BIOMEDICAL & VETERINARY SCIENCES GRADUATE PROGRAM

ANNOUNCES

The Master of Science Seminar and Examination of

Dr. Molly Patton

“The effects of bit chewing on gastric emptying and orocecal transit times in clinically normal horses”

Thursday, June 30th, 2022
8:00AM
Vet Med Classroom 121

Bio

Molly Patton is originally from Raleigh, North Carolina, where she grew up riding the local Hunter/Jumper circuit with her off the track Thoroughbred mare. From there she moved south the Athens, GA to complete a Bachelor of Science in Animal Sciences (Equine Emphasis) with honors from the University of Georgia. She then moved back to Raleigh to go to veterinary school at North Carolina State College of Veterinary medicine where she graduated in 2018. Back down south, Patton completed a year long equine rotating internship at Louisiana State University School of Veterinary Medicine. It was during this internship where she discovered not only her love for surgery but specifically the equine abdomen/gastrointestinal tract. She completed her first GI motility research project during this year which became the foundation research that stemmed continued investigation of sham feeding in horses for this thesis. In 2019, she moved back up to Virginia to complete a large animal surgery residency here at Virginia Maryland College of Veterinary Medicine, where she just a few weeks away from completing!

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Lay Language Abstract

Ileus, or a temporary lack of intestinal motility, is a common life-threatening problem in horses, especially following abdominal surgery. Current treatments have questionable efficacy and high cost. In human patients suffering from ileus, sham feeding (a procedure that mimics normal food consumption with no food actually ingested) in the form of gum chewing has shown promising results in improving clinical signs and restarting gastrointestinal motility. Bit chewing, a form of sham feeding for horses, has also been proven to decrease gastrointestinal (GI) total transit time (TTT); however, ileus in horses specifically affects the small intestine, a part of the GI tract that hasn't been investigated in regards to bit chewing. Our objective was to determine whether bit chewing shortens gastric emptying time (GET), small intestinal transit time (SITT), and total orocecal transit time (OCTT) in clinically normal horses. Gastrointestinal motility was compared in horses that were bit chewing compared to control (no bit chewing) conditions in a prospective crossover design study using acetaminophen serum samples as a marker for GET and video endoscopy (ALICAM) capsules to determine GET, SITT, and OCTT. There were no adverse effects to bit chewing and OCTT was significantly shortened in horses when bit chewing compared to the control group. In summary, bit chewing is an exciting potential tool that hastens gastrointestinal motility, specifically small intestinal motility, and it may be a safe, inexpensive, and effective treatment to improve small intestinal motility in horses suffering from ileus and further investigation is warranted.

Publications

- E.S. Hines, V.B. Stevenson, M.E. Patton, H.R. Leventhal, N. Diaz-Portalatin, M.A. Myerhoeffer, L.A. Dahlgren, D.P. Sponenberg. Fibrous osteodystrophy in a dromendary camel. J. of Vet. Diagnostic Invest. Oct, 2020; 33(1) 144-148
- M.E. Patton, B.S. Leise, R.E. Baker, F.M. Andrews. The effects of bit chewing on borborygmi, ultrasound findings, and duration of hospital stay in horses with colic signs. Veterinary Surgery. Jan, 2022; 51(1):88-96

Presentations

- M.E. Patton. The effects of bit chewing on gastric emptying and orocecal transit times in clinically normal horses. Presented at the Biomedical and Veterinary Sciences Research Symposium, Blacksburg, VA. March 25-26, 2021. Virtual.
- M.E. Patton. The effects of bit chewing on borborygmi, ultrasound findings, and duration of hospital stay in horses with colic signs. Presented at 13th International Equine Colic Research Symposium. Virtual. September 4, 2021
- M.E. Patton. The effects of bit chewing on gastric emptying and orocecal transit times in clinically normal horses. American College of Veterinary Surgeons Resident Seminar. Virtual. October 1, 2021

Examination Graduate Committee

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