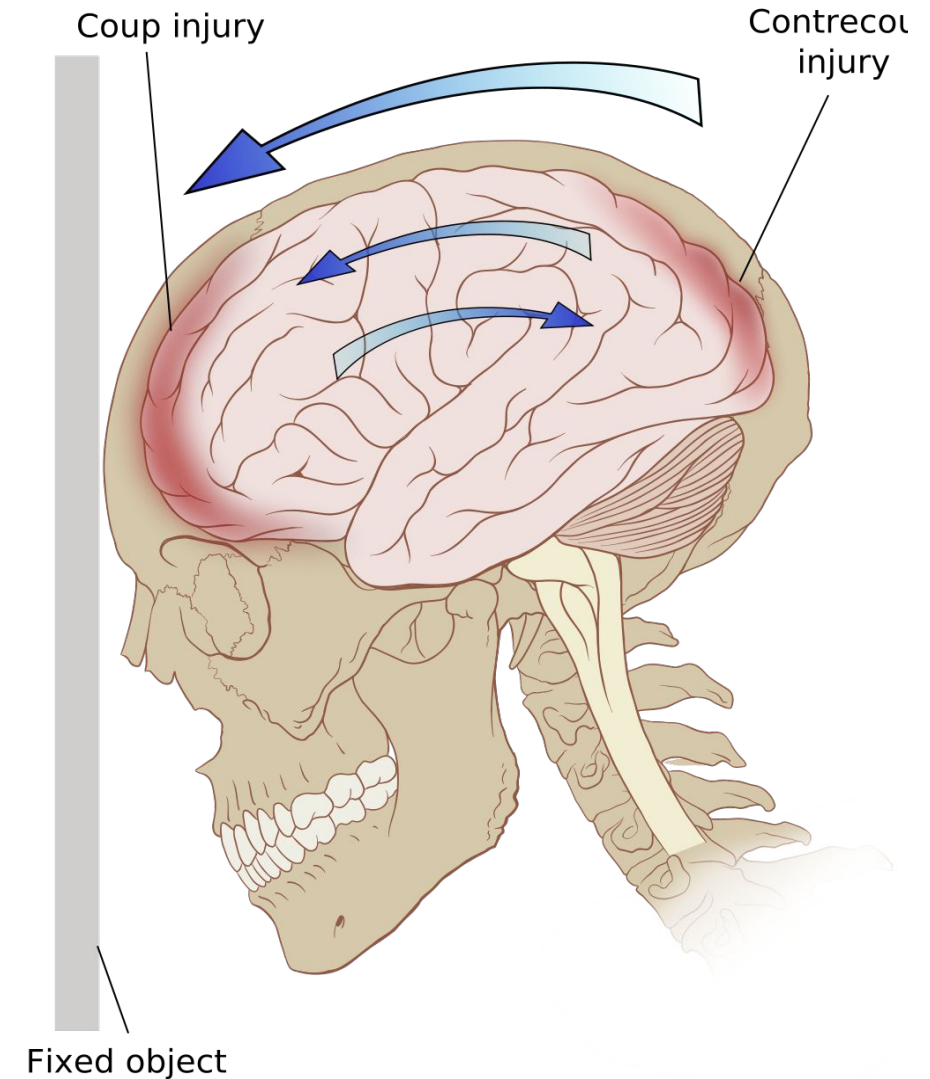


Concussions



What is a Concussion?

- A type of traumatic brain injury (TBI) that causes the head and brain to move back and forth rapidly.
- Can be caused by a
 - bump,
 - blow,
 - jolt to the head or
 - a hit to the body
- The brain bounces or twists inside the skull, damaging the brain cells, and creating chemical changes in the brain that impair nerve cell function.



en.wikipedia.org/wiki/Coup_contrecoup_injury

https://youtu.be/Sno_0Jd8GuA

Why Should We Be Concerned?



- Equestrians make up 45% of all the patients admitted to hospitals with sports-related TBI's.
- Horseback riding has the highest mortality rate of all sports.
- Head injuries account for 50% of horse-related injuries that lead to hospitalization.

Observable Signs of a Concussion

The individual

- cannot recall events *prior to* or *after* the hit or fall
- appears dazed or stunned
- forgets an instruction, appears confused, or is unsure about what is happening



Observable Signs of a Concussion Cont.

The individual

- moves clumsily
- answers questions slowly
- loses consciousness (*even briefly*)
- shows mood, behavior, or personality changes.



Reported Signs of a Concussion

The individual reports:

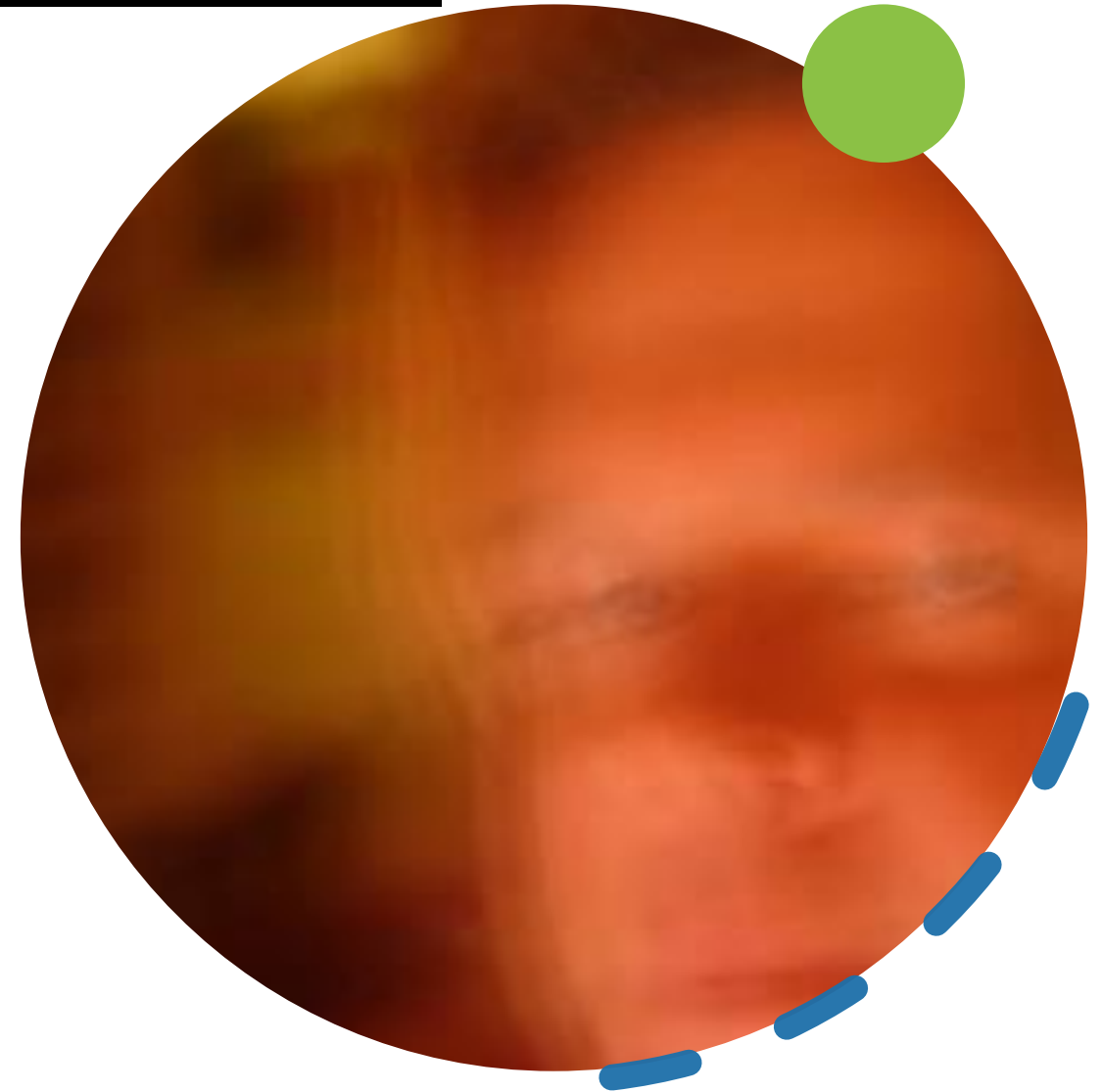
- headache
- nausea or vomiting
- balance problems or dizziness
- double or blurry vision



Reported Signs of a Concussion Cont.

The individual reports

- being bothered by light or noise
- feeling sluggish
- concentration or memory problems
- not “feeling right”



What Should You Do If You Suspect a Concussion?

- Remove the rider from the horse
- **Do not** allow the rider to remount.
- Ensure the rider is evaluated by a health care professional who is experienced in diagnosing concussions.
 - **Do not** try to judge the seriousness of the injury yourself.



What Should You Do If You Suspect a Concussion? Cont.

- Write down and share the following information:
 - The cause of the injury and the force of the hit or blow to the head/body
 - Any loss of consciousness and length of time
 - Any memory loss
 - Any seizures
 - The number of previous concussions
- Allow the rider to return to riding **only** with permission from an appropriate health care professional.



Recovery:

- The steps to recovery can take a of couple days or a few weeks. Some individuals have symptoms that last a month or longer.
- Rest the first few days after the injury. Physical and cognitive activities should be limited. Avoid activities that could cause another injury brain, get a good night's sleep and take naps.
- Light activity usually starts when the individual begins to feel better. These are activities at home that avoid causing another injury to the brain.




Recovery Cont:



- Moderate activity usually can occur when symptoms are mild
-
- Regular activity can occur when symptoms are completely gone.
- For equestrians, healthcare providers often advise waiting until symptoms have completely resolved, then returning to light cardio workouts then easing back into riding.

Post Concussive Syndrome (PCS)

- A set of symptoms that may continue for weeks, months, or a year or more after a concussion.
- It is a minor form of Traumatic Brain Injury (TBI).
- A diagnosis may be made when symptoms from a concussion last for more than 3 months.

A photograph showing the lower half of a person standing on a white, textured mat. The person is wearing grey leggings and is barefoot. Their hands are resting on the mat, palms down. The background is a bright, out-of-focus indoor space.

Post Concussive Syndrome (PCS) Cont.

- Symptoms may get worse over time
- PCS usually resolves over time.
- There is no treatment, but symptoms can be treated through:
 - Medications
 - Physical and behavioral therapy

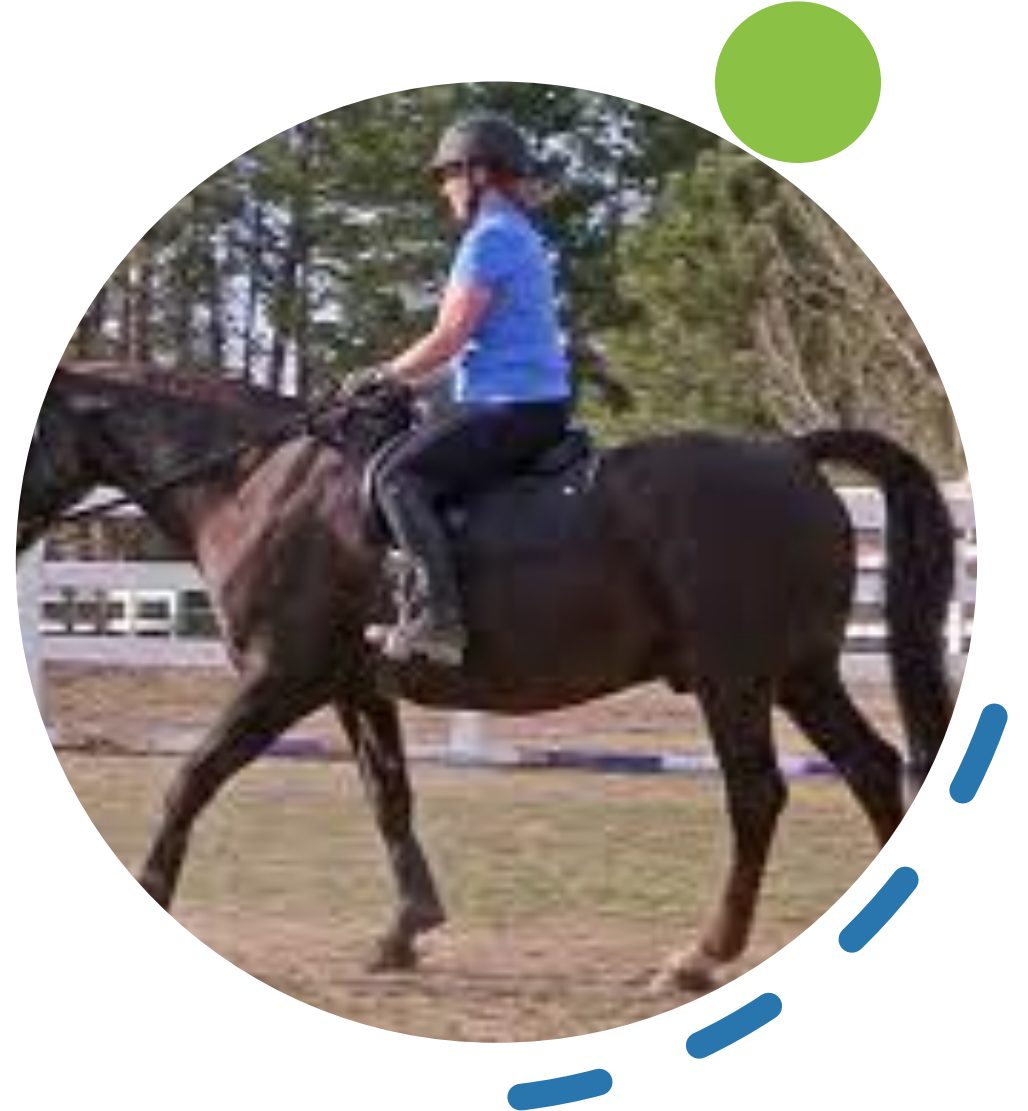
Post Concussion Syndrome (PCS)



Image from <https://elizabethsandelmd.com/insights/what-is-post-concussion-syndrome/>

Secondary Injury

- Can occur when an individual returns to regular activities before fully recovering
- If an individual has a second concussion before the first concussion has fully healed, the second impact can cause swelling, excess fluids or tissue shift in the skull/brain.
- If a rider waits for complete recovery prior to returning to riding, there is more than a 90% chance that there will be no long-term side effects.



Helmets

- It is very important that the helmet is fit and worn correctly.
- *Always* fasten the safety harness on your helmet.
- If you have a hard blow impact while wearing your helmet, immediately replace it with a new model.
- Helmet manufacturers generally recommend that your helmet be replaced every 5 years.









Helmets

- If you purchase your helmet online, check the manufacture date.
- Purchasing a used helmet can be very risky and is not recommended.
- A ponytail or different hairstyle can affect the fit of your helmet.
- Helmets should be worn with the visor parallel to the ground.
- Do not wear a helmet designed for use in other sports when riding.



Virginia Tech Helmet Lab Releases New Equestrian Helmet Ratings

- <https://www.helmet.beam.vt.edu/equestrian-helmet-ratings.html>

| | | |
|---|--|---|
| <p>#1</p>  <p>CHAMPION REVOLVE X-AIR MIPS</p> <p>Cost: \$460 Score: 1.46</p> <p>★★★★★</p> | <p>#2</p>  <p>TUFFRIDER CARBON FIBER</p> <p>Cost: \$58 Score: 2.43</p> <p>★★★★★</p> | <p>#3</p>  <p>IRH EQUI-LITE</p> <p>Cost: \$50 Score: 2.75</p> <p>★★★★☆</p> |
| <p>#4</p>  <p>CHARLES OWEN 4STAR</p> <p>Cost: \$375 Score: 2.91</p> <p>★★★★☆</p> | <p>#5</p>  <p>TIPPERARY SPORTAGE HYBRID</p> <p>Cost: \$150 Score: 2.96</p> <p>★★★★☆</p> | <p>#6</p>  <p>TRAUMA VOID EQ3 MIPS</p> <p>Cost: \$249 Score: 3.05</p> <p>★★★★☆</p> |

Ovation Protégé Equestrian Helmet Recall



- December 23, 2022- Dover Saddlery published the recall on their Manufacturer Recall list on their website.
- February 9, 2023- English Riding Supply (the importers) and Ovation published the recall.

Ovation Protégé Equestrian Helmet Recall

“Consumers should immediately stop using the recalled Ovation Protégé helmets and return them to the retailer they were purchased from or to any Ovation authorized dealer for a free replacement Ovation Deluxe Schooler helmet or contact English Riding Supply for a \$60 refund.

The replacement helmet or refund will be provided upon return of the recalled helmet OR proof of destruction of the recalled helmet. (Consumers are not required to return the physical helmet to English Riding Supply.) To destroy recalled helmets, consumers should cut off the harness straps. Consumers should email a photo of the cut harness and a photo of the interior manufacturing label, clearly showing the manufacturing date and serial number, to helmets@englishridingsupply.com. The manufacturing label is located on the interior foam liner underneath the comfort liner, so consumers will need to remove the comfort liner to access the manufacturing label.”

from <https://www.englishridingsupply.com/ovation-protège-equestrian-helmet-recall/>

How to put a riding helmet on:

1. If a rider has long hair, it should be worn in a low ponytail.
2. Place the forehead into the front of the helmet
3. Using a rolling motion, push backwards to feel the helmet “lock” into the base of the skull
4. Run a finger around the rim of the helmet to check for gaps

How to put a riding helmet on (Cont.):

5. The helmet should sit level on the head, covering the forehead and leaving 1 inch above the eyebrows.
6. With the chin strap unfastened, the helmet should not rock.
7. Adjust the chin strap. It should sit just under the chin and gently touch the bottom of the ear lobe.
8. You should be able to put a finger between the strap and the chin.

[How to Fit a Horseback Riding Helmet \(Good and ... - YouTube](#)



Too Small

Too Big

Perfect!



Image from <https://botcanada.com/sizing-charts/helmet-sizing/>

What it was like

- Headaches/migraines
- Difficulty with mental tasks
- Trouble balancing
- Dizziness when tilting head back

What I did to recover

- Rest, rest and more rest
- Removed extra stimuli from workspaces (dark, quiet room)
- PT for posture/strength in neck & shoulders

What I wish others realized

- It's not a linear process in healing and that some days would be good followed by worse days
- You can't just "push" through it

What surprised me

- How long it took to feel normal again

<https://youtu.be/L2wGn1w86Os>



We've focused on riding today.

What other activities at your center could result in a concussion?

References

- [Concussions: Signs, Symptoms, and Helmet Safety | US Equestrian \(usef.org\)](#)
- https://www.cdc.gov/headsup/basics/concussion_recovery.html
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- [The Chronicle of the Horse \(chronofhorse.com\)/article/magazine-are-you-current-on-concussions](#)
- <https://www.cpsc.gov/Recalls/2023/English-Riding-Supply-Recalls-Ovation-Protege-Equestrian-Helmets-Due-to-Impact-Injury-Hazard>
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- <https://www.youtube.com/watch?v=duUvGzMQvto> Horse riding fall + EMERGENCY ROOM visit // Concussion, Memory Loss, Helmet awareness
- Winkler, Ethan, et al. Adult sports-related traumatic brain injury in United States trauma centers. [Neurosurgical Focus](#), Volume 40, Issue 4 (April 2016).

More References for Virginia Tech Helmet Study

- <https://www.chronofhorse.com/article/qa-dr-barry-miller-answers-your-questions-about-the-virginia-tech-helmet-ratings>
- <https://www.chronofhorse.com/article/part-2-dr-barry-miller-answers-more-of-your-questions-about-helmet-ratings>



And a very special Thank You to
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and to those who shared their experiences.



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- AHCB Board Member, Treasurer
- AHCB Consultant for the AHA Ethics, Advocacy and Reimbursement Committee
- AHA Professional Practice Committee member

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