

# Facial Dystonia

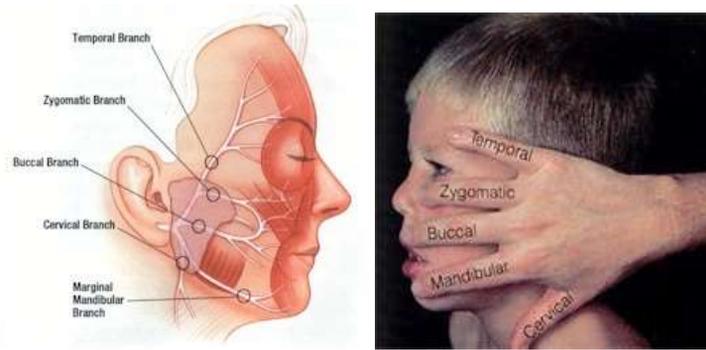
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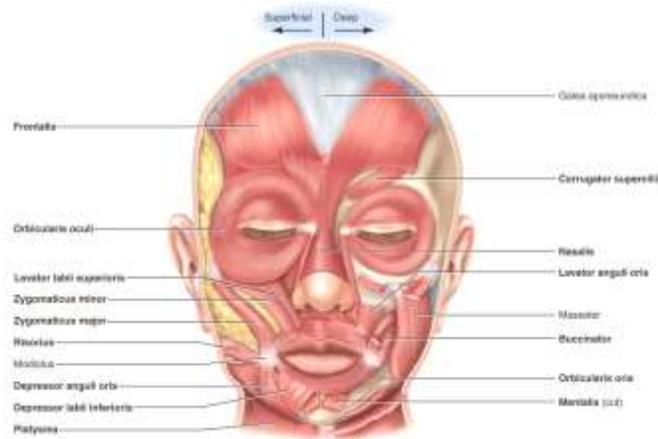
## Facial Nerve

- 7<sup>th</sup> cranial nerve
- Mixed nerve of motor, autonomic and sensory fibers
- Supplies the muscles of the face, lacrimal and salivary glands and the anterior part of the tongue

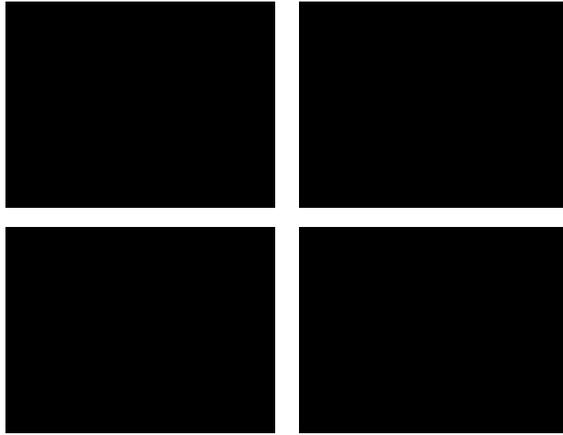
# Facial Nerve



# Facial Muscles



## Facial Dystonia



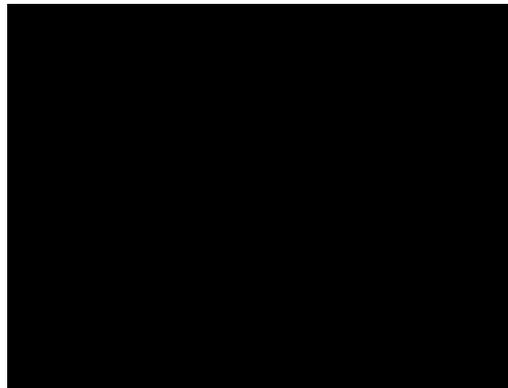
## Facial Dystonia

- Benign essential blepharospasm (BEB)
- Apraxia of lid opening (ALO)
- Facial synkineses
- Hemifacial spasm
- Facial myokymia
- Facial tics

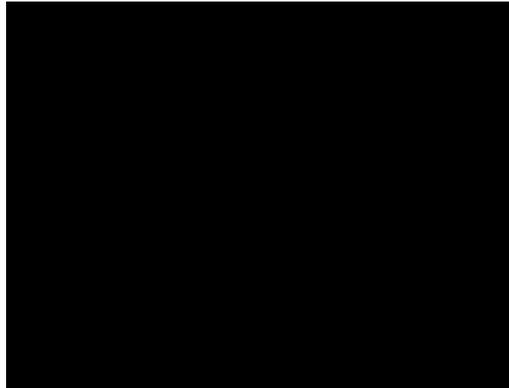
## Benign Essential Blepharospasm (BEB)

- Involuntary closure of eyelids of both eyes due to contraction of lid muscles
- Onset: 40-60 ys, more common in females
- The exact cause is unknown. (? basal ganglia misfiring)
- Risk factors: stress, light sensitivity, blepharitis, intraocular inflammation, lack of sleep.
- Neuroimaging is rarely indicated
- Treatment:
  - Botox injection
  - Orbicularis myectomy in patients with poor response to Botox injection

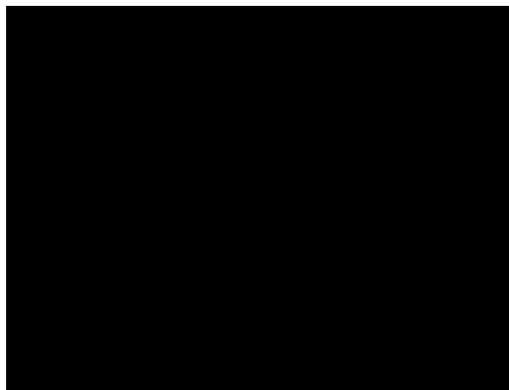
## Benign Essential Blepharospasm (BEB)



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## Apraxia of Lid Opening (ALO)

- Difficult voluntary lid elevation after lid closure
- Onset: 55-65 ys, more in females
- Due to persistent levator inhibition or orbicularis activity or both
- The exact cause is unknown.  
(? dysfunction of supranuclear control of eyelid movement)
- DD: benign essential blepharospasm (BEB)
- Occurs in association with many CNS diseases or intoxication as progressive supranuclear palsy, Parkinson disease, hydrocephalus, motor neuron disease, Huntington chorea or lithium intoxication

## Apraxia of Lid Opening (ALO)

- Neuroimaging is indicated
- Treatment:
  - Antiparkinson, anticholinergic, anticonvulsant medications
  - Frontalis suspension is preserved for persistent cases

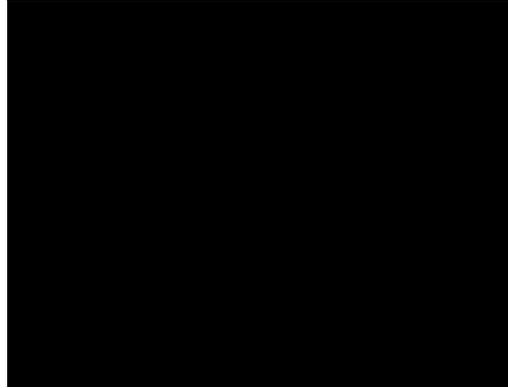
## Apraxia of Lid Opening (ALO)



## Facial Synkineses

- Abnormal synchronization of facial movements
- Muscular contraction of the upper face leads to involuntary contraction of lower face and vice versa
- A common sequela of facial nerve paralysis
- Due to aberrant regeneration of facial nerve
- Treatment:
  - Botox injection
  - Myectomy is rarely needed

## Facial Synkineses



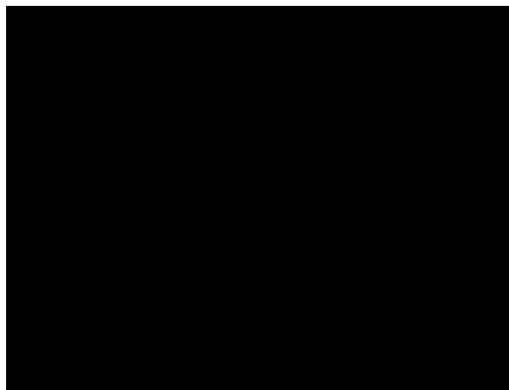
## Hemifacial Spasm

- Unilateral involuntary rhythmic contractions of facial muscles with eyelid closure and elevation of the angle of the mouth
- In middle or old age, more common in females
- Due to hyper-excitability of facial nerve
- Idiopathic, or due to pontine ischemia, MS, compression of the nerve by a mass lesion or ectatic blood vessel in CPA
- MRI, MRA are important
- Treatment:
  - Botox injection
  - Medications as anti-epileptics & muscle relaxants
  - Surgery as vascular decompression or myectomy

## Hemifacial Spasm



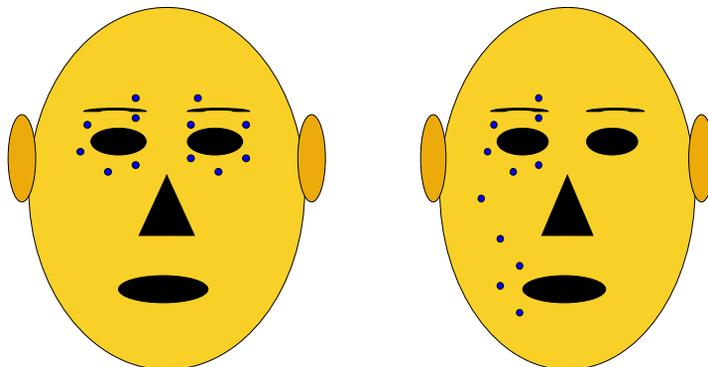
## Hemifacial Spasm



## Botox Injection



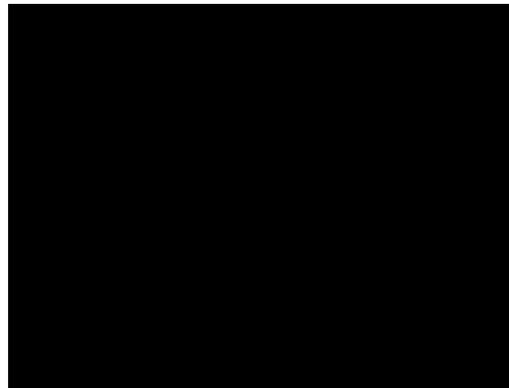
## Botox Injection



## Facial Myokymia

- Continuous, undulating, involuntary movement of the facial muscles (bag of worms appearance)
- The exact mechanism is unknown.  
(? abnormal nuclear or supranuclear input to the facial nerve)
- Benign or associated with inflammatory demyelinating diseases, brainstem neoplasms, Guillain-Barré syndrome or post radiation therapy
- Neuroimaging rules out brainstem pathology
- Treatment:
  - Antiepileptic agents
  - Botox

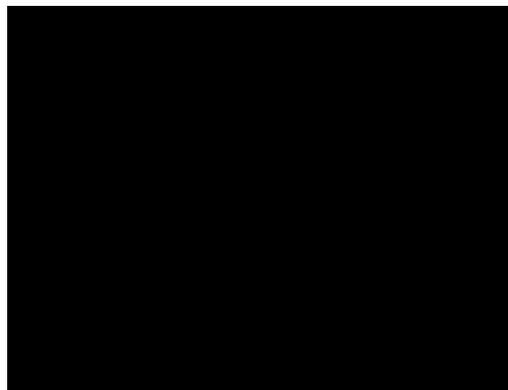
## Facial Myokymia



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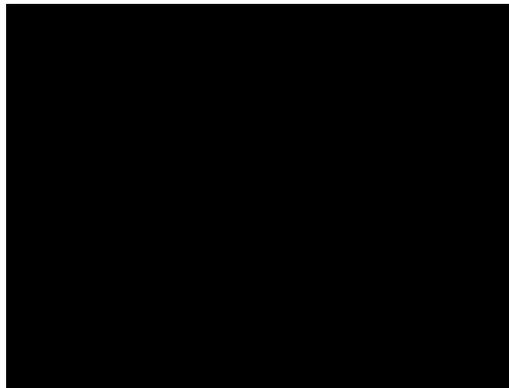
## Facial Myokymia



## Facial Tics

- Repeated spasms involving the eyes and face muscles
- Occur most often in children, more common in boys
- The cause is unknown. Stress makes them worse

## Facial Tics

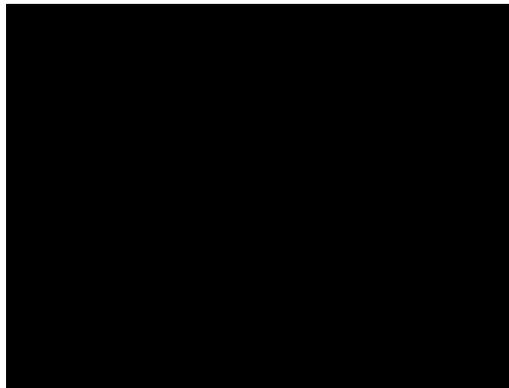


## Facial Tics

### Tourette's syndrome:

- The most severe tic disorder
- Onset between 7-10 ys
- Presents with motor and vocal tics
- Improves as the child gets older
- Treatment options include behavioral therapy, medications or both

## Tourette Syndrome



## Conclusion

- Facial dystonia is abnormal involuntary facial movement
- May be idiopathic or related to a specific neurological disease
- Neuroimaging is important in many cases
- Treatment options include Botox injection & medications. Surgery is indicated for non responsive patients to Botox or medical treatment

Thank you