



# Neurotransmitter

## Henrietta's Story

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### BACKGROUND

Four-years-old  
Spayed Female  
Domestic Shorthair Cat

### PRESENTING COMPLAINT

Sudden onset of abnormal  
head movements, spacey

### BEST APPROACH

Localize the lesion and  
create an accurate list of  
possible causes for the  
symptoms.

### MEET HENRIETTA

Henrietta is a four-year-old spayed female cat whom presented with a sudden onset of abnormal head movements.

When a patient presents for abnormal head movements – what would you do? The best approach is to localize the lesion and create an accurate list of possible causes for the symptoms. What do you think? Our thoughts are below.



## EXAM FINDINGS

Mentation: Quiet, alert

Posture: Persistent figure 8 or side to side wide head excursions

Gait: Unwilling to walk, when prompted takes a few steps without ataxia

Postural Reactions: Normal tactile placing, hopping and paw flip test

Cranial Nerve Exam: Mild right positional strabismus and right head tilt, miosis on right

Ocular / Retinal Exam: Normal

Hyperaesthesia: Normal



## LOCALIZATION

Bilateral vestibular (head excursions) with sympathetic tract (miosis) and vestibular nerve (strabismus, head tilt) involvement on the right. Peripheral disease most likely (normal mentation, postural reactions) with potential middle ear involvement on the right (head tilt, miosis).

## **DIFFERENTIALS**

Bilateral otitis media / interna (worse on right) vs idiopathic more likely than metabolic (thiamine), neoplasia (carcinoma, lymphoma) more likely than central causes infection (FIP, toxoplasmosis, cryptococcosis), non-infectious inflammation, neoplasia, infarct(s), others

## **RECOMMENDATIONS**

CBC and Chemistry were already normal and Henrietta eats a normal diet without exposure to raw fish (low thiamine very improbable). MRI recommended to assess head / middle ear / brainstem. If testing avoided, then consider 6 week trial with clindamycin for potential bacterial ear infection.

## **TESTING**

MRI of the head is normal - further testing for central causes not pursued given examination findings

## **OUTCOME**

Head excursions improved, then resolved over 14 days. Recheck at 3 weeks demonstrated an improved but subtle right head tilt and transient (subtle) right positional strabismus.

## **DIAGNOSIS**

Idiopathic bilateral vestibular disease

The goal of this case report was to improve your recognition of bilateral vestibular disease and describe diagnostic / therapeutic approach.

## IMPORTANT POINTS

- Cats with wide head excursions localize to bilateral vestibular system AND these cats have similar differentials and prognosis as cats presenting with unilateral vestibular signs
- About 1/3 bilateral vestibular cases will have a central (brainstem) localization – these cats typically have a dull mentation and delayed postural reactions. Differential causes include infection, immune-mediated diseases, neoplasia and low thiamine. Generally, the prognosis is worse for central disease compared to peripheral disease.
- 2/3 cats with bilateral vestibular signs have peripheral disease (curiously some of these will have postural deficits). Otitis media / interna is slightly more prevalent than idiopathic / unknown cases. Typically, all otitis will improve with treatment and most (but not all) idiopathic cases will resolve.
- MRI is recommended to rule-out central causes (some central cases will not demonstrate a dull mentation or postural deficit) AND for peripheral cases, determine the necessity of treatment with antibiotics.

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### References

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