

## Asterixis

Asterixis is characterized by flapping tremors with periodic loss of postural muscle tone with arms in extension and corrective movements. Hyperammonemia is thought to be the main causative factor. It is associated with liver disease as in hepatic encephalopathy and kidney disease when uremia is significant. Management is centered around treating the underlying disorder.



PLAY PICMONIC

### Characteristics

#### Flapping Tremor

##### Flapping-wings

Asterixis is characterized by flapping tremors. It can be unilateral or bilateral and presents as irregular, sudden, and brief losses of muscle tone (negative myoclonus).

#### Periodic Loss of Postural Muscle Tone with Arms in Extension

##### Periodic Loss of Postural Muscle Tone with Arms in Extension

Patients can be evaluated for asterixis by holding the arms extended with the wrists dorsiflexed and fingers spread. Patients will demonstrate flapping tremors at the wrist. A silent period of 50-200 ms is seen between each "flap".

#### Corrective Movements

##### Correct-sign

During the physical examination of a patient with asterixis, their hand will fall and rapidly be corrected to its starting position. This is called a corrective reflex movement.

#### Hyperammonemia

##### Hiker-ammo

Hyperammonemia is thought to be the main causative factor of asterixis. However, the exact pathophysiology is still not well understood.

### Associations

#### Liver Disease

##### Liver Diseased

Metabolic encephalopathies are associated with asterixis, especially liver disease, which can lead to hepatic encephalopathy.<br>

#### Hepatic Encephalopathy

##### Liver with Altered Brain

Hepatic encephalopathy occurs due to the inability of the liver to metabolize ammonia. It is thought that brain damage from hyperammonemia leads to asterixis. <br>

#### Kidney Disease

##### Kidney Diseased

Another metabolic encephalopathy that is associated with asterixis is kidney disease. Other diseases or disorders that may cause asterixis are respiratory failure (hypoxia and/or hypercapnia), hypoglycemia, Wilson's disease, urea cycle disorders, drugs (most often antiepileptics), and structural brain abnormalities (such as hemorrhage, infarct, neoplasia, viral encephalitis, and cerebral toxoplasmosis).

## **Uremia**

### **U-rainbow**

Kidney failure leads to the inability to excrete nitrogenous waste products, which results in excessive urea in the body. The brain may be affected, resulting in asterixis in these patients.

## **Management**

### **Treat Underlying Disorder**

#### **Treating Disorders Under the Cave**

Management of asterixis is achieved by treating the underlying disorder (e.g. liver or renal disease).