Juvenile Myoclonic Epilepsy (JME): A summary for Parents/Families/Guardians

What is Juvenile Myoclonic Epilepsy (JME)?

JME is a common type of epilepsy accounting for 10% of all epilepsy. It usually begins between the ages of 10 and 24 years.

5–15% of children with JME previously had childhood absence epilepsy. Though usually a lifelong condition, seizures can be controlled with treatment in most cases.

What Causes JME?

JME is due to abnormal electrical activity in the brain. The exact cause of this activity is not fully understood. It belongs to a group of epilepsies known as genetic generalised epilepsies. It is not caused by infections, injuries, or environmental factors. There is often a family history of epilepsy, such as childhood absence epilepsy or juvenile absence epilepsy.

What does a seizure look like in JME?

Children and teenagers with JME can experience multiple different seizure types:

Myoclonic seizures (all cases): Sudden brief jerks, usually in the arms and sometimes the legs, often soon after waking. They can drop objects, spill drinks, or feel a sudden jolt.

Generalised tonic-clonic seizures (common >90%): Loss of consciousness with full-body shaking, stiffening and rhythmic jerking of the arms and legs. Often occur after waking up or when sleep-deprived.

Absence seizures (less common ~30%): Brief staring spells with loss of awareness for a few seconds.

Common triggers:

- Lack of sleep
- Stress
- Alcohol
- Recreational drugs
- Flashing/flickering lights (photosensitivity ~90%)

Diagnosis

Diagnosis is based on the clinical history of seizures and supported by EEG (which records brain activity) findings.

Sometimes, genetic testing may be performed. Most children do not need further tests, such as an MRI scan of the brain, unless seizures are difficult to control or the diagnosis is uncertain.

Treatment Options

Most young adults respond well to treatment:

Anti-seizure medications: Common options are Sodium Valproate (Epilim®), Levetiracetam (Keppra®), or Lamotrigine (Lamictal®). The choice depends on individual factors, including gender, as some medications carry risks in pregnancy.

Lifestyle management: Regular sleep, stress management, and avoiding known triggers such as flashing lights and alcohol.

Ongoing follow-up: Regular review with the epilepsy team to monitor progress and adjust medications, if needed.

Prognosis and Long-Term Outlook

- JME is usually a lifelong condition.
- 70–90% achieve good seizure control with treatment.
- Many require long-term medication, as seizures often return if medication is stopped.
- With good management, most people with JME can lead normal, active lives, including working, driving (if seizure-free for the required period of time) and social activities.

Some may have challenges with attention, memory, or learning, although these are not always due to seizures.

- There is a 1 in 1000 risk of Sudden Unexpected Death in Epilepsy (SUDEP).This risk is greatest in people with uncontrolled or frequent seizures. Good seizure control is the best way to reduce this risk.

When to contact the neurology team:

- Seizures continue despite anti-seizure medication.
- Side effects occur.
- New or different types of seizures develop.

Further Information and Support:

Epilepsy Ireland – www.epilepsy.ie

Epilepsy Action (UK) – www.epilepsy.org.uk