previa
Previous cesarean section
Hypertension/toxemia
Other co-existent high-risk medical conditions

Warning Signs During Riding:

(Stop riding immediately and consult with your obstetrician)

Vaginal bleeding
Shortness of breath
Dizziness
Headache
Chest pain
Weakness
Uterine contractions
Reduced fetal movement
Vaginal leakage of fluid
Calf pain or swelling

For everyone else, personal decisions need to be made regarding individual benefits of riding versus the risk of falling and resultant injury. Factors to be considered are the type of riding, familiarity with the horse, and rider ability. While many should be able to safely ride until 20 weeks, extra care should be taken after 20 weeks due to reduced mobility and

balance as the baby grows.

Remember, there is no scientific evidence to support these recommendations. Frank discussions with your obstetrician regarding your individual risk factors weighed against your need to ride are essential to making a good decision. With proper preparation and precaution, many pregnant mothers to be should be able to safely ride during pregnancy. For others it will be best to take a break and resume riding after the baby is born. Consider your options and make your decision carefully. Finally, don't forget to wear your helmet. Good luck!

Web sites of interest:

www.acog.org (American College of Obstetricians and Gynecologists)

www.equusite.com/cgi-html/discussion/discussion001.html

www.womensportsfoundation.org (Sports and fitness-exercise during pregnancy)



G. Mark Montgomery MD, FACOG is an obstetrician/gynecologist in private practice for 20 years in Bryan/College Station, Texas. Although not a rider, he is an avid fan of equestrian sports from rodeo to eventing. Most of his central Texas patients participate in dressage, hunter jumping, or barrel racing, and he especially enjoys watching his son, Clark, a three-day eventer.

Cardiac Complications from Chest Trauma

Dianne Barnard, MD

As in any sport, riding accidents can cause injury to the heart. The heart can be affected by a direct trauma, (e.g. blow to the chest), or indirectly (head or chest injuries that interfere with oxygen delivery). Common equine-related chest injuries may include a well-placed kick to the chest or a blunt trauma resulting from a fall or a collision with a jump or other obstacle. Injury can be immediately apparent or may go unnoticed for months or even years. Forceful direct blows to the chest can cause mechanical damage such as a contusion or bruising of the heart muscle, rupture of the heart valves, or even direct damage to the major blood vessels feeding the heart. While most contusions are mild, some can cause electrical abnormalities or even a bulging or aneurysm of the heart wall that can cause serious disability or even death years from the time of the original injury.

Harder to explain, and perhaps even more devastating are the infrequent incidences or sudden death following a relatively minor blow to the chest. Although this type of incident was first described many years ago, only recently has the actual mechanism been explained. The cardiac electrical impulse follows a predictable path from the sinus node or pacemaker of the heart, located in the right atrium, over the AV node. This should be the only electrical bridge to the ventricles, which are the main pumping chambers of the heart. A blow deliv-

ered during certain critical times in the electrical cycle can produce heart block, an interruption of the AV node, or ventricular fibrillation (a lethal rhythm in which the ventricles just quiver and are unable to pump blood to the body). This phenomenon is called "commotio cordis" and has been well researched in relation to other sports, especially baseball.

As in all traumas, prevention is key. In baseball, for example, the use of a softer ball has been shown to materially decrease the incidence of heart damage; chest padding has not. Unfortunately, riding is less amenable to prevention of chest trauma. Eventing and show jumping participant's use of chest protectors can help prevent or lessen cardiac problems, but the average trail rider without chest protection is at risk. Prompt detection and treatment, therefore, are critical to decreasing serious sequelae to chest injury. Training participants in the delivery of basic first aid and having the presence of trained medical personnel at larger meets is a helpful first step. The availability of Automatic External Defibrillators (AED) at equestrian events can be critical in aborting arrhythmic death whether by natural causes (as in heart attack) or by trauma. Finally, careful medical evaluation following chest trauma is mandatory.

As in any sport, careful training and adherence to basic safety principles as well as preparation for unavoidable ac-

cidents can provide a maximum of enjoyment for all participants.

Dianne Barnard, MD is a cardiologist for Cardiovascular Associates, PC in Birmingham Alabama. She is one of only a few electrophysiologists in Birmingham and takes great interest in her patients and their welfare despite her busy schedule. Special thanks are in order for her taking time to complete this article for the AMEA.

EXECUTIVE DIRECTOR'S NOTE:

Automated External Defibrillators (AEDs) have been placed in airports, airplanes, shopping malls and many public places for use and have saved many lives. AEDs are simple to use and virtually fool proof. Training is easy and is taught in most First Aid and CPR classes. Please consider purchasing an AED for your equestrian facility. For more information, contact the AMEA.

National Electronic Injury Surveillance System (NEISS): HORSE RELATED INJURIES 2001

The American Medical Equestrian Association has followed horse-related injuries as reported by the National Electronic Injury Surveillance System (a division of the US Consumer Product Safety Commission) for many years. NEISS provides figures on horse related injuries that have been treated in hospital emergency rooms throughout the nation. Therefore, it is important to note that these figures do not include injuries treated on site, by private physicians, in freestanding clinics, not treated, or deaths without emergency room admission.

Information from Table I at the end of this article indicates that the number of injuries for 2001 (79,745) has increased by 650 or 0.8% greater than the 2000 figures. This is the highest number of horse related injuries ever recorded by NEISS. This increase, although small, continues the trend in increased number of injuries treated in emergency rooms from 1996, and is greater than the average number of injuries over ten years (1991-2000 {63,920}).¹

Food for Thought Questions:

1. Are there more actual injuries, or more injuries that are treated in an emergency room setting?
2. Are the injuries that occurred in 2001 more serious in nature than injuries in the pre-

vious years?

Not only have the total number of injuries increased in 2001, the body part percentages also continue to increase in the four most frequent sites of injury (lower trunk, head, upper trunk and shoulder) during 2001 when compared with the average percent of 1991-2000. The injuries to specific body areas (Table II) are similar between 2001 and 2000, with lower extremities decreasing and head increasing. However, compared with the ten-year average, there are marked differences. Trunk and lower extremity injuries decreased while upper extremities (head and neck) injuries increased. The remaining categories have so few numbers that conclusions cannot be made.

When comparing the type of injury (Table III), the percentage of internal injuries (2001) is higher than 2000, which was also greater than the 10-year figures. All other categories in Table III are similar to the 10-year figures. In Table IV, the percentage of females with equine related injuries continued to rise from the previous year (63% from 66.2%). As seen in 2000 data, 2001 continues the trend in which the younger horse persons (under the age of 45 years) show a decrease in percent of the injuries (Table V). Ages 44 years and above continued to be greater than the 10-year figures.

Food for Thought Questions:

1. Is the riding audience aging, or is there an influx of new middle age and above riders?
2. How much does fitness level and flexibility have to do with equine related injuries?
3. How many of these injuries were due to negligence of the facility owner or instructors?

Since 1996, the percentages of horse-related sports injuries have increased through the year 2000. The year 2001 saw a slight decrease in the percent of injuries, but the percent is still above the ten-year average. Home injuries increased over 2000 but still below their ten-year average. Farm injuries, in general, have shown a decrease over both the 2000 and the 10-year average figures. Public injuries percentages were greater than 2000, and almost equaled the ten-year average. Street injuries were similar to the previous year, but above the ten-year average. School injuries were so few that they were not listed.

Discussion

(See discussion AMEA NEWS December 2001 Vol. XII Number 4: 7-9.)

One-year figures do not determine trends. Head injuries are again higher not only above the ten-year figures but also above 2000. Head **area**

injuries continue to rise, and are well above the ten-year figures. The horse community has the means to prevent or minimize this area of injury through proper and regular use of ASTM SEI protective headgear. We should only expect to see a difference in these figures when the influential horse organizations take a strong lead in the promotion and use of these protective helmets.

*Doris Bixby Hammett, MD
103 Surrey Road
Waynesville, NC 28786*



Doris Bixby Hammett, MD is a retired pediatrician, founder and Board of Directors Emeritus of the AMEA. Her work through the AMEA, U.S. Pony Clubs and other organizations has significantly increased the safety of equestrian sports.

Body Part Injured Table I

Body Part	%91-2000	%2000	%2001
Lower Trunk	15.5%	17.5	18.2%
Head	11.87%	14.0%	14.4%
Upper Trunk	10.0%	10.4%	10.6%
Shoulder	7.7%	7.3%	8.6%
Wrist	7.1%	6.7%	5.5%
Lower Arm	5.4%	5.1%	4.7%
Face	5.2%	4.0%	4.6%
Ankle	5.2%	4.6%	4.7%
Lower Leg	4.5%	5.1%	4.2%
Knee	4.0%	3.5%	3.0%
Finger	4.1%	3.7%	3.9%
Foot	3.5%	2.6%	2.5%
Elbow	2.8%	2.0%	3.3%
Hand	2.4%	1.6%	1.6%
Neck	2.5%	3.3%	3.1%
Upper Leg	2.2%	2.2%	1.9%
Upper Arm	1.8%	2.5%	2.2%
25-50% Body	1.3%	1.3%	1.0%
Toe	0.8%	0.7%	0.5%
Mouth	0.7%	1.2%	0.4%
Total Known	687,466	78,882	79,348

The injured body part with less than 1% is omitted.

Body Area Table II

YEAR	TOTAL	%91-2000	2000	%2000	2001	%2001
Trunk	232177	33.8%	22254	28.2%	23035	29.0%
U Extremity	161350	23.5%	22858	29.0%	23589	29.7%
L Extremity	138938	20.2%	14753	18.7%	13428	16.9%
Head	125710	18.3%	15188	19.3%	15694	19.8%
Neck	17007	2.5%	2612	3.3%	2488	3.1%
25-50% Body	8839	1.3%	995	1.3%	773	1.0%
All Body	3445	0.5%	222	0.3%	341	0.4%
Total Known	687466		78882		79348	

Trunk includes upper trunk, lower trunk, pubic area

Upper extremity: shoulder, wrist, lower arm, finger, upper arm, elbow, hand.

Lower extremity: upper leg, lower leg, ankle, knee, foot, toe.

Head: head, face, mouth, dental, ear, eyeball.

Type of Injury Table III

YEAR	91-2000	%91-2000	2000	%2000	2001	%2001
Type						
Contus/Abras	207177	30.3%	22431	28.5%	22249	28.1%
Fracture	197092	28.8%	20642	26.2%	22186	28.0%
Sprain/Strain	113005	16.5%	14001	17.8%	13120	16.6%
Laceration	53737	7.9%	5361	6.8%	4986	6.3%
Concussion	26007	3.8%	3857	4.9%	2998	3.8%
Internal Injury	27698	4.1%	4046	5.1%	5582	7.0%
Dislocation	14490	2.1%	2095	2.7%	1703	2.1%
Hematoma	6709	1.0%	495	0.6%	1183	1.5%

The type of injury with less than 1.0% injuries is omitted.

Gender Table IV

Gender	91-2000	%2000	%2001
Male	40.0%	37.8%	36.9%
Female	60.0%	62.2%	63.1%
Total	688982	79095	79669

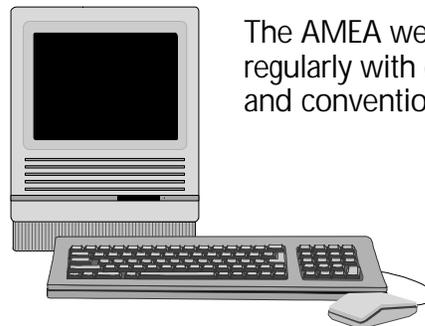
Age Table V

	91-2000	%2000	%2001
0-4 Years	1.8%	1.2%	1.7%
5-14 Years	20.0%	19.8%	17.8%
15-24 Years	19.6%	17.2%	16.9%
25-44 Years	40.1%	37.6%	37.8%
45-64 Years	16.5%	21.6%	22.9%
65+ Years	2.0%	2.7%	3.0%

Location Table VI

	91-2000	%2000	%2001
Sports	34.4%	41.1%	39.3%
Home	39.5%	31.0%	35.4%
Farm	12.0%	15.0%	10.6%
Public	11.9%	10.1%	12.0%
Street	1.7%	2.7%	2.6%
School	0.4%	0.1%	0.0%
Total known		49018	49464
TOTAL	127892	79094	79746

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The AMEA website is updated regularly with current activities and convention information.

Commentary on Proposed Legislation Senate 2681, Dodd

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 the legislation 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 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.

Since it appears that S2681 was 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 DOT. The latter, however, 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 provisions after the legislation was adopted, 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. Whether the changes actually improved the existing products made to Snell and ASTM from safety or consumer points of view I will leave to the experts on the subject.

Both Snell, which certifies products with internal testing, and ASTM, which writes the standards and leaves testing/quality control/and consumer issues to impartial outside agencies, 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 the announced recalls by CPSC.

This self-certification problem was much less prevalent under the old system. Anyone buying a Snell or ASTM/SEI bike helmet was assured of a quality product. *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 many more false certifications now than anyone would have believed

possible. Why? Manufacturers whose bike helmets were certified 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 helmets? As S. 2681 is written, there are no provisions for a certification system, a quality control system, or mandatory liability insurance against the chance of defective products. There are no stated penalties for misrepresentation of products. 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. A good example of this is in the area of highway safety, where I work for a living.

In states where safety belt use isn't enforced until after a crash occurs, belt use is sporadic. Here in New York, a motorist can be pulled over for the sole violation of having an unsecured belt. The percentage of use before the law was in the 40th percentile; since primary enforcement, it has risen to over 80%. Apparently the Dodd bill will leave enforcement of a new helmet standard requirement, if any, to the individual states, allowing them to choose sanctions, if any. Would such a system be an improvement to the safety of the riding community? Will it actually keep vanity helmets which are completely unprotective out of the U.S. market? How?

One of the Bill's provisions requires that the final new

standard include "a provision to protect against the risk of helmets coming off the heads of equestrian riders" and "provisions that address the risk of injury to children."

The ASTM standard includes excellent retention system tests, and if (a very big IF) riders follow fitting instructions which come with their helmets and actually fasten their jaw straps so they contact the jaw, as instructed, helmets remain where they belong on impact. But until horse sports organizations take responsibility for inspecting helmet fit before allowing their members to ride, we will continue to see straps so loose that helmets can be ejected at the very moment that they are needed. With sports incorporating warm-up stewards, ring stewards and technical delegates, this is a very simple problem to correct. Judges can also clearly see a loose jaw strap, and if they let the ring steward know that they will mark down for such a violation of the rules ("properly secured" is generally in the rule language) the steward can pass the word to the competitors, who will then comply, according to my personal experience as a judge, and the accounts of other conscientious judges.

How would I alter S 2681? 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 non-conforming 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.

Yes, there is a risk of injury to children who ride. But our statistics show that the age group most at risk includes the riders in ages 25 to 44. Many young riders are already required by organizational rules to use ASTM/SEI helmets, but discard them when they leave the ranks of Juniors. A good use of the money S 2681 appropriates would be directed at educating the new "most at risk" group. There is still a prevailing belief among riders that jumping and speed sports present the greatest risks. Yet about 75% of the injuries occur to riders in more placid-seeming disciplines. We also need to get that message out to riders.

*Dru Malavase
Board of Directors, AMEA
Chair, ASTM Equestrian Helmet
Committee*

**American Medical Equestrian Association and Safe Riders' Foundation
CONVENTION 2002**

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Convention Fee \$ _____
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 The AMEA and SRF are funded solely by dues, donations and sponsorships.

TOTAL (501c3 Tax Deductible) \$ _____

NOTE:
 If you plan to attend USEA activities that continue though December 8, please go to www.eventingusa.com for a registration form. If you pay the AMEA registration, the USEA registration fee is waived! Write AMEA in the first two categories of registration and simply pay for additional USEA activities you will attend.

*These fees do not include hotel registration. Please call:
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**DEADLINE: NOVEMBER 25, 2002
 \$25 late fee for walk-up registration**

If additional copies of the registration form are needed, please call toll free 1-866-441-AMEA (2632), e-mail amea@charter.net, or make photocopies. Thanks.

Commentary on Proposed Legislation: Senate 2681, Dodd
NEISS: Horse Related Injuries 2001
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Pregnancy — To Ride or Not To Ride
President's Message
AMEA Vision
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Rusty Lowe, Executive Director
P.O. Box 130848
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American Medical Equestrian Association



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