

# OVERVIEW OF MOVEMENT DISORDERS

## DEFINITION

- Movement disorders are a subspecialty of neurology focused on abnormal movements that can result from:
  - Brain dysfunction
  - Exposure to toxins or medications
  - Illnesses that affect the entire body
- Movements can be graded on a scale of “too much” to “too little.”
  - Hyperkinetic – Too much or excessive movement
  - Hypokinetic – Not enough or too little movement, also described as “parkinsonian”
- Movements are often differentiated by their speed from fast to slow.

## TYPES

### Myoclonus

- It’s the fastest involuntary movement.
- It appears as a sudden, brief muscle twitch or jerk that can cause a jump or jolt in the affected body part.
- Examples:
  - Hiccups – Myoclonus of the diaphragm
  - Hypnic jerks – Body jerks that occur as a person falls to sleep
- Movements are localized to one region or the whole body.

- Causes:
  - Brain and spinal cord disease
  - Medications
  - Toxins
  - Organ failure
  - Infections
- Treatment:
  - Depends on the cause
  - Anti-seizure drugs are often used

### **Ballism**

- A sudden explosive, violent movement affects an entire limb or the whole body.
- It appears like wild flailing or flinging, usually on one side of the body.
- It may be associated with a stroke.

### **Tics**

- Movements or vocal sounds occur suddenly, repetitively, and/or nonrhythmically.
- Examples:
  - Excessive blinking
  - Shoulder shrugs
  - Throat clearing
- Other family members often have them too.
- They're often associated with obsessive-compulsive traits.
- Semi-voluntary movements are usually preceded by an urge or inner sensation of mounting tension, and execution of the movement often provides some temporary relief.
- They're worsened by stress, fatigue, and excitement.
- A diagnosis of Tourette syndrome is made if a person has both motor tics and vocalizations.
- Treatments vary according to severity.

## Tremor

- These back-and-forth rhythmic movements can be fast or slow.
- Fast tremors include medication-induced tremors and essential tremors (isolated tremors that occurs with movement and without any other neurologic signs).
- Slow tremors are more often associated with Parkinson’s disease.
- Thyroid disease can cause tremors.
- Treatment depends on the cause.

## Chorea and athetosis

- Chorea and athetosis are irregular and unpredictable writhing, squirming, jerky, and snake-like movements that flow across body parts.
- Chorea comes from the Greek word for “dance.”
- Chorea is a primary sign of Huntington’s disease.
- Movements can be focal or generalized.

## Dystonia

- A sustained pattern of movement appears as turning or twisting.
- Examples:
  - Neck – Cervical dystonia (the most common)
  - Hand – Writer’s cramp
  - Eyelid – Blepharospasm
- Treatment:
  - Botulinum toxin injection
    - Botox
    - Xeomin
    - Myobloc
  - Deep brain stimulation (DBS) can be performed for generalized dystonia.
  - Read the website document Advanced Therapeutics for more information.

## Bradykinesia

- Slowness or scarcity of movement seen in parkinsonism

### **Rigidity/spasticity**

- Muscle stiffness

### **Ataxia**

- Disordered, uncoordinated, or clumsy movements usually due to dysfunction of the cerebellum or brainstem
- Sometimes a result of intoxication