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**SESSION 4: Graduate Student Presentations and  
AAVPT Business Meeting**

Chairperson  
Dr. Dan Gingerich

# Comparative Anti-inflammatory Effects of Ketoprofen and Phenylbutazone in a Model of Equine Synovitis

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The analgesic and anti-inflammatory effects of the nonsteroidal anti-inflammatory drugs (NSAIDs) ketoprofen (2.2 and 3.63 mg/kg) and phenylbutazone (4.4 mg/kg) were compared in an equine model of acute synovitis. The eicosanoids, prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) and leukotriene B<sub>4</sub> (LTB<sub>4</sub>), increased dramatically in synovial fluid after carrageenan-induced synovitis of the intercarpal joint. PGE<sub>2</sub> concentrations in untreated horses peaked at 9 hours while LTB<sub>4</sub> concentrations peaked in all horses at 3 hours. Synovial fluid concentrations of both eicosanoids returned to near baseline by 48 hours. Lameness, joint temperature, and synovial fluid volume, protein and nucleated cells increased at 3 to 12 hours with recovery to near baseline levels by 48 hours. NSAIDs when given intravenously decreased joint concentrations of PGE<sub>2</sub>, but not LTB<sub>4</sub>. Both drugs decreased the signs of inflammation and lameness, but phenylbutazone was more effective than ketoprofen based on molar and therapeutic dose comparisons.

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