Proceedings of the
11th Annual Resort Symposium of the
American Association of Equine Practitioners
AAEP

January 25 - 28, 2009 - Gold Coast, Australia

ACKNOWLEDGMENTS
Dr. Stephen M. Reed, Educational Programs Committee Chair
Carey M. Ross, Scientific Publications Coordinator

Published by the American Association of Equine Practitioners
www.aaep.org
Sesamoid Fractures in the Horse

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RACING PERFORMANCE AFTER ARTHROSCOPIC REMOVAL OF APICAL SESAMOID FRACTURE FRAGMENTS IN THOROUGHBRED HORSES AGES 2 YEARS AND OLDER: 84 CASES (1989-2002)


LITERATURE REVIEW

• Summary of STB study findings:

  ❖ Hindlimb PSB fractures most common
  ❖ Lateral PSB most commonly affected
  ❖ Hindlimb fractures have a better prognosis
  ❖ Horses raced preoperatively and treated within 30 days have a better prognosis
  ❖ Horses with suspensory desmitis???
Spurlock and Gabel 1983; Fretz et al. 1984; Palmer 1989; Boure´ et al. 1999; Woodie et al. 1999

**LITERATURE REVIEW**

- Woodie et al. 1999 (43 STBs):
  - 86% hindlimb, 14% forelimb
  - 79% lateral PSB, 21% medial PSB
  - Overall, 67% raced postoperatively (88% hind vs 56% fore)
  - Forelimb PSB fractures earned less money per start

**LITERATURE REVIEW**

- Few studies to date have included **THOROUGHBRED** horses, and they are in small numbers

Churchill 1956; Wirstad 1963; Fretz et al. 1984; Palmer 1989; Southwood AAEP 2000

**RESULTS: SUBJECT DETAILS**
• Total of 84 horses: 42 females/42 males
• Age at presentation:

CONCLUSIONS

• Arthroscopic removal of apical PSB fracture fragments is highly successful in TB racehorses without evidence of severe SL desmitis

• EXCEPTION: Medial PSB fracture of the forelimb carries the worst prognosis, has the most difficult rehabilitation and decreases quality of horse’s career

• Horses with hindlimb and lateral forelimb fractures have an excellent prognosis with an 86% probability of return to racing
Horses
Ages < 2 years: 151 Cases (1989-2002)
L.V. Schnabel, L.R. Bramlage, H.O. Mohammed,
R.M. Embertson, A.J. Ruggles, and S.A. Hopper

Apical Sesamoid Fractures

Results: Subject Details

• Total of 151 horses: 76 females/75 males

• 10% (15/151) presented as weanlings
  90% (136/151) presented as yearlings

• 92% (139/151) fractures occurred in the hindlimbs
  - Nearly equal distribution between right and left
  - 19% (26/139) involved both right and left

• 8% (11/151) of fractures occurred in the forelimbs:
  - 27% (3/11) in right
  - 64% (7/11) in left
  - 9% (1/11) involved both right and left

  - Equal proportion of forelimb fractures amongst weanlings and yearlings
• 1 horse had fractures of both left forelimb and right hindlimb

RESULTS: PERFORMANCE

• No significant differences in performance variables between operated horses and siblings for their 2-, 3-, and 4-year old racing years

RESULTS: PERFORMANCE

• Percentage of horses that first starting racing as 2-, 3-, and 4-year-olds was nearly identical between operated horses and their siblings

RESULTS: PERFORMANCE

DISCUSSION

• 84% of horses in this study raced postoperatively compared to 77% of horses in mature Thoroughbred study

- Given that 83% of mature horses with hindlimb PSB fractures raced postoperatively and that the majority of horses in this study had hindlimb fractures, these findings are in agreement
CONCLUSIONS

• Apical PSB fractures in immature horses are not only similar in their occurrence to that of mature horses, but also in their response to treatment

• Medial forelimb PSB fracture carries the worst prognosis and decreases quality of the horse’s career

• Horses with hindlimb and lateral forelimb PSB have an excellent prognosis with an 86% probability of racing

Treatment of Mid-Sesamoid Fractures by Lag Screw Fixation
L. R. Bramlage DVM MS
Mid-sesamoid Fracture, Historic

• Graft alone
  - Increased gap
- Prolonged healing
- Elongated sesamoid
- Sesamoiditis
  Mid-sesamoid Fracture, Historic

• Screw alone
  - Prolonged healing
  - Chronic inflammation
  - Sesamoiditis
    Mid-sesamoid Fracture, Historic

• Fixation and Graft
  - Decreased Gap
  - Faster Healing
  - Less sesamoiditis
  - More functional result

Base sesamoid fractures

• Generally caused by remodeling or flattening of the distal McIII