

# NEUROLOGY X-FILES: THE TRUTH, AND COOL CASES, ARE OUT THERE

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## PAROXYSMAL DYSKINESIA (AKA "MOVEMENT DISORDER")

- These are not seizures
- Usually have normal mentation and rapid recovery (no post-ictal phase)
- Sometimes triggered by hard exercise ("exercise-induced paroxysmal dyskinesia")
- Generally a benign disorder
- Can occur at any age, although frequently <6 years old at onset
- Normal in between and normal neurologic exam

## PAROXYSMAL DYSKINESIA

"MOVEMENT DISORDER"

## SEIZURE OR PD?

	Seizures	PD
Mentation?	Altered	Normal
Length?	Usually <5 minutes	Minutes to hours
Autonomic Signs?	Often	No (occasionally evidence of GI upset)
Post-ictal Period?	Yes	No
Triggers?	Usually not	Sometimes exercise
Normal in between?	Yes (for Idiopathic Epilepsy)	Yes

- Questions for the client:
  - Mentation?
  - Length?
  - Any autonomic signs (urination, defecation, drooling/frothing)?
  - Gradual return to normal or abrupt? (i.e., is there a post-ictal period?)
  - Any triggers?
  - Normal in between?
- Ultimately, is it a seizure, or something else?
- Alert during episode and abrupt end to episode with no post-ictal period? It may be paroxysmal dyskinesia.

## PAROXYSMAL DYSKINESIA (AKA "MOVEMENT DISORDER")

- "Sudden bad movement"
- Dogs or Cats
- Appear to be genetic, and specific mutations have been found in a few breeds



Small text at bottom left: <https://www.veterinarian.com/condition/paroxysmal-dyskinesia-in-dogs>

Small text at bottom right: <https://www.petmd.com/cats/condition/paroxysmal-dyskinesia>

## SEIZURE OR PD?

- Often most important: A video of the event.

## SIDE BAR – IDIOPATHIC HEAD TREMOR SYNDROME

Video 3  
Idiopathic Head Tremor Syndrome  
Labrador

- Any breed, but especially bulldogs, doxies, Labs, and boxers
- Normal in between
- Vertical, horizontal, or rotary movement
- Possible trigger: stress
- Almost always can be distracted from episode
- Tend to improve with time alone

10.3362/1535-1616-18645  
Published online 2015 April 30, doi: 10.1111/vec.12382  
Clinical and Breed Characteristics of Idiopathic Head Tremor Syndrome in 211 Dogs: A Retrospective Study  
Lambertucci, J.; DeBenedictis, P.; Mariani, M.; et al. *Equine Vet J*

## "MAX" – 2Y MC GERMAN SHORTHAIRED POINTER

- Normal neurologic exam
- Normal CBC, chemistry, and urinalysis
- Brain MRI and spinal tap not performed, although high suspicion this would have been low yield given normal neurologic examination and young age

## "MAX" – 2Y MC GERMAN SHORTHAIRED POINTER



## "MAX" – 2Y MC GERMAN SHORTHAIRED POINTER

- Top Differentials: paroxysmal dyskinesia (movement disorder), vs. atypical seizure (and likely idiopathic epilepsy due to age, breed, exam, etc.)

## "MAX" – 2Y MC GERMAN SHORTHAIRED POINTER

- Normal mentation/responsiveness during the episode
- Abrupt onset and end (no post-ictal period)
- No autonomic signs (urination, defecation, salivation)
- Sometimes associated with hard exercise
- Completely normal in between episodes

## SPIKE'S DISEASE



### "SPIKE'S DISEASE" INITIALLY TERMED CANINE EPILEPTOID CRAMPING SYNDROME (CECS)



- A "cramping" syndrome was first noted by border terrier owners in Europe in the 80s and 90s
- Affected dogs would have episodes of involuntary movement, sometimes associated with stress or excitement
- Normal mentation during episodes
- Normal in between
- Half of affected dogs also had signs of GI disturbance such as vomiting, borborygmi, flatulence, or diarrhea

### BACK TO MAX



- Episodes resolved with a hypoallergenic (gluten-free) diet

### "SPIKE'S DISEASE" FORMERLY CANINE EPILEPTOID CRAMPING SYNDROME (CECS) NOW PAROXYSMAL GLUTEN-SENSITIVE DYSKINESIA

- Ultimately, affected dogs were shown to have antibodies directed at gluten
- Episodes responded to gluten-free diet, and patients relapsed when cheating on the diet

> J Vet Intern Med. 2018 Mar;32(2):775-781. doi: 10.1111/jvim.15038. Epub 2018 Feb 9.

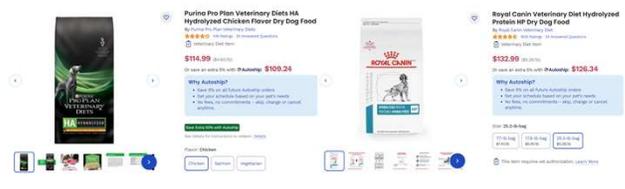
#### Characterization of Paroxysmal Gluten-Sensitive Dyskinesia in Border Terriers Using Serological Markers

M Lowrie <sup>1</sup>, O A Garden <sup>2</sup>, M Hadjivasiliou <sup>3</sup>, D S Sanders <sup>4</sup>, R Powell <sup>5</sup>, L Garosi <sup>6</sup>



dogmat.co.uk

### HYPOALLERGENIC DIET



### PAROXYSMAL GLUTEN-SENSITIVE DYSKINESIA

frontiers  
in Veterinary Science

Front Vet Sci. 2023; 10: 1119441. PMCID: PMC1020495  
Published online 2023 Mar 3. doi: 10.3389/fvets.2023.1119441 PMID: 36932913

#### Gluten serological testing in various dog breeds with paroxysmal dyskinesia

Casoy B, Roques N, Meverhoff S, and Holzer A, Vogl S\*

- Other breeds with PDs also have gluten-directed antibodies and can respond to gluten-free diet

### OTHER CONDITIONS WHERE GLUTEN-FREE DIET MAY HELP?

## FLY-BITING



### Fly-catching syndrome responsive to a gluten-free diet in a French Bulldog

Greta Galli<sup>1</sup>, Stefania Uccheddu<sup>2</sup>, Marika Menchetti<sup>3</sup>

Affiliations + expand

PMID: 38096663 DOI: 10.2460/javma.23.09.0515

Case Reports > Can Vet J. 2012 Dec;53(12):1279-84.

### Prospective medical evaluation of 7 dogs presented with fly biting

Diane Frank<sup>1</sup>, Marie C Bellanger, Véronique Bécue-Bonnet, Joane Parent

Affiliations + expand

PMID: 23729825 PMID: PMC3500118

## SUMMARY

- Identify possibility of PD/movement disorder – key findings are normal mentation during the episode and no post-ictal period
- Make sure neurologic exam is normal and patient is normal between episodes – if not, consider referral
- CBC/chem/UA should be normal. We are not able to measure gluten antibodies at this time in the US ☹️
- Consider a hypoallergenic diet trial as many of these patients appear sensitive to gluten

## AGGRESSION?



Journal of Veterinary Behavior  
Volume 31, May-June 2026, Pages 56-60



Canine Research

### Successful dietary treatment of aggression and behavioral changes in a dog

Anna Sulzer<sup>1</sup>, Jorge Perez-Accino<sup>2</sup>, Melik Kelleci<sup>3</sup>, Giacomo Rossi<sup>4</sup>, Silke Salzwart-Schmitz<sup>5</sup>

THANK YOU!

## OPTIONS OUTSIDE OF DIET CHANGE

- Omeprazole daily
- Certain anti-epileptic drugs: Levetiracetam and Zonisamide
- Acetazolamide?
- Benign neglect?