Fatal Musculoskeletal Injuries of the Metacarpophalangeal and Metatarsophalangeal (Fetlock) Joints in California Racehorses: One Hundred Thirty-Nine Cases

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Fetlock injuries comprise half of fatal musculoskeletal injuries among California racehorses. Most injuries have evidence of pre-existing lesions that likely predispose to catastrophic injury. Knowledge of these lesions will enhance early detection to aid in the prevention of fatal injuries. Authors’ address: University of California, Davis, School of Veterinary Medicine, One Shields Avenue, Davis, CA 95616; e-mail: erinmckerney@gmail.com. *Corresponding and presenting author. © 2013 AAEP.

1. Introduction
Catastrophic fetlock injuries are common in racehorses. Repetitive loading and fetlock hyperextension associated with training and racing subject fetlock-supporting musculoskeletal structures to degenerative and adaptive changes. These changes can weaken key structures, thus predisposing the fetlock region to catastrophic fracture.

2. Materials and Methods
A retrospective analysis of postmortem examination records was conducted for deceased California racehorses that incurred a fatal fetlock injury during the period of July 2011 to December 2012. Cases were categorized by injury site, fracture configuration, and pre-existing lesions associated with the site of injury.

3. Results
Fatal fetlock injuries comprised 50% of total injuries. Proximal sesamoid bone (PSB) fracture was the most common cause of fetlock injury. Sixty-six percent of fetlock injuries included a grossly visible pre-existing lesion, with lesions observed in 63% of fractured PSBs. The most common lesion was subchondral discoloration and porosity at the abaxial aspect of the medial PSB.

4. Discussion
The high prevalence of California racehorses that are euthanized because of fetlock breakdown injuries makes possible pattern recognition of fracture configuration and pre-existing lesions for the discovery of clinical correlates that can aid in early detection and catastrophic injury prevention.

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