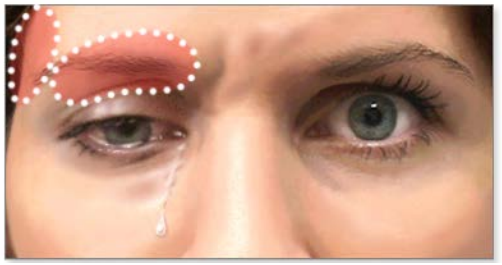
Cluster Headaches

- Symptoms
  - Excruciating pain attacks (often described as “a hot poker in the eye”) affecting one side of the face around the eye, temple, or upper jaw
  - Associated symptoms: feelings of restlessness or agitation, unequal pupils, eye tearing, eye redness, drooping eyelid, nasal stuffiness, runny nose, sensation of fullness in the ear, soft tissue swelling, facial redness, facial sweating (all on the same side as the headache)



  - Possible premonition prior to a cluster attack (twinges of pain, light sensitivity, change in mood) or sensations afterward
  - Circadian rhythmicity (occurring daily at the same time of day – usually during sleep or early morning hours)
  - *Episodic* cluster headaches occur in cluster cycles (lasting weeks) then go away for a month or more before recurring
  - *Chronic* cluster headache is experienced without remission for more than a year
  - There is a 30% chance *episodic* cluster headache will turn into *chronic* cluster headache
  - Some studies suggest that only 12% of individuals experience a remission and never experience them again
  - Triggers:
    - Alcohol
    - Cigarette smoking
    - Stress
    - Allergens
    - Seasonal changes
    - High altitudes (trekking, air travel)
    - Bright light (including sunlight)
    - Exertion (physical activity)
    - Heat (hot weather, hot baths, hot tubs)
    - Foods high in nitrites (bacon, preserved meats)
    - Certain medicines (such as nitroglycerin)

- Causes:
  - The clock-like regularity of attacks suggests a disorder of the hypothalamus, the brain’s clock, as this has been shown to become activated during cluster attacks
  - Neurotransmitters are released and activate various parts of the nervous system:
    - The trigeminal nerve, which is responsible for sensation of the face
    - The parasympathetic system, which causes a runny nose, sweating, and eyelid swelling
    - The sympathetic nervous system, which causes a drooping eyelid or small pupil

- Risk Factors:
  - Genetic predisposition
  - Male gender
  - Age older than 30 years
  - Small amounts of vasodilators (such as alcohol)
  - History of heavy smoking
  - History of heavy alcohol use

- Diagnosis:
  - Medical history and physical exam
  - Diagnostic testing, such as brain MRI or carotid ultrasound, may be ordered to evaluate the cause of the pain and symptoms

- Treatment:
  - Acute Treatments:
    - Injection, oral, or intranasal preparations of triptans, such as sumatriptan (Imitrex)
      - Note: use should be limited to twice daily
    - Injection or intranasal preparations of dihydroergotamine (DHE)
      - Note, use should be limited to twice daily
    - Breathing in 100% (pure) oxygen for 10 minutes via a mask
    - Steroidal anti-inflammatory medications (such as prednisone or medrol)
    - Trigger point injections or occipital nerve block (see additional handout)
      NOTE: pain medications, including opioids, are relatively ineffective
  - Preventative Treatments:
    - Avoid triggers (smoking cessation, alcohol cessation, etc.)
    - Blood pressure medications such as verapamil (Calan)
    - Anticonvulsant medications (such as carbamazepine (Tegretol), gabapentin (Neurontin), lamotrigine (Lamictal), phenytoin (Dilantin), or valproate (Depakote), or topiramate (Topamax)