

Equine Corneal Ulcer Cytology: Why and How

Cytology allows vets to correctly diagnose a corneal ulcer's underlying cause and institute appropriate therapy.

By Stacey Oke, DVM, MSc | Feb 3, 2018 | AAEP Convention, AAEP Convention 2017, Article, Diseases and Conditions, Equine Care Professions, Eye & Ear Problems, Other Eye Problems, Vet and Professional, Vet Convention Reports, Veterinary Practice

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"Successful resolution of corneal ulcers requires targeted therapy, and this can only be achieved by performing corneal cytology (sampling cells to view under a microscope)," said Dwyer. | iStock

Corneal ulcers—loss of or damage to tissue on the outer surface of the eye—occur commonly in horses. While some corneal ulcers might not be particularly challenging for

veterinarians to treat, many others are complicated by infection with either bacteria or fungi, foreign bodies, inflammatory reactions that cause tissue to swell and "melt," and more, and require more intensive diagnostics and treatment.

Ann Dwyer, DVM, a private equine practitioner at Genesee Valley Equine Clinic, in Scottsville, New York, and a former American Association of Equine Practitioners (AAEP) president, has a special interest in ophthalmology and often presents on the topics at veterinary meetings. The 2017 AAEP Convention, held Nov. 17-21 in San Antonio, Texas, was no exception. There she shared her wisdom gained from treating many equine eye problems.

Dwyer said one of the first items a veterinarian reaches for when faced with a painful eye is fluorescein stain—a green dye that does not adhere to normal corneal epithelial tissue but binds with deeper layers of the stroma of the eye to show the location and extent of a corneal defect.

Once a veterinarian diagnoses an ulcer, then what? Starting treatment without first addressing the underlying cause, can set the horse and owner up for a prolonged treatment period and put the horse's vision at risk.

"Successful resolution of corneal ulcers requires targeted therapy, and this can only be achieved by performing corneal cytology (sampling cells to view under a microscope)," said Dwyer. "(This) is a simple stall-side procedure that provides essential information needed to prescribe rational therapy."

She added that equipment needed to perform corneal cytology is affordable and readily available: a cytology sampling tool (a kimura spatula, the base of a scalpel blade, or a cytology brush) and a head lamp (one from a camping store will do just fine, she said).

To collect a sample, the veterinarian must:

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