



IDIOPATHIC HEAD TREMORS IN DOGS



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INTRODUCTION

More than a few dog owners and veterinary doctors have witnessed the manifestation of idiopathic head tremors in dogs. The idiopathic head tremor syndrome in dogs is also known – in professional circles – as episodic rapid repetitive myoclonus.

Another name for this condition is canine idiopathic head tremor syndrome (IHTS).

Head tremors are involuntary, shaking movements seen in the head section of dogs. For a condition to be termed idiopathic, it has to be one which arises spontaneously or for which the exact cause is unknown.

Therefore, in idiopathic head tremors, the involuntary head movements seen in the dog have no known cause. The head of the dog is seen to move in trembling motion, and it takes place in one of three basic motion types.

The typical movements seen during a tremor include:

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1. Vertical movements (similar to saying yes)
2. Horizontal movements (similar to saying no)
3. Rotational movements (similar to bobblehead toys)

This condition is not very common, and it can be quite scary for any onlooker and even troubling for a dog owner, not to mention disconcerting for the dog itself, especially the first few times.

You may have been faced with this condition before, and you still may. In an attempt to help you, the vet, fully understand this condition, this resource has been created and will address other causes of head tremors (which might relate to specific idiopathic tremors), the diagnosis, treatment, and recovery of dogs with the condition.

Various other topics shall be addressed including the time span of tremors, the breeds most commonly affected, the medical predisposition of dogs to the condition among others.

Understanding Head Tremors in Dogs

There are different types of head tremors observable in our canine friends. Some of them have clearly defined causes and others – the idiopathic kind – do not presently have a definite cause even after numerous studies by renowned veterinarians. Although our focus is on head tremors of the idiopathic kind, an understanding of canine head tremors in general might give us a better understanding of the condition and provide a link to managing it.

Since no causes have been found, a few causal theories have been propounded that could possibly explain the existence of idiopathic head tremors. Such theories of possible causes include head injuries, seizures, and nervous system disorders.

According to specialized veterinary healthcare professionals, although some dogs with head tremors under study have shown symptoms of other illnesses, canine head tremors are not usually related to other conditions.

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Affected dogs have most commonly been observed to be sitting or standing in most cases when the tremors begin. Sometimes, the tremors begin when dogs are in the sternal position, but they rarely happen when the dogs are actively playing or carrying out some other energetic activity. The affected dogs are usually alert and calm during the onset of an episode, but a few of them have been known to be lethargic or even anxious during episodes.

These tremors are only restricted to the head; they do not affect the limbs or trunk of the dog, and they do not put the dog into an unconscious state making them quite different from seizures. They are mild events that do not involve stiff bodies, contorted facial expressions, and/or foaming at the mouth.

The head bobbing movements observed in this tremor seem to be dependent on a specific degree of muscle tension in the necks of affected dogs, so even though the cause of this condition is unknown, a latent disorder in the afferent fibers of the cervical spinal cord has been suspected.

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Idiopathic head tremors seem to be correlated with a resting state because a significant number of cases happen when the affected dogs are at rest, sleeping, or getting up from sleep. Although it is unclear at this time, the condition does not appear to be initiated by movement.

The duration of an episode ranges from as short as 15 seconds to as much as a few hours in extreme cases, but on average, they do not last for more than three minutes.

The frequency of these tremors ranges from as much as multiple times a day to once in three months, and it is not known why such a variance occurs.

The time of day when these episodes mostly occur – as recorded by pet owners and told to veterinarians – is evening or nighttime although this could be because this is the time when pet owners are mostly around to play with their dogs and interact with them.

There is no indication that dogs are predisposed to having this condition because of sex or neutered status.

Types of Head Tremors in Dogs

There are a few types of head tremors in dogs and they can be identified as follows:

- 1. Toxin-related head tremors:** These are head tremors observed in dogs after they have ingested toxins in substances that were not meant for them. The substances that cause this type of head tremor include compost, slug bait, snail bait, and rat poison. Since some of these substances are regularly deployed around homes and farms to reduce the population of pests, dogs might accidentally ingest these substances and develop a tremor.
- 2. Drug-related head tremors:** These are head tremors observed in dogs that have been given medication to treat other conditions. The drugs commonly associated with inducing head tremors are amphetamines, antidepressants, and anti-emetics.

3. Idiopathic head tremors: These are the type of tremors we are most concerned with in this book. They have no known causes but can still be managed.

Known Causes of Head Tremors in Dogs

Even though we are mostly concerned with idiopathic head tremors in dogs, it is beneficial to look at non-idiopathic head tremors and their causes, which are well-known.

The known causes of non-idiopathic head tremors in dogs are listed as follows:

- Kidney disorders
- Exposure to toxic chemicals or plants
- Central nervous system (CNS) disease
- Head trauma
- Certain types of medication

Susceptibility to Idiopathic Head Tremors

There is no definitive susceptibility factor for dogs to develop idiopathic head tremors in particular, but two factors stand out:

1. **Age:** Idiopathic head tremors are usually observed in immature to middle-aged dogs and are hardly ever observed in aging dogs.
2. **Breed:** Idiopathic head tremors are observed more in some breeds than others. The breeds that characteristically develop this condition include Bulldogs, Boxers, Chow Chows, Dalmatians, Doberman Pinschers, Pitbulls, Samoyeds, and Spaniels.

An analysis of familial information among breeds with a high tendency to acquire the condition suggests that there is a possible hereditary factor involved. This is especially true in Doberman Pinschers where dogs with the condition can be traced to a common sire.

Medical Predisposition of Dogs to Idiopathic Head Tremors

The medical history of a dog is very important in the diagnosis of idiopathic head tremors. However, it has been seen that the greater number of dogs that are affected by idiopathic head tremors are not plagued by any other behavioral or neurological problems. In a small number of dogs, the occurrence of stressful events and/or concurrent illness or trauma was present, but it is not clear if this occurrence has any causative effect.

This raises the need for investigation into the effects of concurrent illnesses and environmental triggers/stressors on dogs with idiopathic head tremors.

Possible Triggers Responsible for Idiopathic Head Tremors in Dogs

Idiopathic head tremors in dogs can possibly be triggered by one or more of the following factors:

- Allergens

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- Trauma
- Lowering of blood calcium
- A temporary drop in a dog's blood glucose
- Events that cause a fluctuation of hormonal levels including puberty, pregnancy, delivery and lactation
- Growth spurts in young dogs
- Stress

The Nature of Idiopathic Head Tremors and its Long-term Effects on Dogs

Idiopathic head tremors in dogs mainly manifest as episodic uncontrolled head tremors that are known to begin and end spontaneously. These tremors are currently regarded as benign as they are neither painful nor upsetting for the dog involved. The tremors also do not have any negative short-term or long-term effects on the dog.

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During the tremors, affected dogs appear to be alert and aware of themselves and their surroundings.

Some other illnesses and conditions are fatal. Sometimes, dog owners make the decision to euthanize their pets especially when they are in a lot of pain or when the condition has proved to be degenerative. This, however, has not been reported to happen as a result of idiopathic head tremors and so the condition is presently labeled as non-threatening.

In fact, in a majority of patients, the tremors eventually stop occurring although there is no clear indication of how long the tremors take to resolve. It is believed by some veterinarians that if underlying diseases and environmental triggers affecting these dogs are taken care of, clear clinical signs may eventually resolve.

Diagnosis

Diagnosing head tremors in dogs is a fairly complex task, and it gets more complex when the condition is idiopathic. Still, it is important to be sure that the condition is truly an idiopathic head tremor to avoid wasting precious time mistreating.

It is very important for you to advise dog owners to not attempt diagnosis or jump to conclusions. Even after going through materials on the internet and listening to anecdotal advice, it could be dangerous for dog owners to conclude, by themselves, that their dogs are suffering from idiopathic head tremors.

A proper diagnosis of idiopathic head tremors involves ruling out various other conditions including regular head tremors, certain partial seizure disorders, and even a simple case of ear mite infestation.

The diagnosis for idiopathic head tremors is based on signalment, history, and the characteristic head tremors as observed. Since it is idiopathic, this

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can be a difficult task to accomplish in practice, and a successful diagnosis is only made through a strict process of trial and error.

Usually, to kick off the process, the dog is given a complete physical and neurological examination. This examination is a full assessment which takes several factors into account including the dog's palpation, auscultation, vital signs, mentation, gait, reflexes, and responses.

Essential to the process are important documents like immunization records and a complete medical history of the dog in question. All medication, prescribed and over-the-counter, should be disclosed, as they may be important.

Since the intention is to rule out other possible conditions, laboratory tests are essential at this stage. All major tests like blood sugar levels, blood urea nitrogen, fecal examination, electrolyte analysis, and a complete blood count should be carried out. Additional testing may be indicated based on the results of these initial evaluations. Specialized neurological testing may

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include magnetic resonance imaging (MRI), cerebrospinal fluid (CSF) analysis and other testing.

A frequently incorrect diagnosis is that affected dogs are experiencing seizures. Seizures are also seen with characteristic motor movements with spontaneous initiation and cessation but have very different cerebrocortical activity. Still, under observation and specific testing by neurologists, it is noted that while the symptoms might be similar, dogs suffering from idiopathic head tremors are not undergoing seizures but a paroxysmal dyskinesia. Affected dogs should be made to undergo a complete neurologic evaluation and workup.

The best form of diagnosis presently in detecting canine idiopathic head tremors is a clinical one that takes into account certain factors:

- 1. Signalment:** This is the systematic description of an animal for purposes of identification. It is the total description or appraisal of an animal by specifically using characteristic and peculiar markings. In its

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simplest form, signalment details the age, breed, and sex of an animal patient.

- 2. History:** This is an important factor in diagnosing idiopathic head tremors in dogs because it indicates to the veterinarian that there are no underlying historical events that have led to some other illness and so the head tremor is probably idiopathic. Specific historical events usually looked out for include intermittent nature of symptoms and little to no exposure to toxins, among others.
- 3. The nature of tremors:** When head tremors in a dog have a certain characteristic, i.e. when their occurrence is sporadic and they only last for short periods, it is assumed that the tremors are idiopathic as the head tremors in dogs from other causes are usually of a more distinct nature. Since most head tremors cannot be reproduced in the clinical setting, veterinarians recommend the episodes be captured by video.
- 4. Physical and neurological signs:** When there is a lack of concurrent physical and neurological signs linking the head tremors to seizures or

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other head tremors with specific causes, the diagnosis begins to tend towards describing the tremors as idiopathic in nature.

It is worthy of mention that there currently is no specific test that allows for a definitive diagnosis of idiopathic head tremors in dogs. All testing is negative or normal; we are “ruling out” the diagnoses of brain disease, kidney disease, toxins, and other causes of head tremors.

Generally, no other disease is known to produce the same symptoms as idiopathic head tremors and so a conclusive diagnosis of the condition is mostly based on inclusion criteria drawn from previous descriptions of idiopathic head tremors.

Trial and error is not the strongest method of diagnosis especially in conditions with no clear course but a proper analysis of an affected dog’s historical data and clinical signs is usually enough to at least put up a hypothesis that the dog is suffering from a case of idiopathic head tremors.

Early diagnosis of idiopathic head tremors is very important because it’s easy to confuse it with something else. Idiopathic tremors can be very similar in

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their symptoms to a few other conditions and some of them can be life-threatening. Consequently, if a life-threatening condition is mistaken for an idiopathic head tremor – which is benign – treatment might not be pursued, and the dog might end up losing its life. This is why early diagnosis, which is carried out by ruling out the possibility of other disease, is very important.

Since idiopathic head tremors have symptoms very similar to other conditions, it's very possible that a misdiagnosis might occur somewhere along the line. Some of these conditions include brain tumors, epilepsy, and other neurological diseases. It is the duty of the veterinarian to completely and comprehensively explore all logical or likely options. An incorrect diagnosis can result in unnecessarily medicating the dog potentially for the rest of its life.

For instance, if anti-epileptic drugs are given at the typical dose and then discontinued, (mostly due to later discovery that the tremors are idiopathic), the dog in question might possibly develop seizures.

Attempts at Treatment of Idiopathic Head Tremors in Dogs

Even as the cause of these tremors remains unknown, attempts can be made to alleviate them as well as reduce their frequency of occurrence. This is mostly because an episode of idiopathic head tremors is rather disturbing and upsetting to dog owners. It's also a disrupting event to the normal routine of the affected dog even though it causes no form of pain.

When a diagnosis of seizure is made, as it is sometimes made, a treatment of antiepileptic drugs (AEDs) is usually prescribed. However, after keen observation, it can be said that antiepileptic drugs are not effective in alleviating true cases of idiopathic head tremors.

Apart from AEDs, other types of medication commonly prescribed to combat these tremors include:

- diazepam
- calcium carbonate
- Phenobarbital

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- bromide

The following are medication less commonly prescribed by veterinarians in an attempt to get idiopathic head tremors to cease:

- meal supplements (including antioxidants and fish oil)
- antibiotics
- clonazepam
- corticosteroids
- diphenhydramine

However, none of the above drugs has been known to stop idiopathic head tremors from occurring and in the case of misdiagnosis, non-responsiveness to medication is usually a definitive sign that the condition is idiopathic.

There are no known surgeries that can stop idiopathic head tremors from occurring.

Remedies for Idiopathic Head Tremors in Dogs

Since medication has virtually no effect on dogs suffering from idiopathic head tremors, some other line of action is necessary to quell the tremors even though they are benign.

Unlike many other conditions, the remedies used to alleviate an onset of idiopathic head tremors are often not pro-active. Veterinarians should advise pet owners that no matter how unsettling the condition might look – especially the first few times – they should not panic or pace about or show any signs of distress. This is because such behavior will, as a rule, cause the dog to panic or become distressed and such a reaction is unnecessary and completely avoidable.

Idiopathic head tremors can simply be allowed to run their full course. But if the dog owner would rather see it go away immediately because, for instance, they are uncomfortable with seeing the condition manifest in their

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dog or they are in public and the tremor is drawing attention from onlookers, it is possible to abort the condition.

Presently, the best form of remedy available, which brings an episode of these tremors to a quick end, seems to be a deliberate distraction. These distractions seem to cause the dog to snap out of its “tremor trance”, consequently causing the tremors to cease.

The most effective distractions used to get dogs to snap out of their idiopathic head tremors include:

- Offering the dog food or any of its loved treats, this is particularly true when the food actively engages the tongue and jaw – commonly, I will recommend that a “schmear” of peanut butter be placed on the roof of the dog’s mouth so that they really have to work to lick the food off.
- Making any form of noise that causes the dog to turn its head [startle response].
- Calling out to the dog by name.

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- Asking the dog to perform a trick or task.
- Taking the dog for a walk.

The distractions mentioned above have been known to work more effectively when used in combination than when used individually.

Since using distractions on affected dogs does not actually “treat” the condition but cuts episodes short, you will be frequently asked by owners if there is an option for making the tremors just go away, regardless of how harmless they may be.

Experience gathered by some dog owners shows that the closest alternative would be to concentrate on altering an affected dog’s diet. Feeding a dog a complete and wholesome diet appropriate for the dog’s age, condition, and activity is helpful. If the diet is changed, the dog should be on the new food exclusively for at least 4- 6 weeks to evaluate response. They should then be observed while testing other food products and determining what works and what doesn’t.

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Supplements and nutraceuticals containing unrefined fish oil, coconut oil and anti-oxidants are useful to try.

It might seem like a little thing, but just like in humans, the healthier the things we put in our bodies, the better our bodies function overall.

The Significance of the Direction of Head Movements and Head Position in Idiopathic Head Tremors

Since the direction of head movements observed in this condition could be vertical, horizontal or rotational, it is sometimes asked if the direction has any significance on the duration, frequency or intensity of an episode. Presently, no such significance is known to exist.

Since distractions have been known to make the onset of tremors disappear completely or cease momentarily, at least, veterinarians have sought to know why these distractions have any effect at all and why they are far more potent than any form of medication. The most likely answer to this question is that distractions cause the dog to experience either a form of mental stimulation

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or a change in the position of their head and neck; either both of these factors or a combination of both of them results in beneficial effects for the affected dog.

It's still unknown why a change in head and neck position would cause a cessation of idiopathic head tremors. The closest theory is still being investigated and it involves an action of the stretch reflex mechanism.

Living with Idiopathic Head Tremors

Regardless of the benign nature of this condition, both dog owners and affected dogs themselves would like to be rid of this condition. Since its cause is unknown and consequently has no available treatment, not much can be done in terms of proactive intervention. Even when the use of distractions has been employed, many dog owners would like to at least avoid the occurrence and will ask you how this can be done.

The following are actionable steps on living with and managing idiopathic head tremors and you should relay them to dog owners:

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1. Dog owners should not involve their pets in exercise that would stress them or other activities that could cause over-excitement.
2. Dog owners should restrict medication of their pets to only absolutely necessary ones.

The Role of the Internet and Social Media

The internet is an amazing tool that can be helpful, but it is very important to critically evaluate any claims on the internet and to discuss these claims as your client brings them to you. Dismissing something from “Dr. VetGoogle” just because it’s from the internet does not serve anyone, but a calm and thoughtful evaluation *with the client* can be extremely helpful.

Suggestions

The moment pet owners encounter this condition in their dogs, taking the few steps detailed below is helpful in assisting you, the veterinarian, to make

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a proper diagnosis. These are the steps I counsel my clients to follow if idiopathic head tremors are suspected:

1. Watch closely to be sure it is actually a tremor and not just your dog nodding or shaking its head consciously. Time is a critical factor in determining this; the longer the duration of the episode, the more likely it is an actual tremor.
2. Have them make a video recording of the episode on a phone or camera to show you. The likelihood of the dog to have an episode in the clinic is very close to zero. I have never seen a patient in the clinic have an episode.
3. Since idiopathic head tremors are known to occur mostly when a dog is young or in middle age, if your client's dog has its first episode in maturity, they should schedule an appointment so conditions like epilepsy and inner ear disorders can be ruled out.
4. After a confirmatory diagnosis, breeding dogs with this condition should be strongly reconsidered because the condition is likely a hereditary one.

CONCLUSION

Canine idiopathic head tremor is a condition seen mostly in young dogs and in certain breeds. It can only be diagnosed by a strict elimination process. It is not a progressive condition and does not have any neurological effects.

The condition cannot effectively be treated with medication like other head tremors. Apart from the fact that no specific cause has been detected, medication does not have any effect on the condition.

The condition tends to resolve itself as the affected dogs grow older but the most effective way to manage these tremors and interrupt them while they occur is by distracting the dog.

Hopefully, a more effective way of stopping these tremors will surface in due time, but in the meantime, you are advised to encourage pet owners to handle their pets gently and never panic whenever the symptoms manifest.