

### *Why UMNL spare the upper part of the face?*

- due to a lesion in supranuclear neurons innervating facial nerve
- spare the upper face because there is bilateral supranuclear innervation to upper face  
(တစ်ခါတစ်ရံ upper facial weakness ရှိတတ်။ uneven innervation 70:30 ရှိတတ်လို့)

### *What are the causes of bilateral facial nerve palsy?*

- 1) GBS
- 2) Sarcoid (Heerfordt's disease)
- 3) Melkersson-Rosenthal syndrome
- 4) Lyme disease
- 5) Bilateral Bell's palsy

### *Causes of unilateral facial nerve palsy?*

- 1) Idiopathic [ Bell's ]
- 2) HZV [Ramsay Hunt \$ ]
- 3) CPA lesion
- 4) Parotid tumors/ infection/ surgery WART PLC
- 5) OM
- 6) Mononeuritis multiplex – DM, PAN, CSS, WG, RA, Sjogren, sarcoid, leprosy, Lyme, lymphoma

### *Complications of Bell's palsy?*

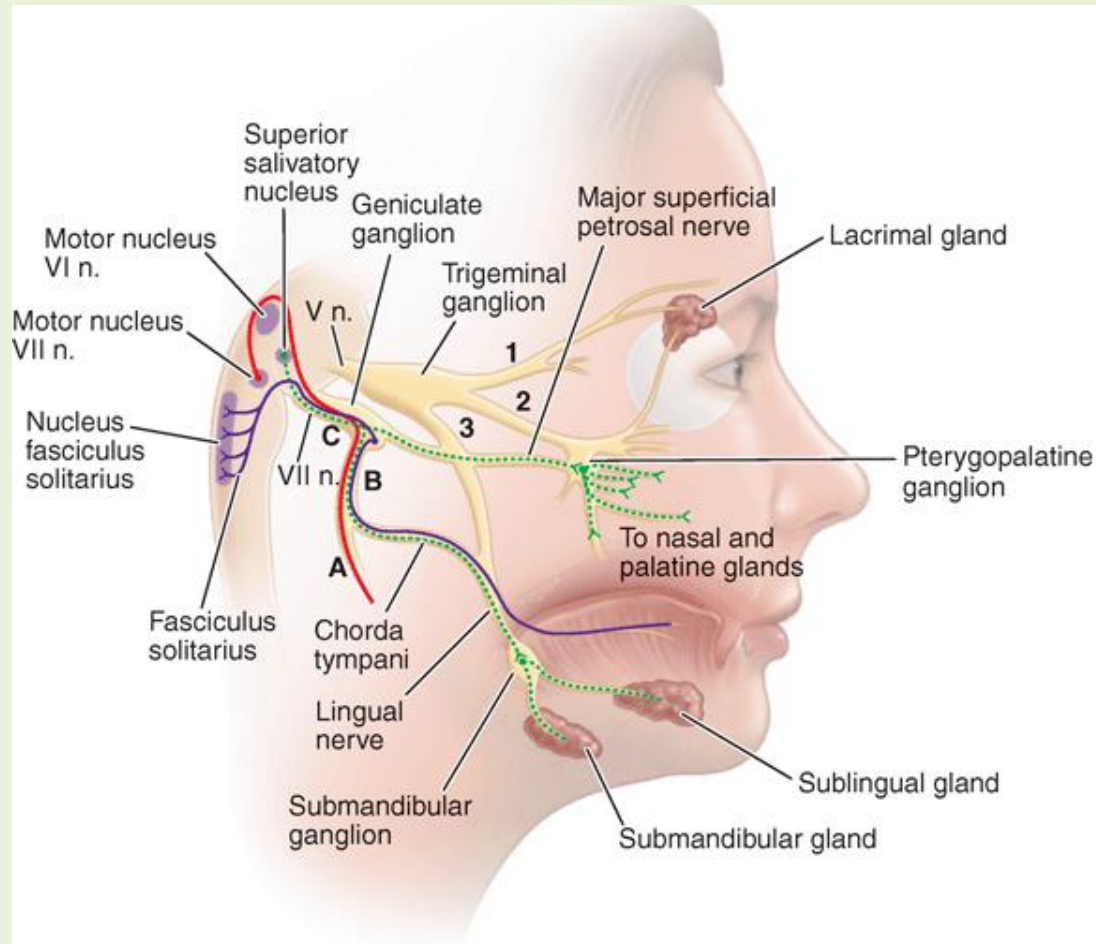
- 1) Persistent facial weakness 10%
- 2) Corneal abrasion
- 3) Pain & sensory disturbances in distribution of facial nerve
- 4) Aberrant reinnervation causing crocodile tears
- 5) Hemifacial spasm

### *How would you localize the facial nerve palsy?*

- Ipsilateral VI nerve palsy = nuclei in the pon
- V, VIII nerve involvement = CPA lesion
- Loss of taste (lingual) or hyperacusis (stapedius) = bony canal

### *What is the prognosis of Bell's palsy?*

The prognosis is favorable in most cases, but **about 10% of patients achieve little recovery**. Aberrant regeneration of the facial nerve can cause synkinesias, such as “jaw winking” (when the eye is closed) or tearing accompanying salivation (“syndrome of crocodile tears”).



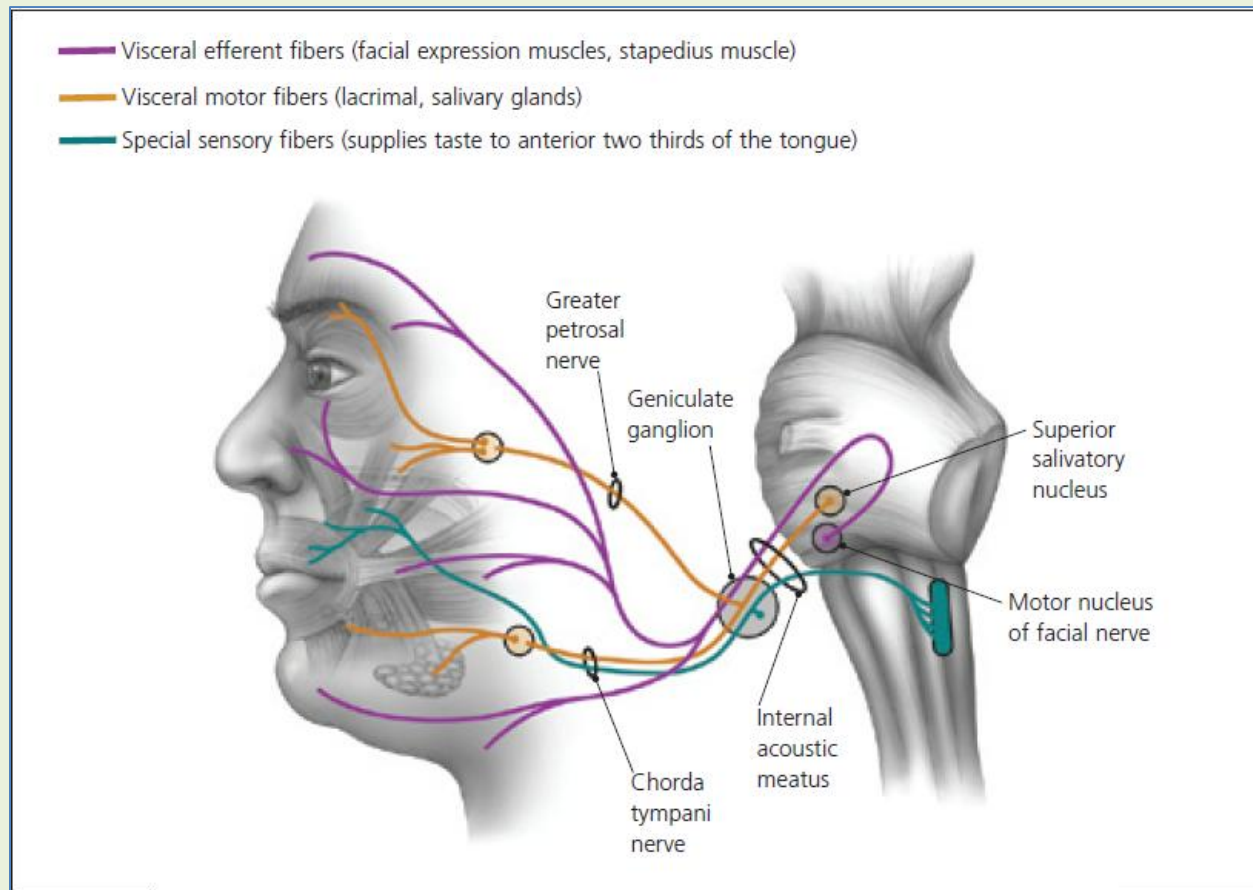
*The facial nerve. A, B, and C denote lesions of the facial nerve at the stylomastoid foramen, distal and proximal to the geniculate ganglion, respectively. Green lines indicate the parasympathetic fibers, red line indicates motor fibers, and purple lines indicate visceral afferent fibers (taste).*

*How would you guess the site of lesion?*

- 1) Lesions distal to geniculate ganglion => mostly motor abnormalities
- 2) Lesions proximal to geniculate ganglion => motor, gustatory & autonomic abnormalities

*What do you understand by Melkersson-Rosenthal Syndrome?*

- Acute episodes of facial paralysis
- Facial swelling & Fissured tongue (scrotal tongue)
- Very rare; familial but sporadic
- Usually begins in adolescence
- Leads to facial disfigurement
- No definite therapy



Facial asymmetry is noted on inspecting the patient.  
 The patient has widened palpebral fissure on the R/L.  
 The corner of R/L mouth droops with flattened nasolabial fold on that side.

There is weakness of R/L side of the face as evidenced by

- Inability to screw R eye shut (orbicularis oculi)
- Inability to frown R/L side (corrugator superciliaris)
- Weakness on puffing out the cheek on R/L
- Inability to whistle
- Loss of wrinkle with inability to raise his eyebrow on the L/R (frontalis)

The eyeball turns up on attempted closure (Bell phenomenon)

There is

- no pus discharge or
- vesicle around the ear,
- no scar,
- no parotid enlargement
- no thickened greater auricular nerve
- no oral thrash or no vesicle in the mouth

There is no VIII nerve involvement as evidenced by no deafness

There is no IV, VI nerve involvement or cerebellar sign (CPA lesion)

There is no V nerve involvement (CPA lesion)

Tell the examiner you wud like to examine for taste. (involvement of chorda tympani)

Also want to test urine sugar.

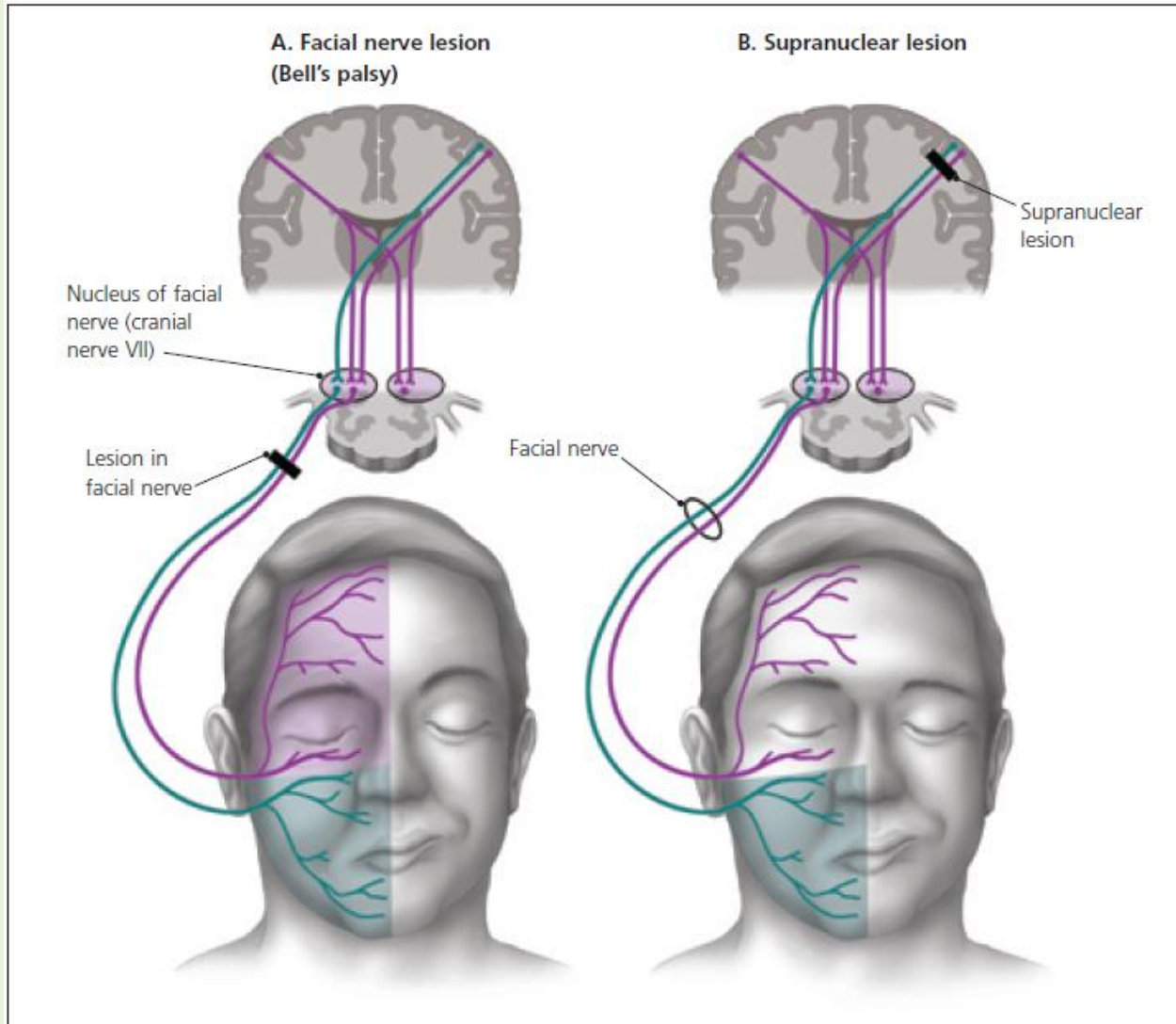


Figure 2. Patients with (A) a facial nerve lesion and (B) a supranuclear lesion with forehead sparing.

**Table 2. Clinical and Anatomical Features of Facial-Nerve Damage.**

Site of Damage	Facial-Nerve Signs	Common Associated Features	Common Causes
Cortex, subcortical region	Contralateral central facial weakness; lacrimation, salivation, and taste intact	Contralateral hemiparesis and spasticity	Cortical or subcortical infarct
Pons	Ipsilateral peripheral facial weakness; lacrimation, salivation, and taste intact	Contralateral hemiparesis, sensory loss, ataxia, nystagmus, ipsilateral abducens palsy, ophthalmoparesis	Pontine infarction, glioma, multiple sclerosis
Cerebellopontine angle	Ipsilateral peripheral facial weakness; lacrimation, salivation, and taste usually intact	Tinnitus, facial numbness, ataxia, nystagmus	Acoustic or facial neuroma, meningioma, cholesteatoma, lymphoma, aneurysm, sarcomatosis
Facial nerve in internal auditory canal proximal to or involving geniculate ganglion	Ipsilateral peripheral facial weakness; lacrimation, salivation, and taste likely to be involved	Tinnitus, nystagmus, hearing loss	Bell's palsy, the Ramsay Hunt syndrome, acoustic or facial neuroma
Facial nerve distal to internal auditory canal and geniculate ganglion	Ipsilateral peripheral facial weakness; lacrimation intact but salivation and taste impaired	Tinnitus, nystagmus, hearing loss	Bell's palsy, temporal-bone fracture, cholesteatoma or glomus tumor, middle-ear infection
Facial nerve in stylomastoid foramen	Ipsilateral peripheral facial weakness; lacrimation, salivation, and taste intact	Head injury, parotid mass	Head injury, parotid tumor

**Table 1. Differential Diagnosis for Facial Nerve Palsy**

Disease	Cause	Distinguishing factors
<b>Nuclear (peripheral)</b>		
Lyme disease	Spirochete <i>Borrelia burgdorferi</i>	History of tick exposure, rash, or arthralgias; exposure to areas where Lyme disease is endemic
Otitis media	Bacterial pathogens	Gradual onset; ear pain, fever, and conductive hearing loss
Ramsay Hunt syndrome	Herpes zoster virus	Pronounced prodrome of pain; vesicular eruption in ear canal or pharynx
Sarcoidosis or Guillain-Barré syndrome	Autoimmune response	More often bilateral
Tumor	Cholesteatoma, parotid gland	Gradual onset
<b>Supranuclear (central)</b>		
Multiple sclerosis	Demyelination	Forehead spared Additional neurologic symptoms
Stroke	Ischemia, hemorrhage	Extremities on affected side often involved
Tumor	Metastases, primary brain	Gradual onset; mental status changes; history of cancer