

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



<https://www.veterinarian.com/en-us/blog/2018/08/08/paroxysmal-dyskinesia-in-dogs>
<https://www.veterinarian.com/en-us/blog/2018/08/08/paroxysmal-dyskinesia-in-cats>

SEIZURE OR PD?

- Often most important: A video of the event.

SIDE BAR – IDIOPATHIC HEAD TREMOR SYNDROME



- 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

10.33628/1015-2019-18845
 Published online 2019 April 30, doi: 10.1155/2019/18845
 Clinical and Breed Characteristics of Idiopathic Head Tremor Syndrome in 271 Dogs: A Retrospective Study
 SARALI SHAIK, * ANNA DEBENAGLIA, * MARILYNNE * DAVID ST. ROBERT, * AND CAROL GAY *

“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



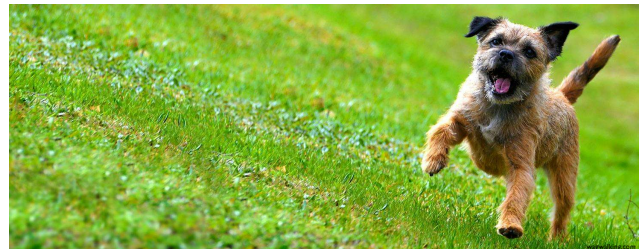
“MAX” – 2Y MC GERMAN SHORTHAIRED POINTER

- 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.

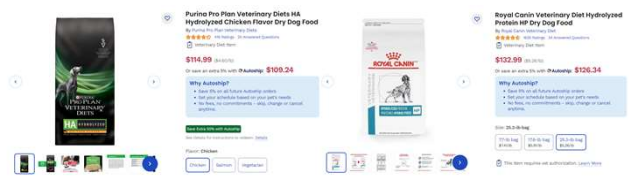
Characterization of Paroxysmal Gluten-Sensitive Dyskinesia in Border Terriers Using Serological Markers

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



dogmat.uk.org

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 R, Soares 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 Galli¹, Stefania Uccheddu², Marika Menchetti³

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 Frank¹, 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 2016, Pages 56-60



Canine Research

Successful dietary treatment of aggression and behavioral changes in a dog

Anna Sulzer¹, Jorge Perez-Accina², Melik Kelleci³, Giacomo Rossi⁴, Silke Salzwart-Schmitz⁵

THANK YOU!

OPTIONS OUTSIDE OF DIET CHANGE

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