

# MALIGNANT HYPERTHERMIA

## Malignant Hyperthermia is a Rare, Inherited Syndrome

### More Than 80 Genetic Defects Have Been Associated with Malignant Hyperthermia

Malignant Hyperthermia (MH) is a severe reaction to certain drugs used during surgical procedures. It is a rare, life-threatening inherited disorder of the skeletal muscle.

Please use this guide as a resource for knowledge and understanding of the causes, symptoms, diagnosis and treatment of Malignant Hyperthermia.

#### 01 | Causes

In people with MH muscle abnormality, muscle cells have an abnormal protein on the surface. The muscle function is not significantly affected unless exposed to certain drugs, usually certain types of anesthesia medications.

#### 02 | Symptoms

During invasive or surgical procedures where anesthesia is used, patients with MH will display the following symptoms:

- A dramatic rise in body temperature, as high as 113° Fahrenheit
- Rigidity of the muscles
- Flushed skin
- Abnormally rapid or irregular heartbeat
- Rapid breathing
- Dark urine
- Extremely low blood pressure (shock)

#### 03 | Diagnosis

Diagnosis normally occurs during a serious reaction to general anesthesia. If a patient displays symptoms, especially extremely high fever and rigid muscles, MH will be suspected. Certain blood tests can be performed to check levels of muscle enzymes and electrolyte changes.

#### 04 | Treatment

As soon as MH is suspected, the surgical team must act quickly to treat the condition and prevent complications. Treatment will include the following steps:

- Immediate discontinuation of triggering medications

- Administration of dantrolene, a ryanodine receptor antagonist that relaxes the muscles and stops the dangerous increase in muscle metabolism
- Lowering body temperature with cooling blankets, fans and/or cooled intravenous fluids
- Administering oxygen and medications to control the heartbeat and stabilize blood pressure

Treatment at the onset of symptoms is usually successful, and future episodes can be prevented by avoiding known triggers.

Information is critical to understanding the possibility of malignant hyperthermia. Patients and healthcare providers can learn more about this rare syndrome by visiting the Malignant Hyperthermia Association of the United States: <https://www.mhaus.org/>

**Did You Know?**  
Most cases of Malignant Hyperthermia occur in children and adults under age 30.

#### References

<https://www.drugs.com/health-guide/malignant-hyperthermia.html>

<https://rarediseases.org/rare-diseases/malignant-hyperthermia/>

<https://www.newswise.com/articles/seven-facts-people-should-know-about-malignant-hyperthermia>