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# VII Nerve Palsy: More than meets the eye

Samuel A Gallo MD

# VII Nerve is a mixed nerve

- Motor
  - Muscles of facial expression, Stylohyoid muscle, posterior belly of the digastric, and the stapedius
- Sensory
  - Anterior 2/3rd of tongue
  - Preganglionic parasympathetic fibers innervating the submandibular, sublingual, and the lachrymal glands
  - Also the mucous membranes of the nose, palate and oropharynx

# VII palsy

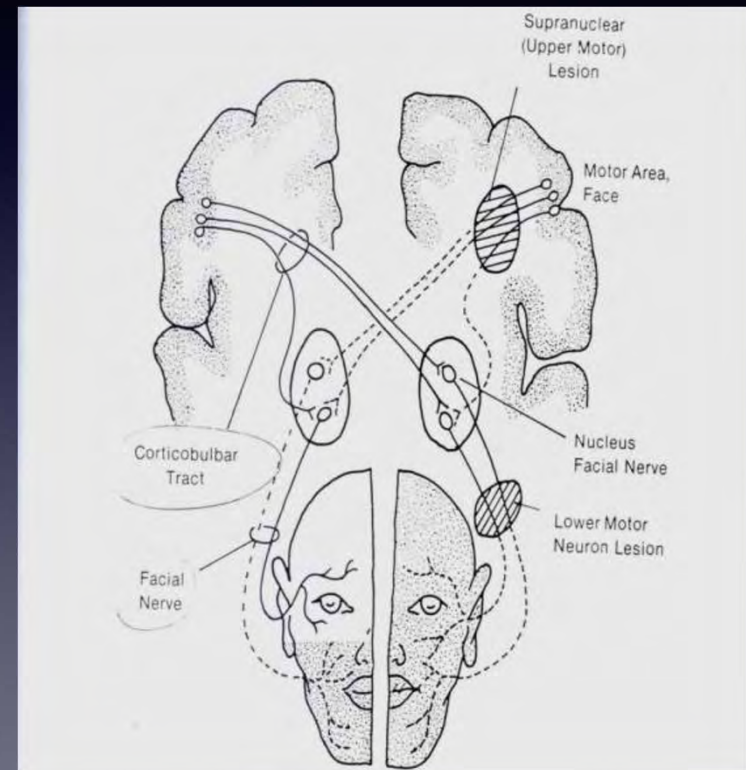
- Seven nerve palsy generally refers to weakness of the facial muscles
  - Permanent or temporary
  - Complete or partial

# Causes of VII palsy

- Central/Intracranial
  - Disease states such as MS, GB (esp Miller-Fisher variant)
  - Acoustic Neuroma or other tumors
- Peripheral
  - Parotid tumor, Invasive skin Ca
  - Bell's Palsy

# Central vs peripheral

- The major clinical difference between central and peripheral is in a central lesion the contralateral upper face will be unaffected

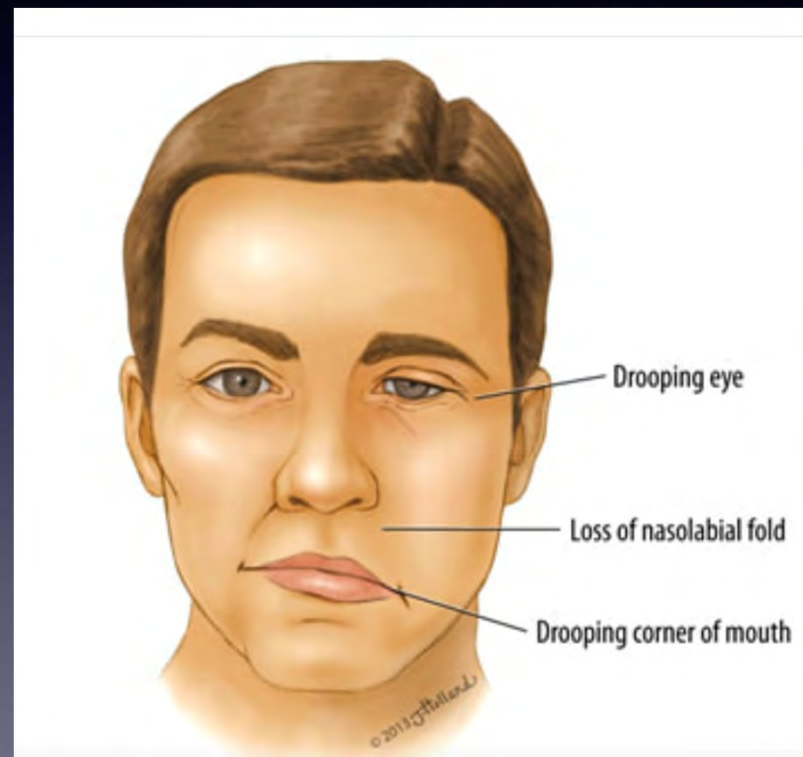




Acoustic neuroma patient

# Bell's Palsy

- Bell's palsy is an unexplained episode of facial muscle weakness or paralysis
- It begins suddenly and worsens over 48 hours





# Tx for Bell's palsy

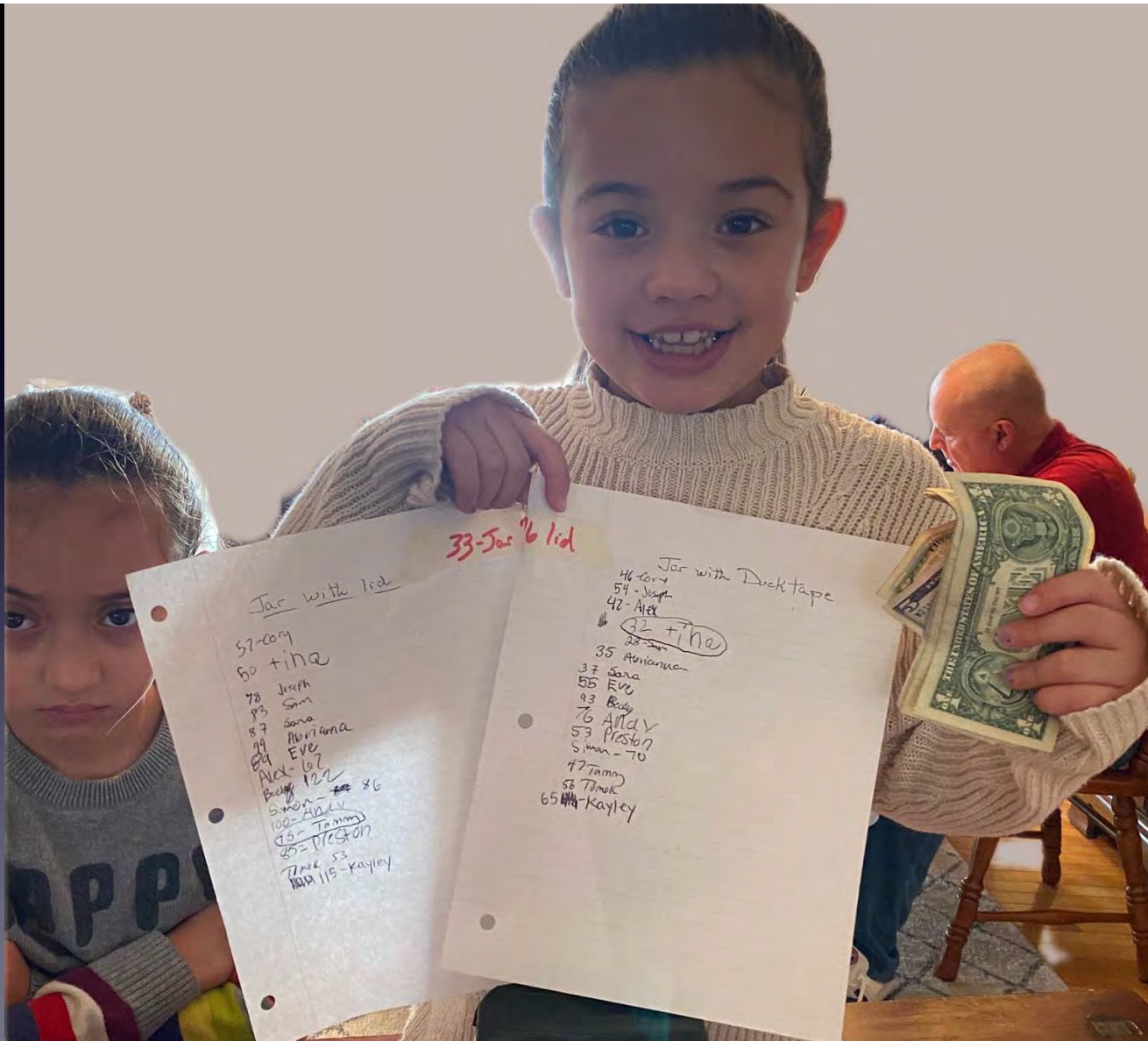
- 40-60mg prednisone for 7 days
- Antiviral such as acyclovir 800mg tid for 7 days

# Facial palsy affects people

- Physical issues
- Emotional issues

# Physical Issues

- Facial Expression
  - The Mimetic muscles are important in nonverbal communication and conveying tone and emotion



33-Joe '6 lid

Jar with lid

57-cory  
60 tina  
78 Joseph  
83 Sam  
87 Sara  
89 Auriana  
94 Eve  
Alex-62  
Bobby 122  
Simon-86  
100-Haley  
105-Tamm  
85-Preston  
Tina 53  
10115-Kayley

Jar with Ducktape

46-cory  
54-Joe  
42-Alex  
32-tina  
35 Auriana  
37 Sara  
55 Eve  
93 Betty  
76 Andy  
53 Preston  
Simon-70  
47 Tamm  
56 Tamm  
65 Kayley

# Physical issues

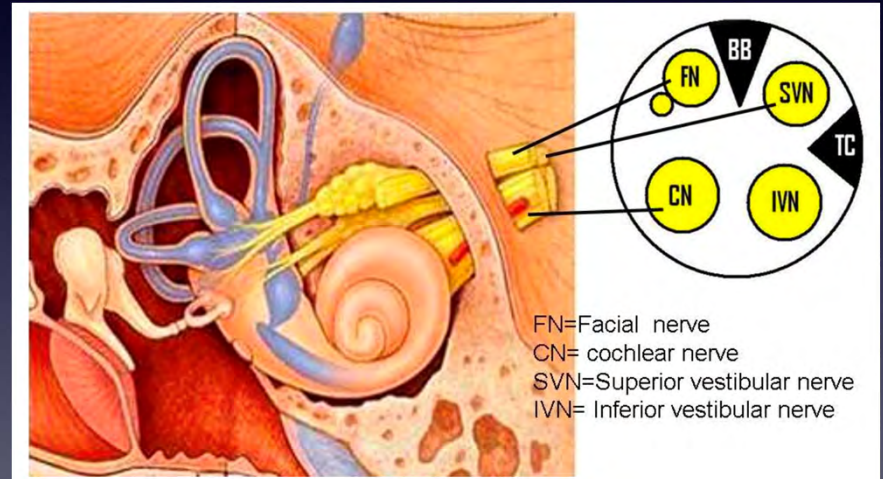
- Eating and drinking
  - Weakness of the cheek and lip seal make things difficult such as
    - Eating and retaining food
    - Biting cheek
    - Using straw

# Physical Issues

- Dental issues
  - Decreased Saliva production make more prone to decay
  - More difficult to brush teeth

# Physical Issues

- Hearing
  - The stapedius muscle can be affected making noises seem louder on the affected side



# Physical Issues

- Speech
  - Weak, muffled , and distorted

# Physical Issues

- Spasm
  - When the seventh nervous is injured,
  - hemi facial palsy can ensue



# Physical Issues

- Synkinesis
  - Most common example that we see is a reverse jaw wink, that is when a patient smiles their eye closes.
  - Can use judicious Botox



# Physical Issues

- Difficulty breathing on the affected side
  - Weight of flaccid muscles
  - Loss of muscle tone in the ala and sidewall (Nasalis muscle)



# Emotional Issues

- Bullying
- Forming friendships
- Dating
- Anxiety and Depression

# Surgical rehabilitation

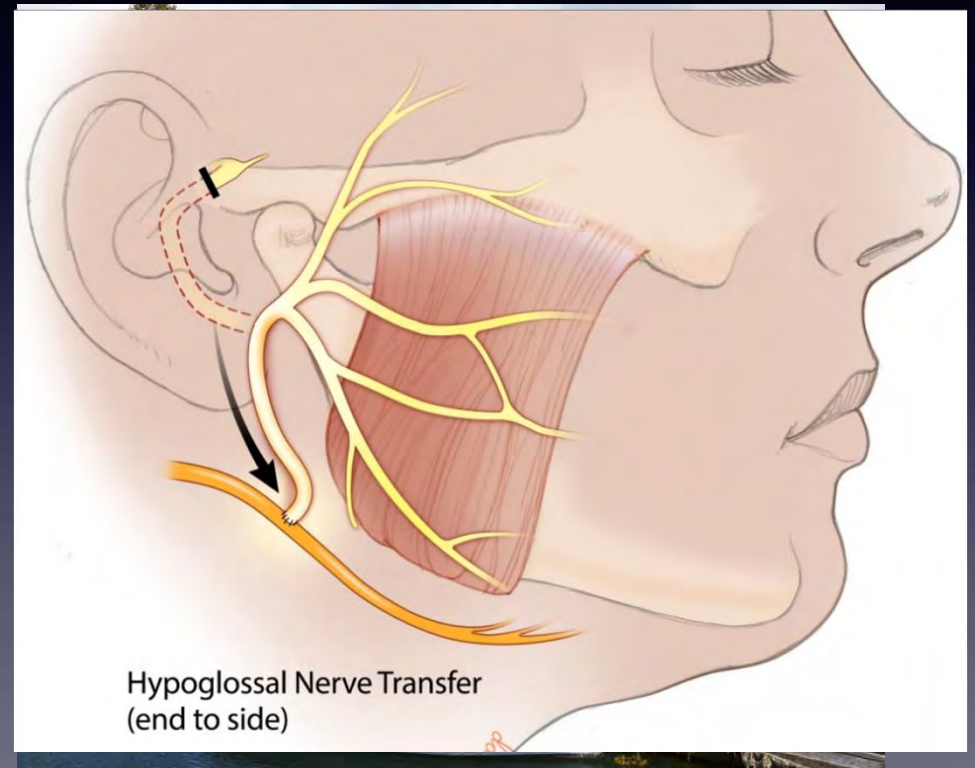
- Dynamic
  - Nerve or Muscle transfer
  - Best done within two years of injury
- Static
  - Sling
  - SMAS rhytidectomy

# Dynamic Rehab

- Hypoglossal nerve transfer
- Masseteric nerve transfer
- Dual nerve transfer (hypoglossal and masseteric)
- Gracilis free flap
- Temporalis tendon or muscle transfer

# Hypoglossal nerve transfer

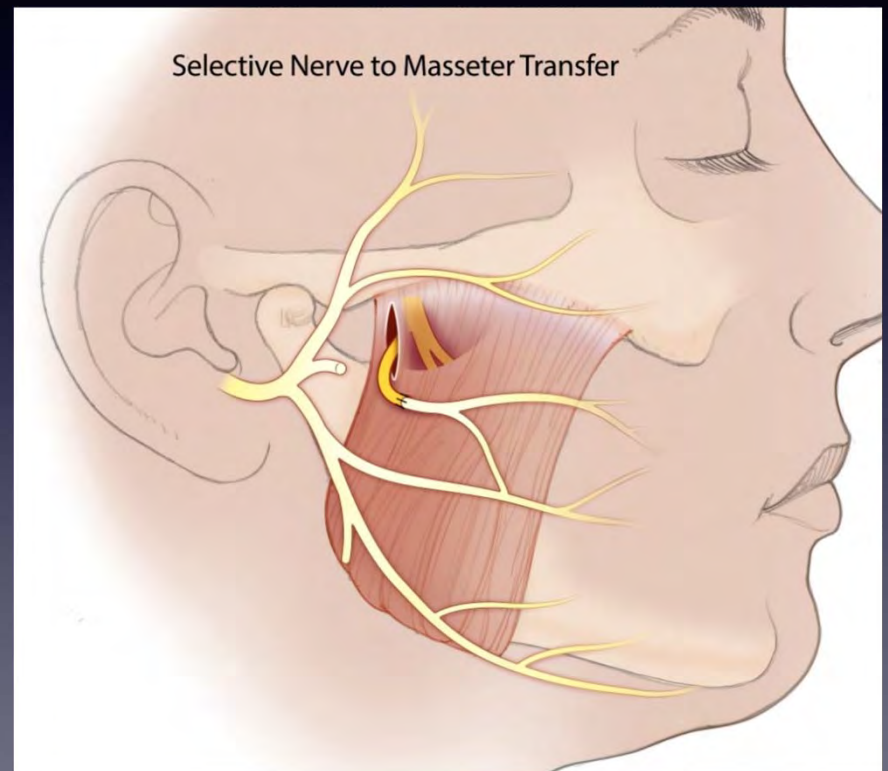
- Give good static tone for facial symmetry

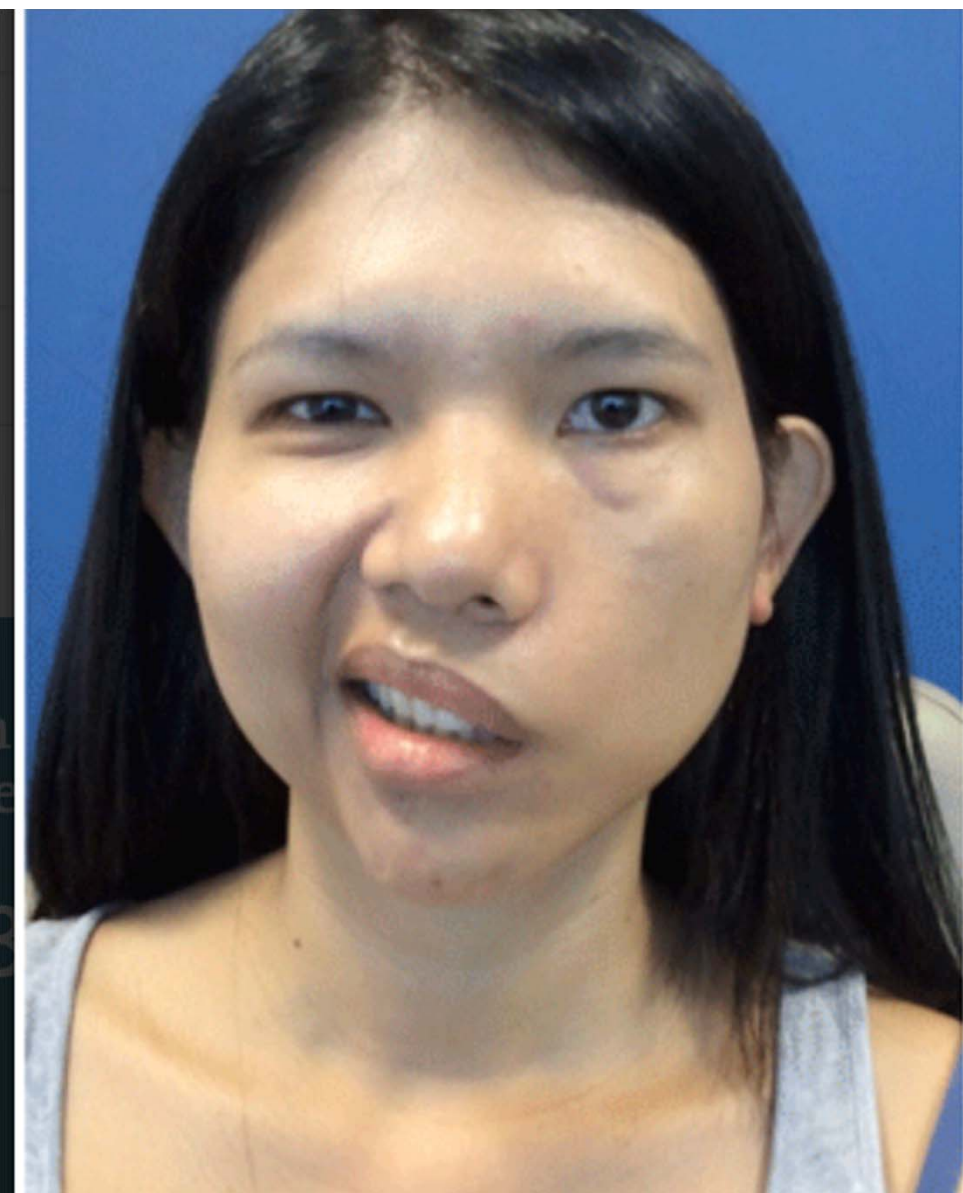




# Masseteric nerve transfer

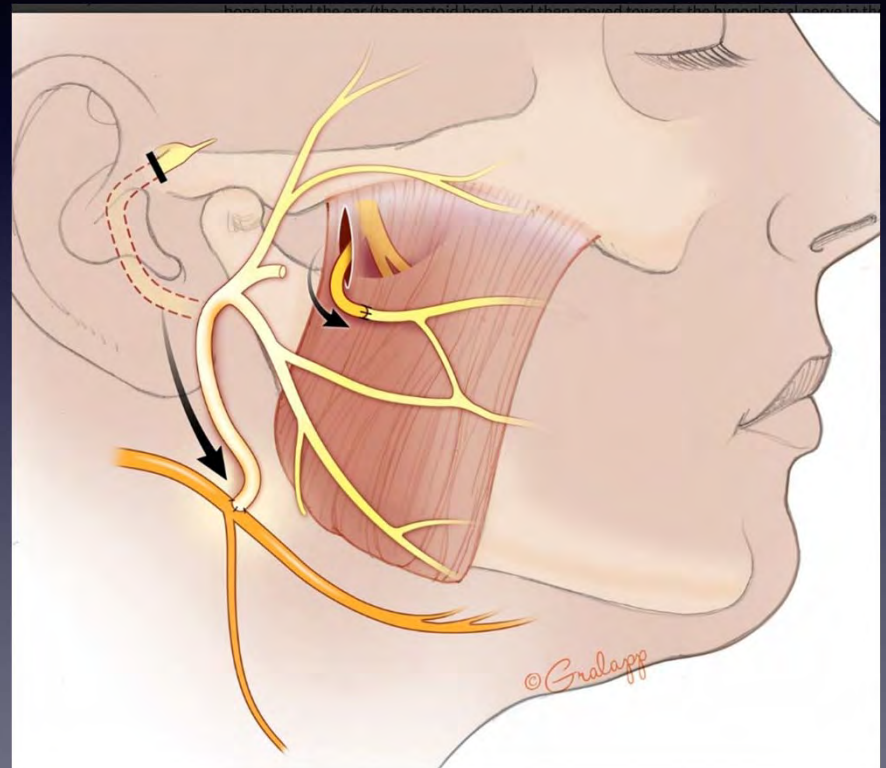
- Can give patient ability to smile
- Zygomatic Major and minor

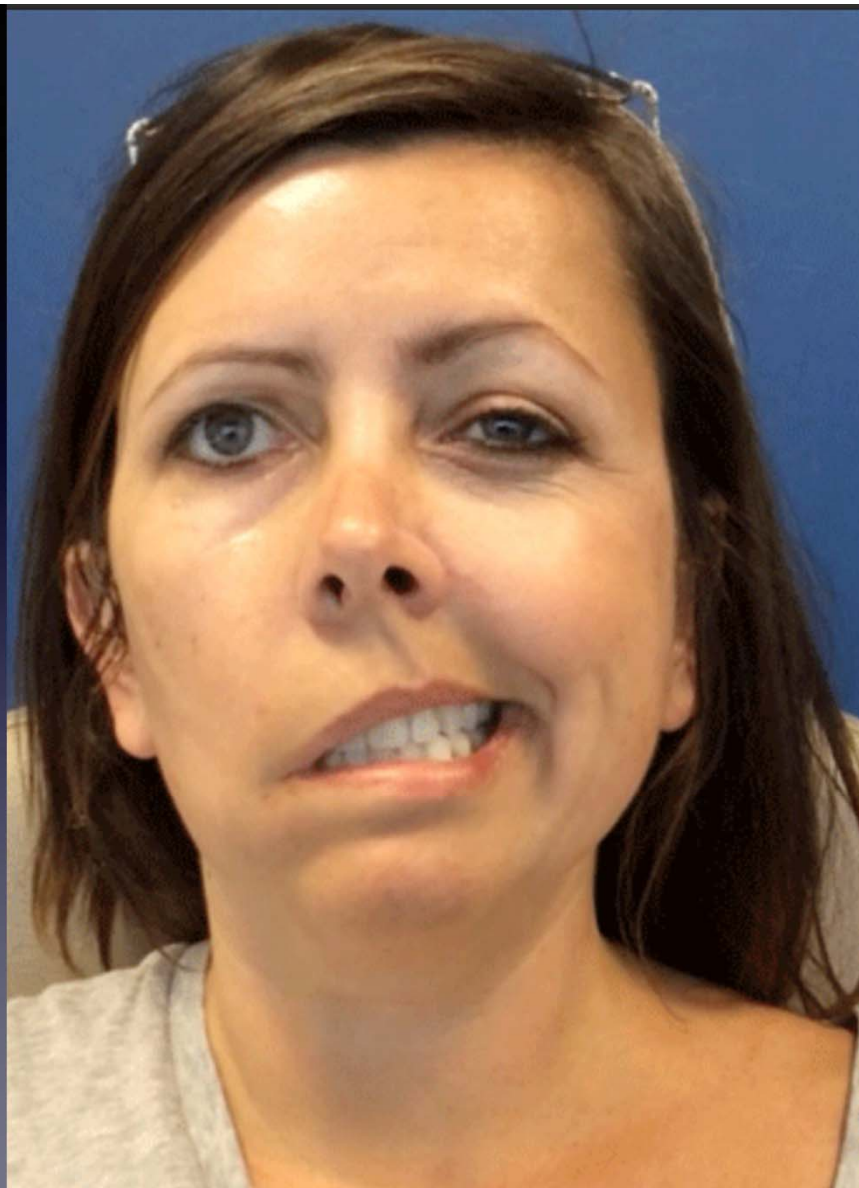




# Dual Nerve Transfer

- Gives excellent tone at rest/facial symmetry
- Gives patient ability to smile
- Zygomatic Major and minor





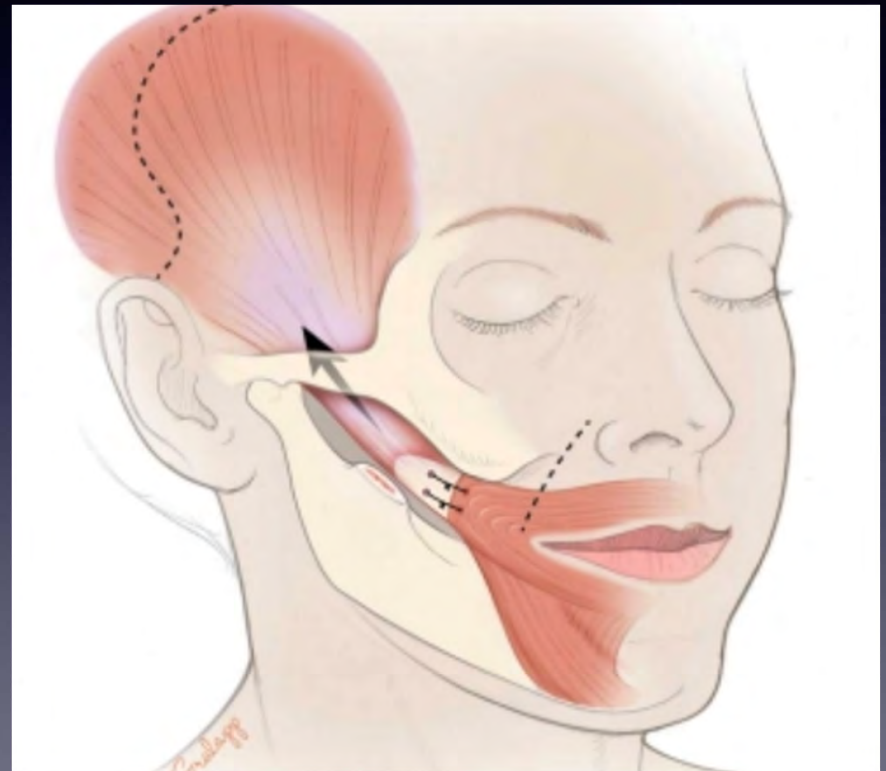
# Gracilis free flap

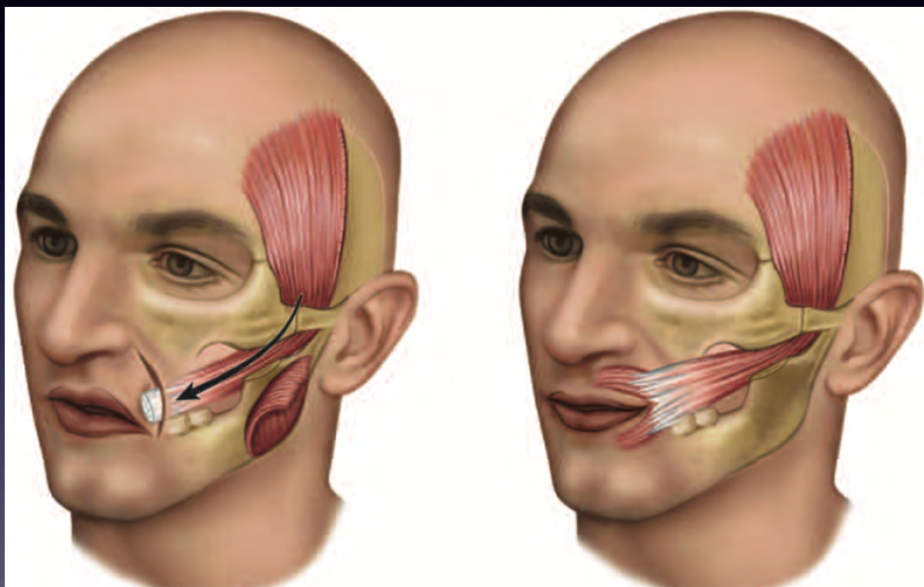
- Generally reserved when there is loss of facial musculature or information the distal end of seventh nerve is no longer intact



# Temporalis muscle/tendon transfer

- The temporalis muscle/or tendon may be transferred to corner of mouth on affected side





# Static Slings

- Can be used to elevate corner of mouth and nose
- Can be done any time



# Other states and ancillary procedures

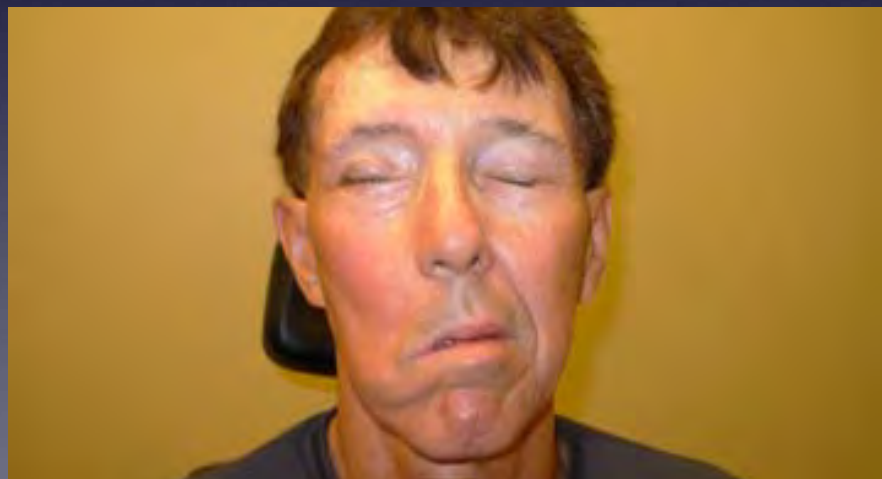
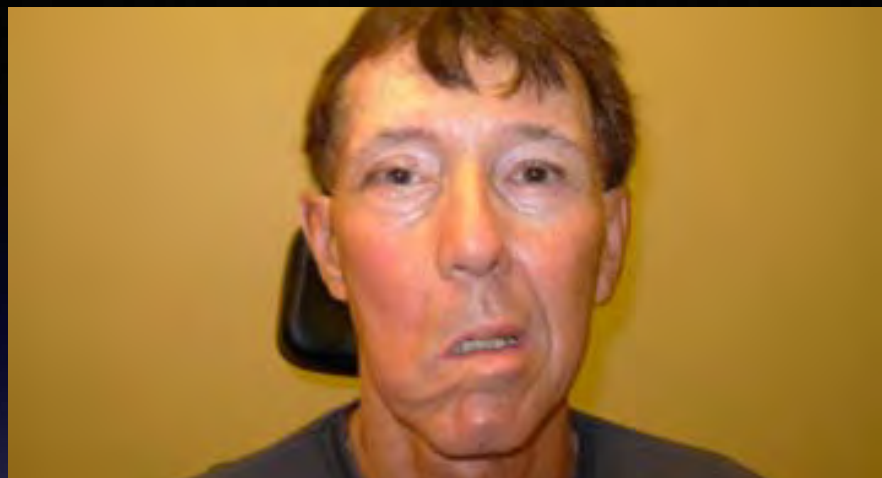
- Rhytidectomy
- Raising corner of mouth
- Lip roll
- Botox

# Personal clinical examples

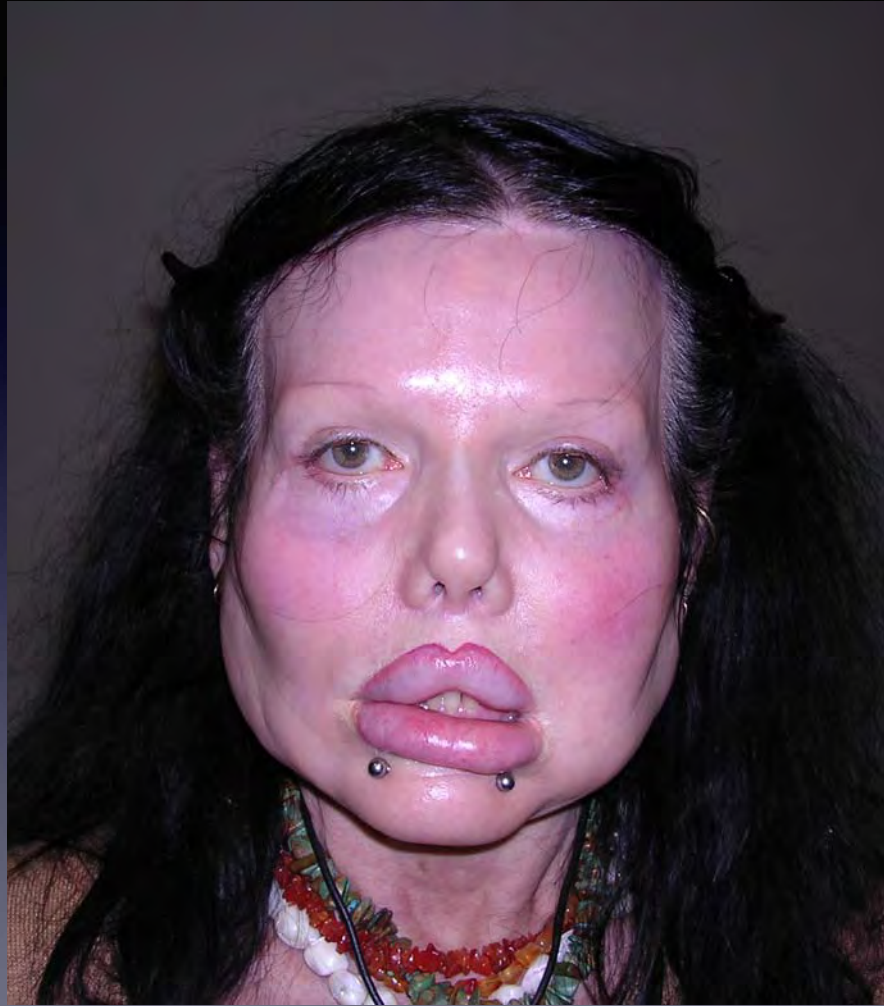


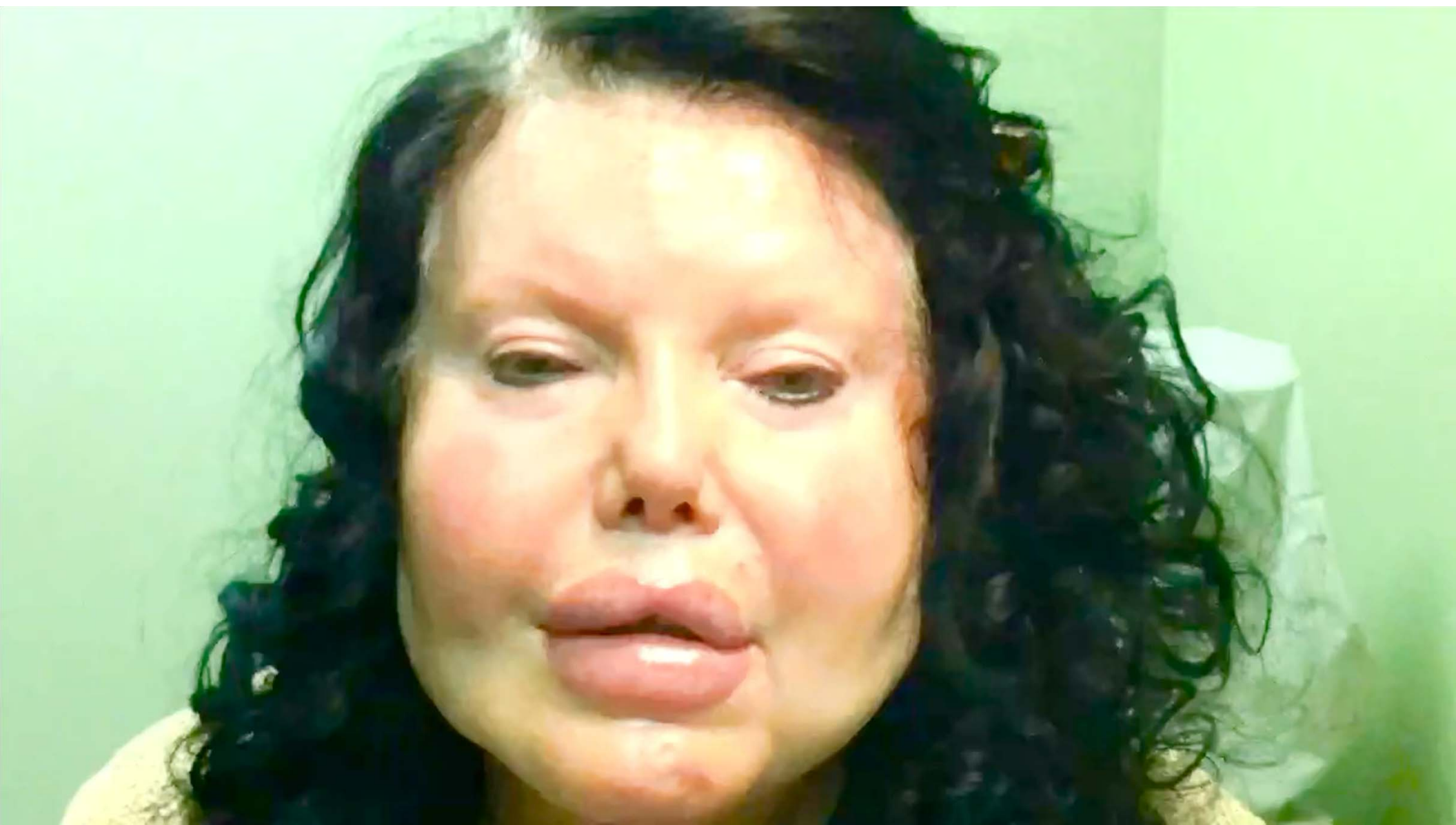














Patient s/p Bell's with weakness and synkinesis





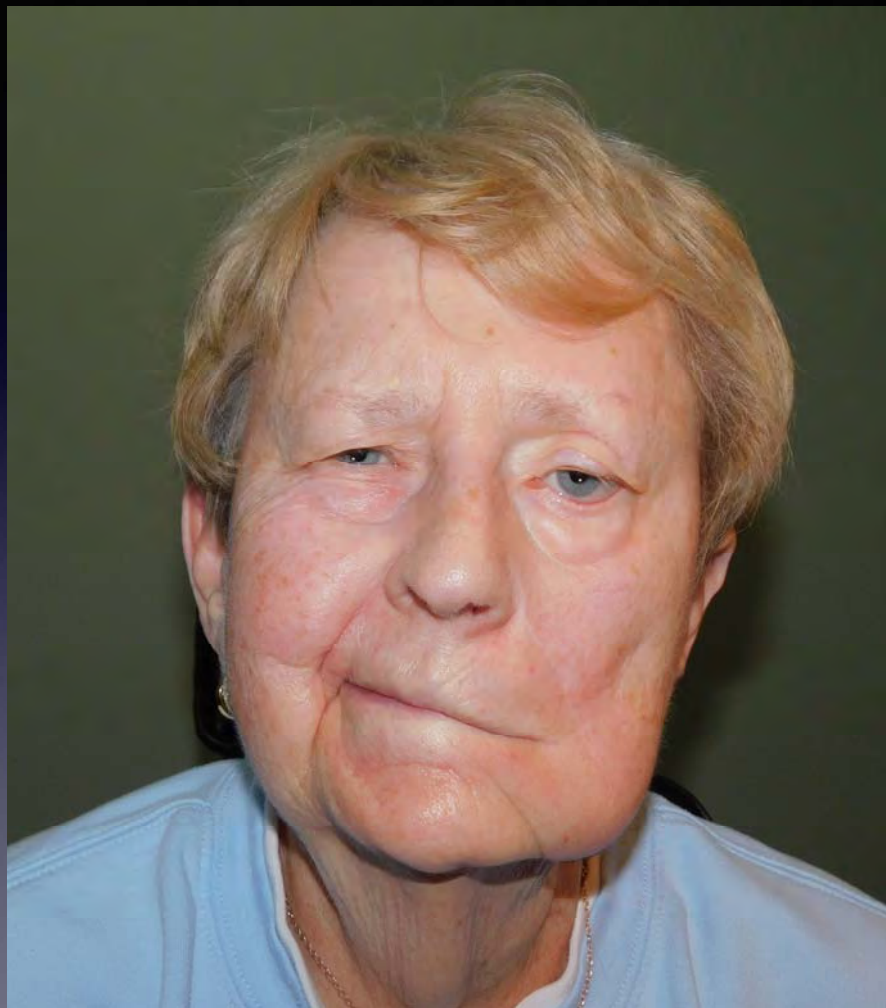


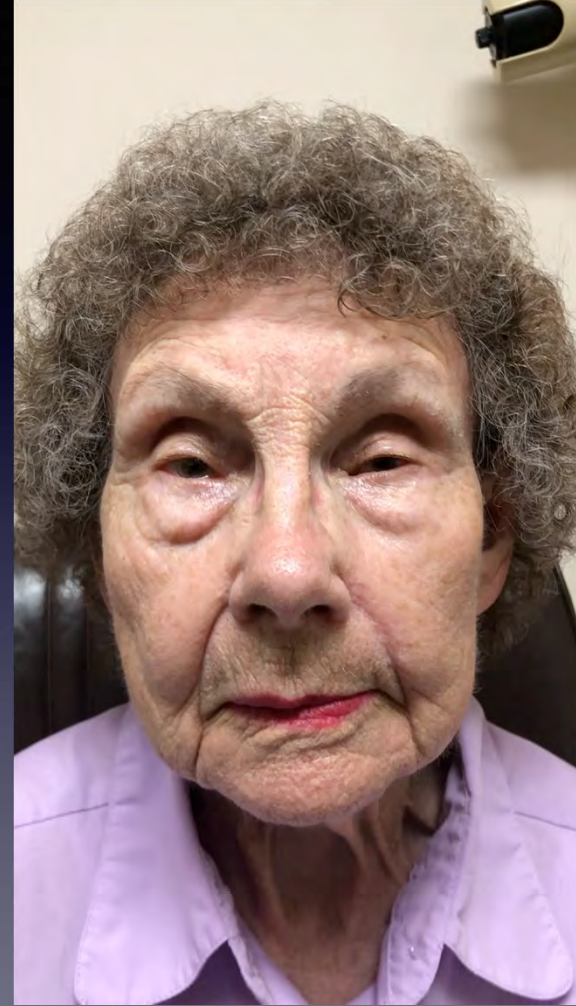




Don't forget  
therapeutics







# Summary

- We as physicians can help more than the Patients eye
- Timely referral ( between year one and two ) will afford patient and surgeon with more options
- Its Never too late to help

# And most important

