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# Gastroesophageal Reflux

micro drip study guide

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Instructor: Dr. Christopher G. Byers, DVM, DACVECC,  
DACVIM (SAIM), CVJ

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# Normal Esophageal Anatomy



- Mucosa is plentiful
  - Cranial has longitudinal folds
  - Distal third has transverse folds to create herringbone pattern
- Majority of muscle is striated but last few centimeters is smooth

Species	UES	LES
Cat	Striated	Smooth
Dog	Striated	Striated
Human	Striated	Smooth

So everybody has heard of the lower esophageal sphincter, but you rarely hear anybody talk about the upper esophageal sphincter. And in cats and dogs, the upper sphincter is composed of striated muscle, just like in people. But the esophagus of the cat is unique in that it has both striated and smooth muscle.

Remember, all the way back to anatomy in vet school. The cat's lower esophageal sphincter is made up of smooth muscle. And many believe it's this muscle difference between cats and dogs that is the primary reason for the difference in the incidence of peri-anesthetic reflux between these two species. Oh no, did it change?



Allouch MG, et al. *J Dairy Vet Sci*, 2018.

So in this photo, cranial is to the right and caudal is to the left of your screen. So a cat's esophagus, this cat's esophagus, specifically, has been cut longitudinally, and opened so that you can get a view of the difference in the mucosa. The cranial aspect of the esophagus has those longitudinal folds, the Lf, while that caudal third has transverse folds, or Tf. Again, remember, cranial is to your right and caudal is to your left. And it's those transverse folds that create what is often referred to as a herringbone pattern.