

# Human Incidents and Injury within the Hippotherapy Milieu: Four Years of Safety Study Data of Risk, Risk Management, and Occurrences

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Thank you to all who took the time over these four years and have participated in answering survey questions!

## INTRODUCTION

- The introduction of a Research Review paper from Spinal Cord<sup>1</sup> claims "Injuries are an inevitable consequence of horse riding" and the conclusion of this same paper asserts "Horse riding is a dangerous sport."
- Equine liability laws<sup>2</sup> define "inherent risk" with equine activity due to equine propensity that can cause harm and unpredictability of equine reaction.
- The American Medical Equestrian Association\* believes records of horse-related human accidents provide means to learn about prevention but most activities do not keep records of injuries and studies seek different information with no agreement of what should be reported making comparison difficult.<sup>3</sup>
- Does the risk of an equine milieu outweigh the benefits? Is hippotherapy a safe treatment option? Public perception of equine risk and the deficiency of safety research specific to hippotherapy is capable of impacting research approval, insurance coverage, client referrals and more.

## STUDY AIMS

- Determine prevalence of hippotherapy incidents and injury.
- Identify primary risk management strategies utilized by providers.
- Represent results of a consistent and ongoing reporting tool for hippotherapy safety data.

## METHOD

### Online Survey

Survey Monkey was utilized for data collection:

Responses were anonymous to encourage participation but also limited to one per internet address to prevent data duplication.

- The survey consisted of 18 questions: (2) open-ended + (16) forced response.
- Survey questions collected data on credentials, experience, number of hippotherapy treatments per year, therapist training, risk management policies, emergency procedures, occurrence rate and record of human incident or injury.
- Each year represents four separate surveys with relevant information collected over a 2-month period starting in December for the given year and ending in January.
- Content of the questions remained unchanged for all collection years.
- Survey data collection is planned to remain ongoing.

## STUDY RESULTS

### Definition of Hippotherapy

Hippotherapy is a professional treatment strategy utilizing equines and employed by credentialed therapists (OT, PT and SLP) having a strong background in movement analysis and additional knowledge of the influence of equine motion. Common practice from all years of survey respondents showed approximately 2/3 working out of a NARHA center and 1/3 in private practice. Year after year, the top equipment utilized in sessions was a bareback pad, halter, and lead rope.

### Survey Data

- Each survey year remained fairly consistent with type of respondents: 1/3 OT, 1/2 PT, 1/10 SLP and the remaining (3%) were administrators. These numbers correspond closely to AHA (American Hippotherapy Association) membership by discipline, demonstrating a representative sample.
- Approximately 90% of respondents were members of AHA and approximately 80% of respondents were members of NARHA (www.narha.org).
- N = Number of Total Survey Respondents per year: 2007 N=131; 2008 N=142; 2009 N=28; 2010 N=124

Top 3 Risks by Year	#1 Concern	#2 Concern	#3 Concern
2007	Equine Behavior	Weather Conditions	Not enough help
2008	Equine Behavior	Weather Conditions	Not enough help
2009	Equine Behavior	Not enough help	Weather Conditions
2010	Equine Behavior	Weather Conditions	Not enough help

Top 3 Risk Management	#1 Strategy	#2 Strategy	#3 Strategy
2007	3-way tie: Orientation to HPOT Roles	3-way tie: Screened and Trained Equines	3-way tie: Extreme Weather Cancellation
2008	Staff Orientation	Screened and Trained Equines	Orientation to HPOT Roles
2009	Screened and Trained Equines	Orientation to HPOT Roles	Staff Orientation
2010	Screened and Trained Equines	Staff Orientation	Extreme Weather Cancellation

	2007	2008	2009	2010
# of Tx sessions Represented	46,656 (mean=356 per therapist)	48,053 (mean=338 per therapist)	10,086 (mean=360 per therapist)	39,060 (mean=315 per therapist)
# Emergency Dismounts	127 (1x per 367 Tx) 49% had no Emergency Dismounts	148 (1x per 325 Tx) 52% had no Emergency Dismounts	40 (1x per 252 Tx) 39% had no Emergency Dismounts	111 (1x per 352 Tx) 56% had no Emergency Dismounts
# of Incidents Reported that required no more than basic first aid	17 (1 every 2744 Tx) -8x horse nip, 4x kick, 2x stepped on, 1x bumped, and 2x strain during client assist	11 (1 every 4368 Tx) -3x horse bite, 4x horse kick, 2x horse bumped, 1x stepped on, and 1x strain with client assist	5 (1 every 2017 Tx) -2x horse bite, 1 horse kick, 2x horse spook	6 (1 every 6510 Tx) -2x horse nip, 2x horse stepped on foot, 2x guided fall w/ no injury
# of Injuries Reported that required more than basic first aid	4 (1 out of 11,664 Tx) -All were session assistants: stepped on x3 and cut x1 and all went to doctor on own	3 (1 out of 16,018 Tx) -Client fell during mount transfer x2 and client spooked horse x1 w/ 1 hospital stay and all returned to hippotherapy	1 (1 out of 10,086 Tx) -Therapist sprained Ankle and went to doctor on own	2 (1 out of 19,530 Tx) -Therapist injured positioning client went to emergency room w/ dx of shoulder bursitis and one client bruised and choose not to return to hippotherapy

## OTHER CONSIDERATIONS

The National Electronic Injury Surveillance System (NEISS) provides the only national figures available on horse-related injuries that go to hospital emergency rooms and medical personnel may not know or be interested in the events involved in the injury<sup>4</sup>. This would make it difficult to determine hippotherapy incidents from the NEISS data system.

A Cambridge University study showed the relationship of one injury for 100 hours of leisure riding<sup>4</sup> and most were contusions or abrasions (28.7%) and fractures (28.6%) with concussions accounting for 4-8% of injuries<sup>4</sup>. NEISS reports that only 4% of persons injured during contact with horses require hospitalization<sup>5</sup>. The US Pony Club estimates in 5 years, only 150 injuries occurred among a population of 46,351 riders aged 6 to 21 years and most of these injuries were bruises and abrasions<sup>6</sup> (1 per 309 riders).

Market insurance (a primary insurer for the equine assisted activities and therapy industry) when asked about incidents and injury, would not disclose numbers, but admitted incidence was very low and in four years, no survey respondent had liability claims.

## SUMMARY and CONCLUSION

Equine Behavior was identified as the top risk and most incidents resulted from horse nips or bites, a horse kick, stepping on a foot, or bumping a person at a mean rate of 1 incident per 3,689 sessions. Staff, rather than clients, were most frequently involved with equine incidents and required no more than basic first aid.

Top risk management strategies were screening and training hippotherapy equines, orientation for staff to hippotherapy roles and cancellation of therapy during extreme weather. Emergency dismounts are completed by about 50% of surveyed therapists and the mean average is 1 emergency dismount per every 338 sessions.

Four years of survey data represent 143,855 hippotherapy sessions correlating to a mean injury rate of 1 per 14,386 hippotherapy sessions. In four years, the 10 reported injuries requiring further medical assistance occurred from an equine stepping on a foot, client falls, and therapist body mechanics assisting clients. Six of the ten injury occurrences were with staff. Two client injuries were bruising or occurred from a fall, and two were mounting injury.

Hippotherapy frequently occurs in an enclosed area with a trained horse, a trained horse handler and client assistance. The hippotherapy injury rate (1/14,386) is significantly lower compared with recreational riders (1/100). In four survey years, no injury resulted in a liability insurance claim.

## REFERENCES

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