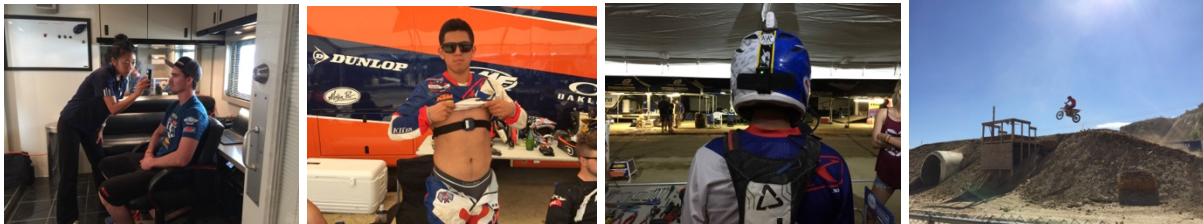




GNCC AMSOIL IRONMAN Biomechanical Safety Research Initiative

The Kurt Caselli Foundation (www.kurtcaselli.com) was Established In 2013. The focus of the foundation is the safety of riders and racers in the off-road motorcycling industry. Over the past year the foundation has been collecting and analyzing biomechanical data from riders in an effort to quantify the risks of our sport and identify opportunities to improve safety.



Kurt Caselli Foundation sponsored research at the 2015 24 Hours of Glen Helen

Last year, at the 24 Hours of Glen Helen, our research found that racers experienced only modest head accelerations of under 12g as they lapped the course. This level of head acceleration is below what brain injury researchers believe is a threshold for risk of concussion, and significantly below the impact levels often experienced by football players. Other findings from this effort are now being reviewed for publication in a scientific medical journal and will be a valuable reference for other researchers.

The Kurt Caselli Foundation GNCC Ironman Study:

This follow-on study will focus on sub-concussive risk factors and youth head acceleration with specific goals as follows:

1. Expand knowledge related to normal exposure sub-concussive head accelerations by off-road motorcycle riders— expanding knowledge to a variety of courses (beyond Glen Helen) and rider populations (beyond the 6 adult male riders studied at Glen Helen).
2. Measure effect of fatigue on ability to manage head movement during a race.
3. Compare head acceleration of youth riders to adult riders. Research with youth football players found that head acceleration with youth participants can be higher than adults given the same impact level – due to weaker neck muscles relative to adults and the relatively heavy helmets compared to the neck strength. This study will help identify if, and by how much, the youth off-road motorcycle racers head acceleration compares to adults.
4. We will analyze the data to see if youth rider's ability to manage head movement during a race is different than the adults ability and if so, at what point during the race do we begin to see this effect (if at all).
5. We will identify course elements that contribute to the highest levels of head acceleration – using the head acceleration data combined with GPS tracking we will be able to GPS tag locations on the course that contribute to the highest accelerations.

How: We will recruit between 7 to 12 volunteer racers in the Youth, Amateur, and Pro Bike events at the AMSOIL IRONMAN event. Racers will sign an informed consent form and will wear a small lightweight inertial motion sensor system including a helmet sensor and a chest sensor. We will help each racer put on the sensor before the race and collect the sensors after the race. These sensors are designed to not interfere in any way with the rider.

As a show of appreciation each rider will receive a gift package from The Kurt Caselli Foundation.

For additional information, please feel free to contact: Greg Merrill, Research Coordinator:
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