Horner Syndrome at a Glance

Mark Troxel, DVM, DACVIM (Neurology)
Massachusetts Veterinary Referral Hospital
Woburn, Massachusetts

Horner syndrome (Figures 1–3) is not a disease but a myriad of clinical signs caused by sympathetic denervation to the eye. Disease affecting any portion of the sympathetic pathway can lead to ipsilateral neurologic dysfunction.

Sympathetic innervation to the eye is a three-neuron pathway:

**Upper Motor (First Order) Neuron**
This cell body, located in the hypothalamus, projects axons through the brainstem and cervical spinal cord to the level of T1-T3 spinal segments.

**Preganglionic (Second Order) Neurons**
Axons ofpreganglionic neurons, which arise in the T1-T3 spinal region, leave the spinal cord through the ventral roots and pass through the cranial thorax and neck as part of the vago-sympathetic trunk and synapse in the cranial cervical ganglion ventromedial to the tympanic bulla.

**Postganglionic (Third Order) Neurons**
Postganglionic neurons originate in the cranial cervical ganglion and send axons near (ie, in dogs) or through (ie, in cats) the tympanic bulla, into the calvaria, and to the eye.

For More

For a stepwise approach to diagnosing the cause of Horner syndrome, see the companion Diagnostic Tree on page 26 of this issue.