

## **Owner Information Sheet – *Paroxysmal dyskinesias***

### **Background**

Paroxysmal dyskinesias are a group of ‘movement disorders’ described in dogs, rarely in cats (and humans), that may be confused with epileptic seizures. These disorders manifest as episodes of abnormal movement, such as flexion of the limbs, an inability to walk and increased muscle tone (e.g. cramping). These episodes can last from seconds to hours (typically 2-10 minutes) and the affected animal returns to normal between the episodes. The main feature that helps to distinguish a paroxysmal dyskinesia from epilepsy is the fact that the animal remains alert and responsive during the episodes. The profuse salivation, urination or defaecation that are commonly seen during an epileptic seizure are also less common for movement disorders. Numerous different movement disorders have been described in different breeds of dog, such as “Scotty cramp” in Scottish terriers, “episodic falling syndrome” in Cavalier King Charles Spaniels and “Spike’s disease” in Border terriers (now known as paroxysmal gluten-sensitive dyskinesia). However, it is likely that dyskinesias can occur in any breed of dog.

### **Cause**

In most cases, the underlying cause of the disease remains unknown. In certain breeds, a genetic background (a specific gene mutation) has been identified (e.g. “episodic falling syndrome” in Cavalier King Charles Spaniels), and a link to gluten intolerance has been reported for Border terriers. In many cases, there may be a trigger that elicits the episodes, such as excitement, stress, or exercise.

### **Clinical signs (symptoms)**

Clinical signs may vary depending on the dyskinesia subtype and dog breed. The common feature in all affected animals is the involuntary contraction of groups of muscles, sometimes causing a movement of whole-body parts such as a sudden flexion and extension of the limbs, or changes in body posture. They may also manifest as a difficulty in walking or whole-body tremors (or just head tremors). Clinical signs may last from seconds, minutes to even hours, and usually first occur in young to young-adult animals.

### **Diagnosis**

A neurologist will typically make a provisional diagnosis of paroxysmal dyskinesia based on characteristic features of the episodes (which is why providing a video of any episodes can be very useful) and by ruling out other possible causes such as non-neurological disease (e.g. heart disease resulting in fainting), epileptic seizures, or episodic pain. When a genetic background is suspected in a particular breed, a blood test confirming a specific gene mutation can be performed. Testing for anti-gluten antibodies can be performed in cases for which a gluten-sensitive dyskinesia is suspected.

## **Treatment**

Many of the dyskinesias recognised in veterinary medicine do not have a specific treatment and animals will therefore continue to have intermittent episodes throughout their life. However, this does not typically affect their lifespan and in many cases the episodes can naturally reduce in frequency over time. For certain conditions, antiepileptic or muscle relaxant drugs might be used to decrease the frequency and severity of clinical signs, and in some cases a gluten-free diet might have a positive impact (e.g. Border terriers).

## **Prognosis**

The prognosis depends on the specific type of disease but is usually fair to good if the symptoms do not progress and the episodes are infrequent. In some animals the episodes might improve or even completely resolve spontaneously. In others, a change of lifestyle and avoiding certain activities can provide a good quality of life.

Your veterinary neurologist or primary care veterinarian will discuss in more detail with you the prognosis for recovery and the expectations of treatment on an individual basis.

If you have any concerns about your dog or cat, or their treatment, do not hesitate to contact your veterinarian.

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