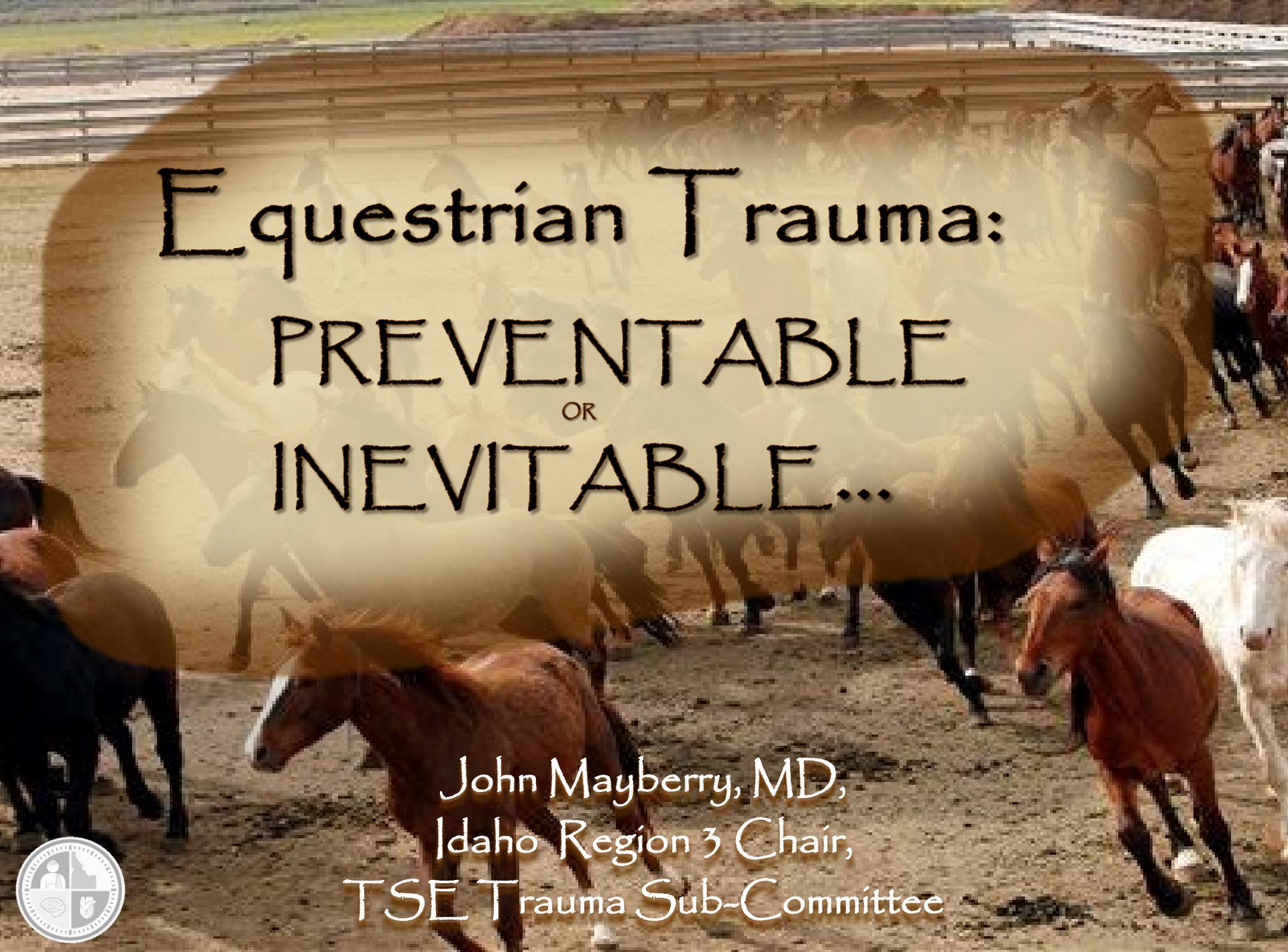




**IDAHO TIME SENSITIVE
EMERGENCY SYSTEM**
TRAUMA | STROKE | STEMI

Equestrian Trauma Prevention

On behalf of the Region 3 TSE Trauma Sub-committee



Equestrian Trauma:
PREVENTABLE
OR
INEVITABLE...

John Mayberry, MD,
Idaho Region 3 Chair,
TSE Trauma Sub-Committee



Once Upon A Time... Before TSE



THE IDAHO COWBOY

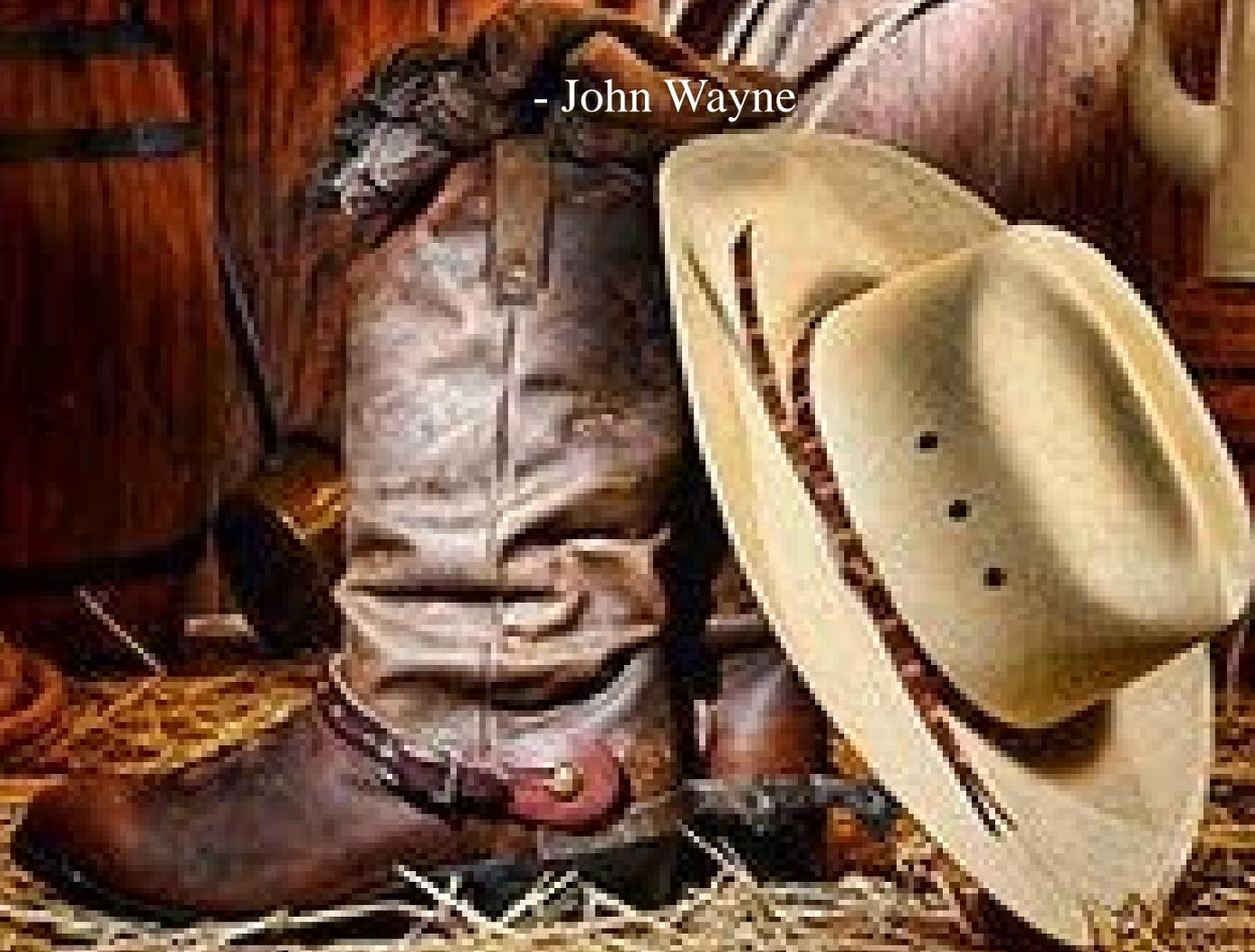


Idaho is Horse Country



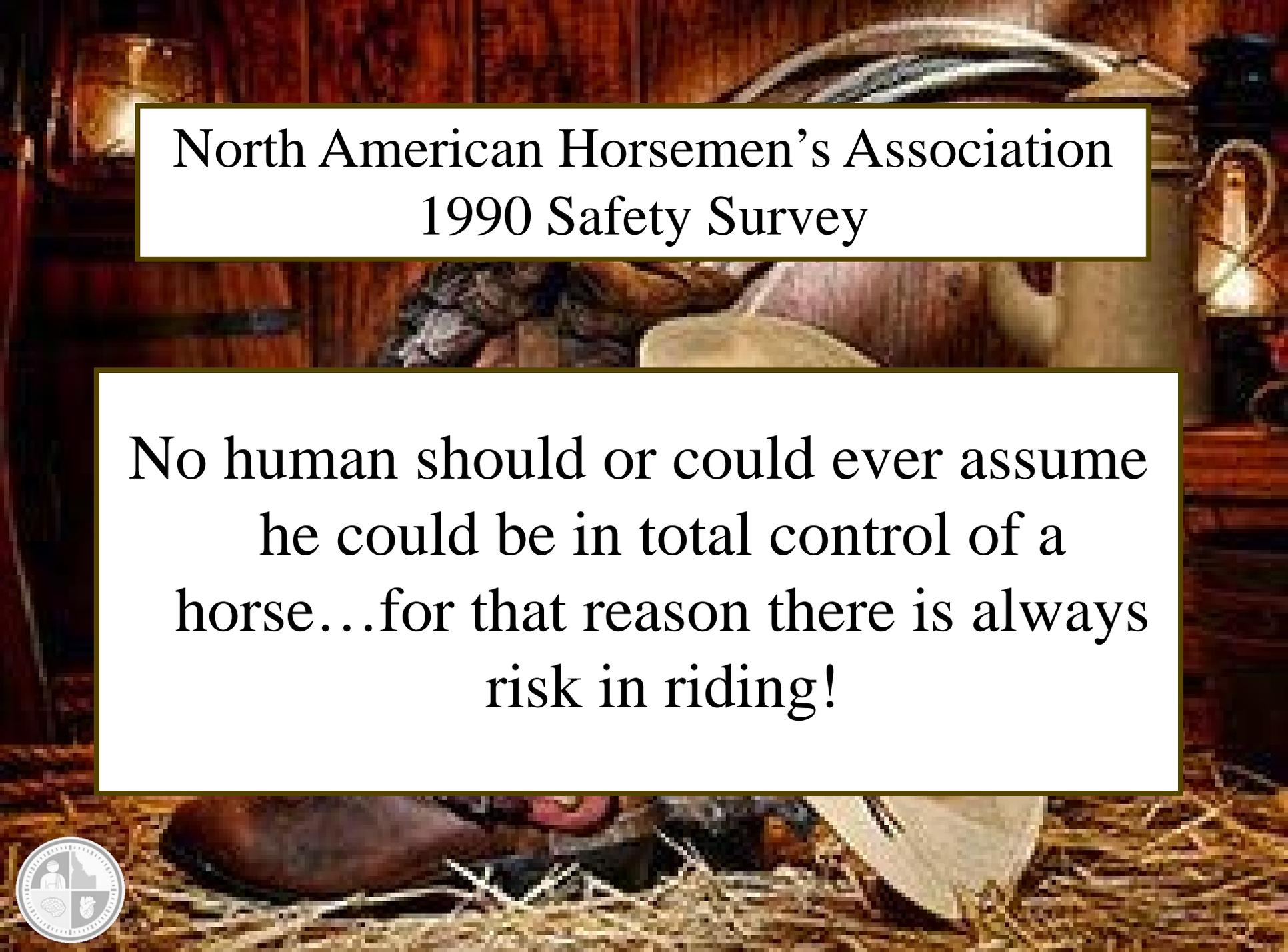
Courage is being scared to Death
AND
Saddling up anyway.

- John Wayne



74,000
ER
Visits
~20%
Pediatric





North American Horsemen's Association 1990 Safety Survey

No human should or could ever assume
he could be in total control of a
horse...for that reason there is always
risk in riding!



Kentucky

1994-1998

75 patients (.75% of all trauma)

14% helmet use

5 deaths

Injury During Contact with Horses: Recent Experience
with 75 Patients at a Level I Trauma Center

Griffen, et al. S Med J. 2002 Apr;95(4):441-445.



“It is clear that injuries are inevitable as long as people ride or work around horses”

Injury During Contact with Horses: Recent Experience with 75 Patients at a Level I Trauma Center

Griffen, et al. S Med J. 2002 Apr;95(4):441-445.



Pony Clubs

1982-1986

46, 351 riders (6-21yrs)

Helmet use required

160 incidents

0.06 incidents/10,000 hours activity

Accidents in Equestrian Sports

Bixby Hammett, D.M. AFP 1987 Sept;36(6):209-214.



Injuries Sustained in 160 Horse-Related Accidents

<i>Type of injury</i>	<i>Number</i>					<i>Total</i>	<i>Percent</i>
	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>		
Bruise/abrasion	11	15	15	13	8	62	29.3
Closed fracture	8	8	9	13	8	46	21.7
Sprain/muscle pull	7	7	6	8	3	31	14.6
Concussion/unconscious	4	4	5	5	3	21	9.9
Laceration requiring sutures	9	3	2	2	1	17	8.0
"Shook up"*	4	2	2	2	1	11	5.2
Dislocation/separation	0	3	2	4	1	10	4.7
Laceration not requiring sutures	3	3	0	0	1	7	3.3
Open fracture	0	1	2	2	0	5	2.3
Internal injuries	0	0	0	1	1	2	0.9
<i>Total</i>	<u>46</u>	<u>46</u>	<u>43</u>	<u>50</u>	<u>27</u>	<u>212</u>	

*—Emotionally upset but without evident medical injury.



Accidents in Equestrian Sports

Bixby Hammett, D.M. AFP 1987 Sept;36(6):209-214.

Activities at the Time of 130 Riding Accidents

<i>Activity</i>	<i>Number</i>					<i>Total</i>	<i>Percent</i>
	<i>1982</i>	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>		
Cross-country	2	9	9	12	6	38	29.2
Stadium jumping	4	2	4	2	1	13	10.0
Games	2	1	2	0	0	5	3.9
Dressage	1	1	0	1	1	4	3.1
Vaulting	0	1	0	2	0	3	2.3
Hunter	0	3	0	0	0	3	2.3
Fox hunting	0	0	0	1	0	1	0.8
Other	17	11	9	12	14	63	48.5
<i>Total</i>	<u>26</u>	<u>28</u>	<u>24</u>	<u>30</u>	<u>22</u>	<u>130</u>	



Accidents in Equestrian Sports

Bixby Hammett, D.M. AFP 1987 Sept;36(6):209-214.

A group of horses of various colors (white, brown, grey) are running across a green grassy field. The background is a blurred line of trees, suggesting a park or riding area. The image is framed by a white border.

**Incidents *decrease* with
increased knowledge, skill, and ability.**

**Years of experience did NOT
equal skill level.**

Accidents in Equestrian Sports
Bixby Hammett, D.M. AFP 1987 Sept;36(6):209-214.



The Pacific Northwest Horse Enthusiast Survey

679 respondents

- Avg. 20 hours riding/month, 24 years experience
- 59% helmet use
- 80% experienced @ least 1 injury during their career
- 20% serious injury
- Risk of injury = 1.68/10,000 hours riding



The Pacific Northwest Horse Enthusiast Survey

Experience Level	Total Riders	Injured Riders	Seriously Injured Riders
Beginner	67 (9%)	36 (54%)	6 (9%)
Intermediate	275 (41%)	220 (80%)	53 (19%)
Advanced	248 (37%)	211 (85%)	54 (22%)
Professional	84 (13%)	78 (93%)	31 (37%)



The Pacific Northwest Horse Enthusiast Survey

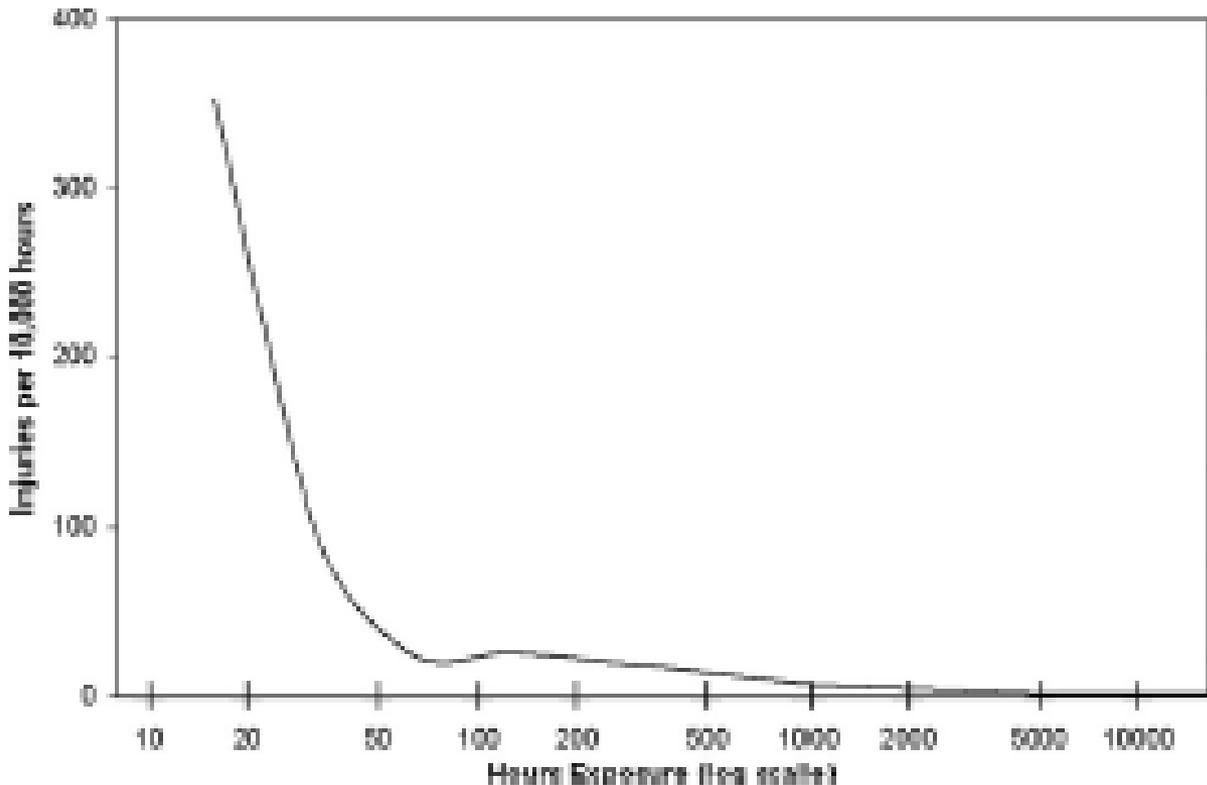


Fig. 3. *Incidence rate of injuries (per 10,000 hours of HRA) versus the number of hours of HRA expressed on a logarithmic scale.*



The Pacific Northwest Horse Enthusiast Survey

- Equestrian injury is cumulative, *nearly* inevitable
- Preventable by experience/skill
- Novice Equestrians are fertile ground



Oregon Injuries: Cost, Disabilities, & Causes

OHSU 2001 - 2008

227 equestrians/229 injury events

2 – 75 years, 2/3 female



Oregon Injuries: Cost, Disabilities, & Causes

Mean LOS 5 days

360 ICU days

127 surgeries in 60 patients



Oregon Injuries: Cost, Disabilities, & Causes

Mean Hosp Charge \$30K
(\$3K - > \$500K)

Total \$69 million



Oregon Injuries: Potentially Preventable?

Only 33% wore helmets

Unwise horse/rider pairing (29%)

Poor riding conditions (21%)

Equipment failure (9%)



Oregon Injuries: Disability

59% Long-term disability

Decreased ability to perform ADLs

Decreased social function

Higher bodily pain



Oregon Injuries: 4 Prevention Themes

Personal Protection
Durable Tack
Safe Riding Environment
Horse and Rider



Pre-ride Checklist



- ✓ Am I wearing adequate protective gear?
- ✓ Is the tack durable and well-fitted to the horse?
- ✓ Are the environmental conditions (weather, ground footing) safe for riding?
- ✓ Does the area contain unfamiliar objects, animals, or people that may alarm the horse?
- ✓ Is the horse healthy and prepared for riding? Are there physical conditions that may cause discomfort, e.g. skin, teeth, digestive, extremity conditions? Is the mood or behavior of the horse uncharacteristic or concerning?
- ✓ Am I healthy and prepared for riding? Do I have an emotional or physical condition that may impair my ability to safely ride this horse?
- ✓ Is there a healthy respect between you and your horse? Do you have concerns about your ability to assert yourself with this horse?

(The American Surgeon, 2013)



Pacific Northwest Advice

Decisions

- Don't ride an unfamiliar horse alone
- Listen to your intuition
- Don't let others agenda get you into a complex situation.
- If you don't feel that the conditions are right, then don't ride
- Make sure your skill level and the horse skill level match
- What's your back up plan...



Pacific Northwest Advice

Equipment

- Wear a helmet
- Wear long pants and utilize non skid gloves
- Don't forget to address your horse's hooves
- Need a helmet that gives you peripheral vision
- Use stirrups with some form of release mechanism and appropriately sized for the rider
- Boots with a heel are the best safety item
- Carry a cell phone or even better... a GPS tracker



Pacific Northwest Advice

Good quotes

- “Expect the unexpected.”
- “Don’t show off in front of others.”
- “Wear the right safety gear and slow down. It’s not worth it. It might ruin your life forever.”
- “**Green** on **Green** makes for **Black** and **Blue**...dangerous combination.”



Equestrian Injury: Preventable or Inevitable?

Organized Horse Clubs/Instruction for Novices
Emphasis on Skill Level more than Experience

Helmets, helmets, helmets!

Optimal rider/horse pairing

Good riding conditions

Know your environment

Durable Tack



YOU DIDN'T GET BUCKED OFF.. YOU FELL OFF

**I HAVE A HORSE THAT CAN TEACH YOU THE
DIFFERENCE**





IDAHO TIME SENSITIVE EMERGENCY SYSTEM

TRAUMA | STROKE | STEMI

For more information contact:

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