Reducing Catastrophic Injuries

The J.D. Wheat Veterinary Orthopedic Research Laboratory (VORL) at UC Davis specializes in musculoskeletal injuries—those that impact bones, joints, cartilage, muscles, tendons and ligaments. The team works to identify the cause and development of injuries, and the risk factors associated with those injuries. By identifying these components, the laboratory is able to design strategies for injury prevention.

Key VORL discoveries:

- The majority of catastrophic racing and training bone fractures and joint injuries have pre-existing bone remodeling or stress fractures at the site of their fatal injury, meaning, catastrophic injuries are preventable with:
  - Early detection of stress fractures and rehabilitation of affected racehorses
  - Management of the training and race surfaces of racehorses to prevent stress fractures—research is ongoing to develop a rating system for track safety

- Racetrack surface properties affect limb motions and thus propensity for injury.

- The greatest cause of jockey injuries are falls from racehorses that sustain a catastrophic injury. Therefore, prevention of catastrophic injuries in racehorses improves jockey safety.

**Common Injuries in Racehorses**

- Scapular Fracture (2.9%)
- Lumbar Fracture (4.6%)
- Humeral Fracture (7.3%)
- Proximal Sesamoid Fracture (45.7%)

Musculoskeletal related deaths during the past 5 years = 840