Introduction/Background
- Sino-nasal surgery of the horse to remove a cyst, progressive hematoma or neoplasm is common, and in recent years has become commonly performed with the horse standing to eliminate risks and expense associated with general anesthesia and to decrease hemorrhage.
- Occasionally, a horse will react as the non-desensitized respiratory mucosa is stimulated.
- The objective of this study was to record the course of the equine ethmoidal nerve, after it re-enters the rostral cranial cavity and courses to the frontal sinus and verify its area of innervation.
- This information will verify the necessity of the ethmoidal nerve block for sino-nasal surgery.

Methods
- 24 equine cadaver heads cut into sagittal sections.
- Ethmoidal nerve was dissected/followed after entry into the cranial vault via the ethmoidal foramen.
- Its course was documented using pictures and anatomical illustrations.

Discussion
- To prevent discomfort to the horse during surgical exploration of the frontal sinus & caudodorsal nasal cavity, we suggest to block the ethmoidal nerve.
- To prevent damage to the nerve during surgery, to be aware of the trajectory of the ethmoidal nerve in the frontal sinus.
- In the future, the ethmoidal nerve should be traced as rostral as possible into the nasal cavity and frontal sinus to verify its innervation pattern.

Results
- In all the cases:
  - The ethmoidal n. was traced epidurally and lateral to the cribriform plate, crossing the cranio-lateral corner of the cribriform plate.
  - The ethmoidal n. gave off 3 or more branches to the ethmoidal labyrinth, before continuing to the frontal sinus.
  - In two cases:
    - A ventral branch passed ventromedially to the nasal septum.

- Transverse section of the cranial cavity, caudal view of the left cribriform plate.
- Sagittal section of cranial & nasal cavity, oblique medial-caudal view of the left portion.

- The ethmoidal n. was traced into 2 branches that ran parallel to the lateral border of the dorsal nasal concha. These branches supply the dorsal nasal meatus and run rostrally in the nasal cavity.
- The ethmoidal n. was traced into a bony canal between the ectoturbinates and the dorsal nasal concha. The ethmoidal n. gave numerous small branches to the ethmoidal labyrinth and the caudal aspect of the frontal sinus.