Cluster Headache

Introduction
Cluster headaches are named so because they occur in predictable patterns, often as regular as clockwork. They are one of the most painful types of headaches. Fortunately, treatments and medication can help reduce symptoms and the number of headache episodes.

Anatomy
Researchers believe that cluster headaches may be related to several factors, including problems with the body's biological clock located in the brain (hypothalamus). The biological clock regulates sleep cycles, wake cycles, and hormones. Another possible factor, nerve impulses from the trigeminal nerve send signals about pain and also causes the blood vessels (arteries) in the head to open wider (dilate) and cause pain.

Causes
Cluster headaches are a rare type of primary headache, meaning that they are not caused by an underlying medical condition. In some cases, cluster headaches run in families and may have a genetic component. In other instances, multiple factors may be involved, including disrupted sleep patterns, alcohol consumption, smoking, brain structure (hypothalamus) abnormalities, hormones, blood vessel inflammation, and nerve sensitivity.

Symptoms
Cluster headaches cause abrupt severe intense pain. You may feel sharp burning pain behind your eye or on one side of your head. You may feel restless and have a stuffy or runny nose. Your eye may produce tears and turn red. The pupil (black area) of your eye may become small. Your skin may be pale, flushed, or sweaty. Your eyelid may droop or swell. Some people become sensitive to light or sound.

A single cluster headache may last from 5 minutes to several hours. They frequently begin at the same time and are more common between 9 PM and 9 AM. They may disrupt sleep as they are more likely to occur during Rapid Eye Movement (REM) sleep. Episodes of cluster headaches may last from 2 to 12 weeks. Episodic cluster headaches are followed by a headache-free period of at least one month. Chronic cluster headaches can last for years without a headache-free month.

Diagnosis
Your doctor can diagnose cluster headache by reviewing your medical history and symptoms and conducting an examination, including a neurological examination. Imaging tests, such as CT scans or MRI scans, may be used to rule out other medical conditions. Your doctor may have you keep a record of your headaches.

Treatment
Although there is no cure for cluster headaches, there are many medications that can provide symptom relief. Over-the-counter headache medication usually does not provide relief for cluster headache pain. Instead, your doctor may provide injectable, inhaled, or intravenous (IV) prescription medication. Oxygen may provide dramatic quick relief. In rare cases, conventional surgery or radiosurgery is used to destroy the nerves that transmit pain.

Prevention
Your doctor may prescribe medication to prevent or reduce the episodes of cluster headache. It may help to:

- Maintain a regular sleep schedule. Avoid napping.
- Do not smoke or use alcohol.
- Avoid solvents, such as gasoline or oil-based paints. These products can trigger a headache.
- Avoid glare and bright lights.
- Avoid or be cautious of high altitudes, the reduced oxygen can trigger cluster headaches.

Am I at Risk
Cluster headaches occur more frequently in men than in women. They most commonly occur between the ages of 20 and 40.

Risk factors or triggers for cluster headache:

- Heavy alcohol drinking
- Smoking
- Poor sleep patterns or sleep apnea
- Hormonal changes

Advancements
Researchers are studying devices that are surgically implanted in the brain. One such device stimulates the hypothalamus. Another device is implanted to stimulate one nerve (occipital nerve) to override the affects of another nerve (trigeminal nerve). To date, both devices appear promising.