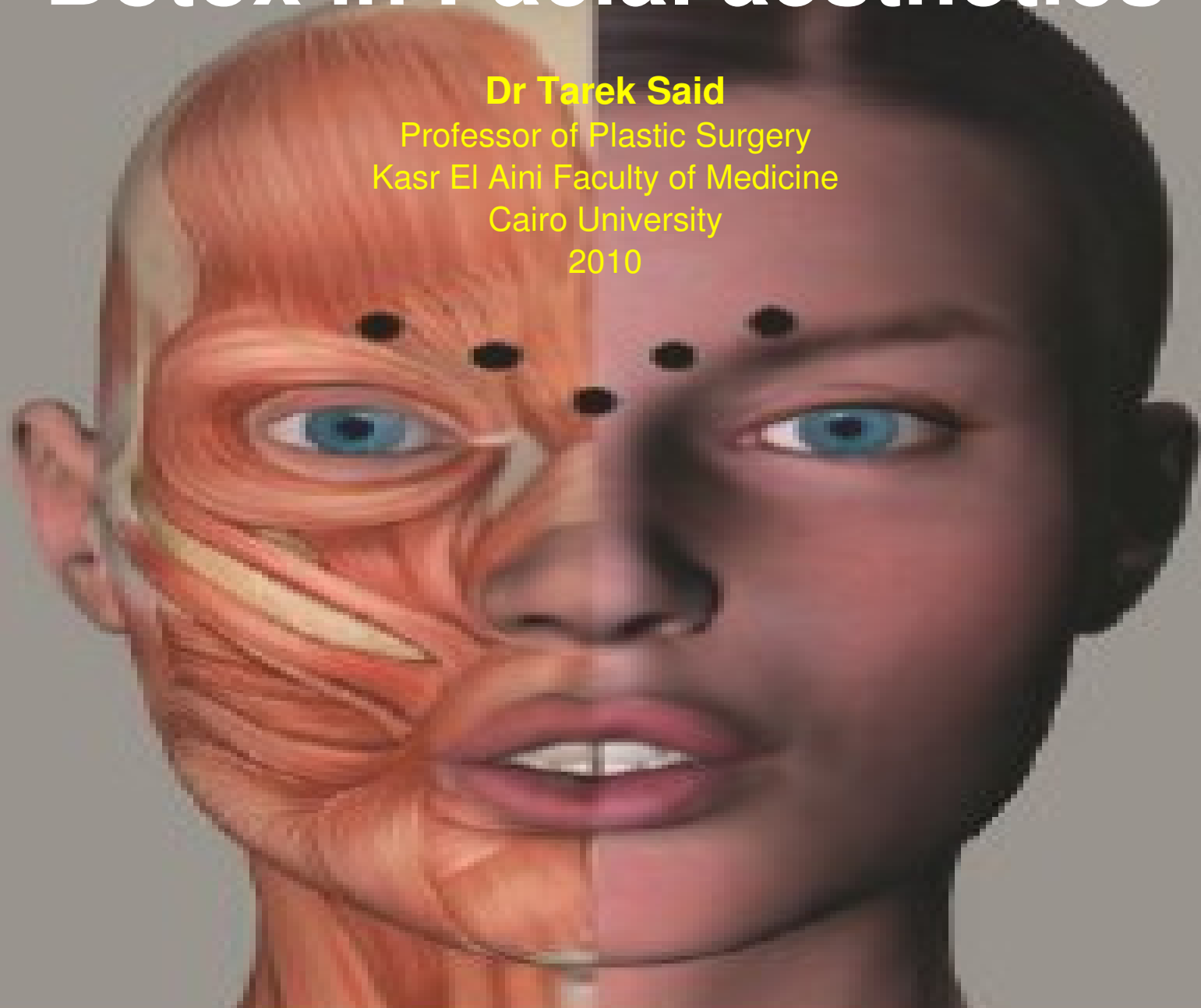


Botox in Facial aesthetics

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Nature

Botox is a toxin produced by the bacteria “*Clostridium botulinum*”

This bacteria produces 7 types of botulinum toxin (A-G)

Only Types A & B can affect human muscles

Actions

Prevents acetylcholine release at neuromuscular junction (Muscle paresis)

Prevents acetylcholine release at autonomic cholinergic nerve endings (Sweating)

Action takes 2-3 days but may be as long as 5 days in 3 stages

Binding

Internalization

Lysis of Acetylcholine vesicles



The background of the slide features a close-up, soft-focus image of a person's face. The top half shows a pair of brown eyes with long, dark eyelashes. The bottom half shows a smiling mouth with pink lips. The overall tone is warm and clinical.

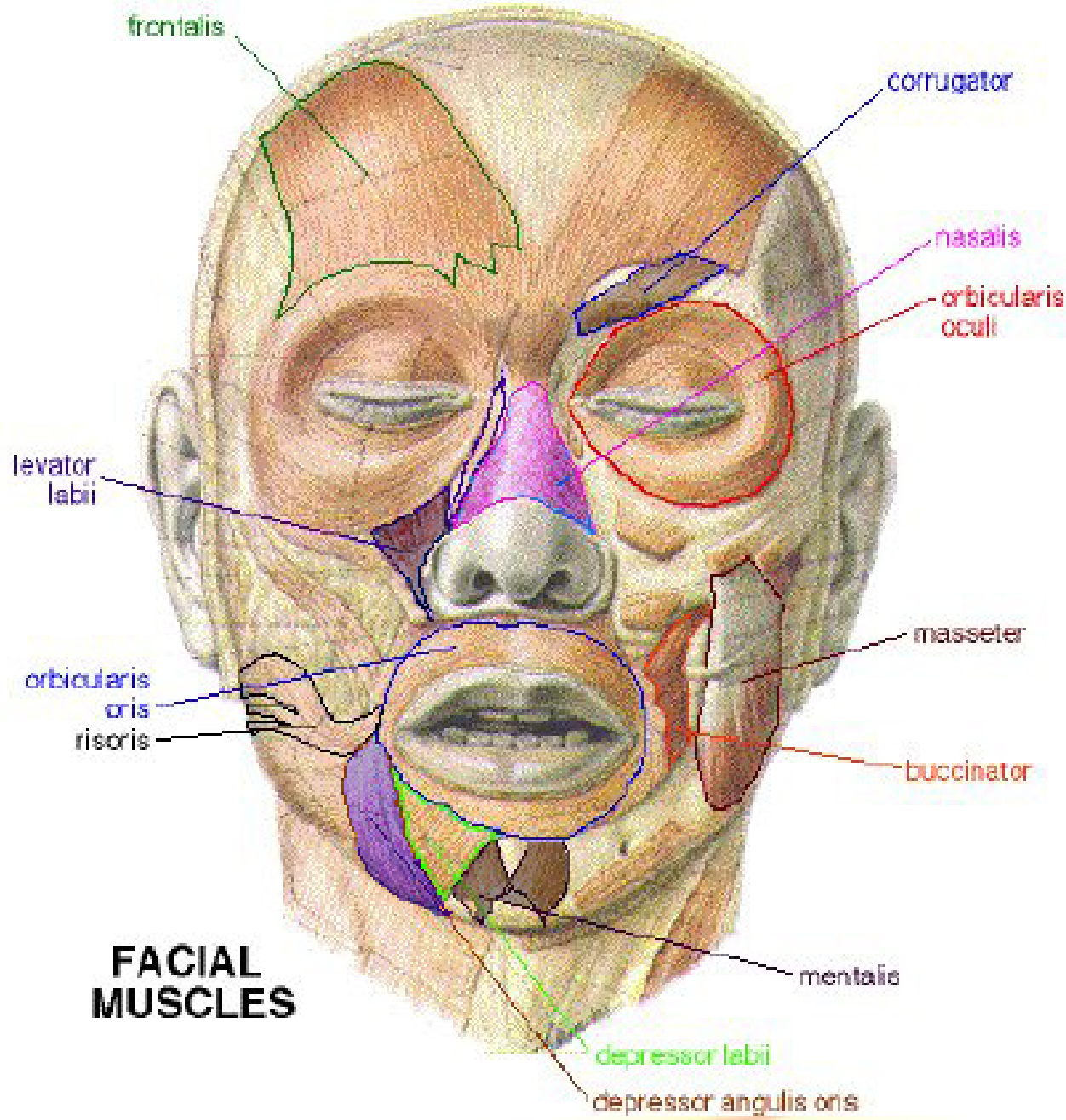
Indications

- **Hyperfunctional lines**
glabellar, forehead, crow's feet, platysmal bands, perioral & bunny lines
- **Hyperhydrosis**
- **Hemifacial spasm**
- **Post-Bell palsy synkinesis**
 - **Blepharospasm**
- **Spasmodic dysphonia**
 - **Strabismus**
- **Cervical dystonia**
- **Frey syndrome**
 - **Achalasia**
 - **Sialorrhea**
 - **Migraines**
- **Chronic Anal Fissure**



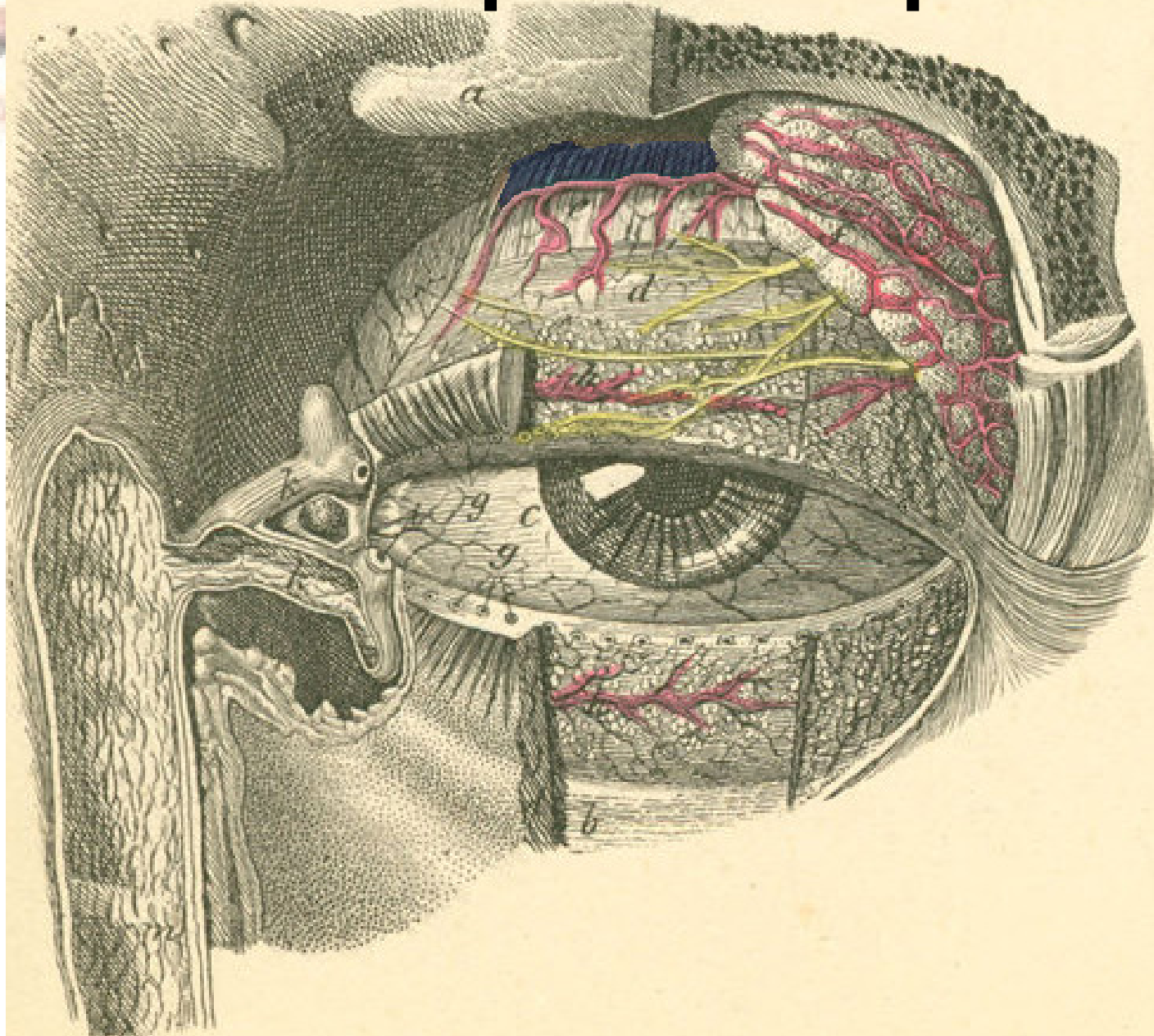
Contraindications

- Pregnancy
- Lactation
- History of reaction to toxin or albumin
- Preexisting motor neuron disease (eg, myasthenia gravis)
 - Age younger than 12 years
 - Infection at the injection site
- Coincident administration of aminoglycosides can potentiate paralysis (**relative contraindication**)



FACIAL MUSCLES

Levator Palpebrae Superioris



Preparation

Botulinum toxin A (BOTOX®) arrives on dry ice and must be stored frozen at lower than -4°C .

It comes in a 100-U bottle.

One unit is defined as the median lethal dose in mice. The **MLD** in humans is estimated at 3000 U.

Toxin is mixed with 2.5 mL of 0.9% nonpreserved saline, creating a concentration of 40U/mL





General Guidelines

No Data support that higher dilution increases diffusion

Use within: 4 hrs **Prescribing information** / 6 wks at 4 C **consensus panel**

No significant difference between gentle and forceful (bubbly) dilution

The area of injection can be covered with topical anesthetic cream (eg, eutectic mix of local anesthetics [EMLA]) or can be anesthetized using Ice

Men require more units

Start with a lower dose and retouch after 2 weeks

Lower doses for forehead lines for a convenient more synchronized injections for patients

Avoid medications that increase bruising for 10-14 days before ttt (Vit E, aspirin, NSAIDs)

Inject in bulk of muscles except periocular and perioral inject superficially (dermal blebs)

Do not completely paralyse muscles especially in Men

Avoid massage except for root of nose

Avoid lying down or makeup

Excercises 3 times every 15 minutes for 2 hrs (frown, smile and elevate brows)

Glabellar Lines

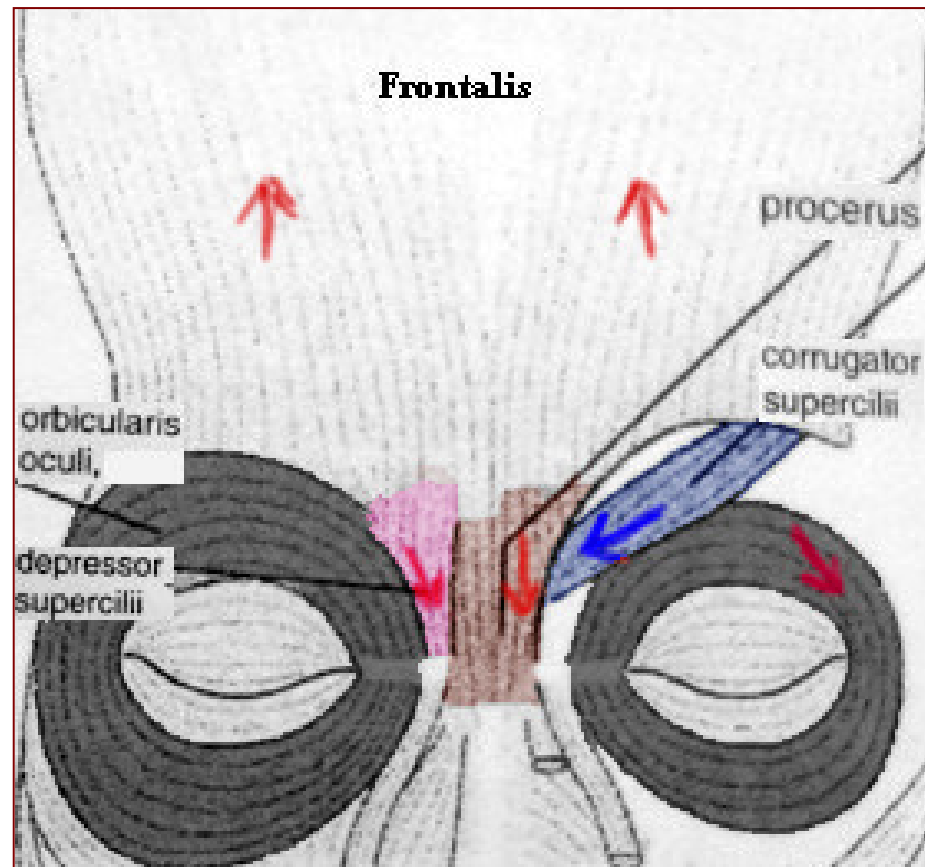
Avoid Injecting too low over orbit

Guide injection away from orbital rim

When injecting above brow, press thumb below injection

Do not completely paralyse muscles especially in Men

Normal Brow Shape (light arch in females) and (flat in males)



Glabellar Lines

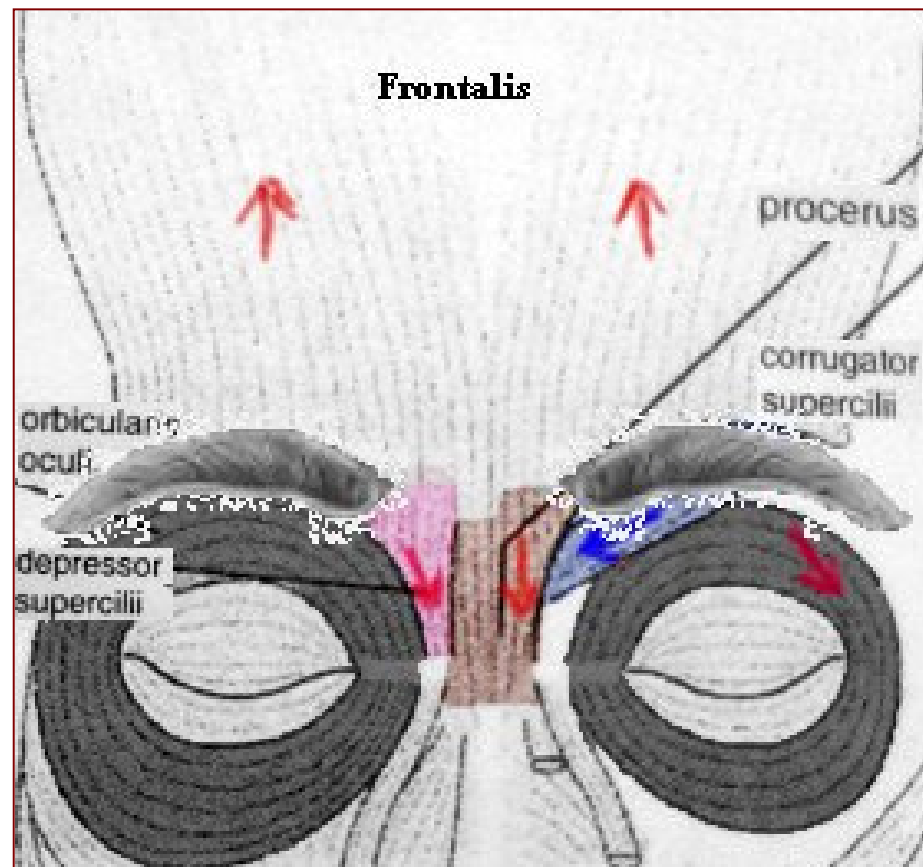
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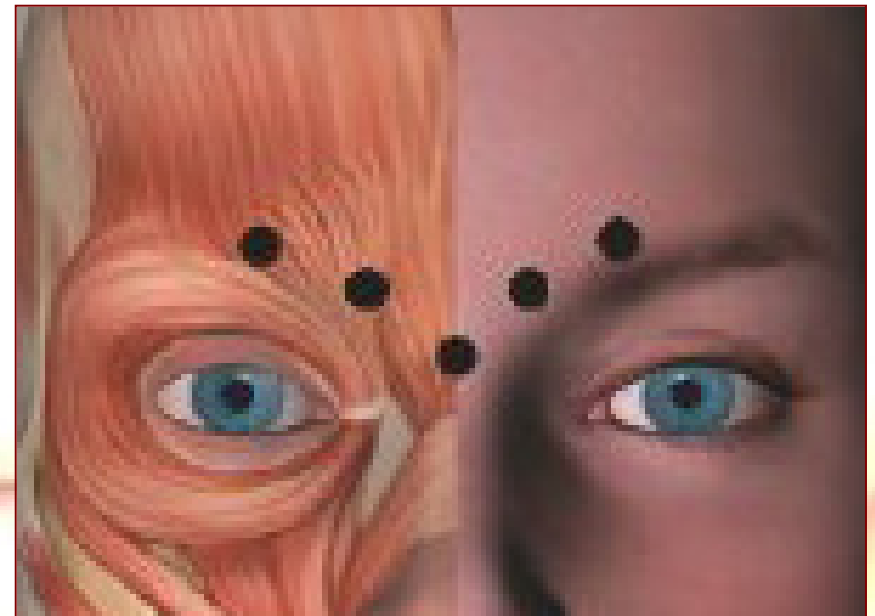
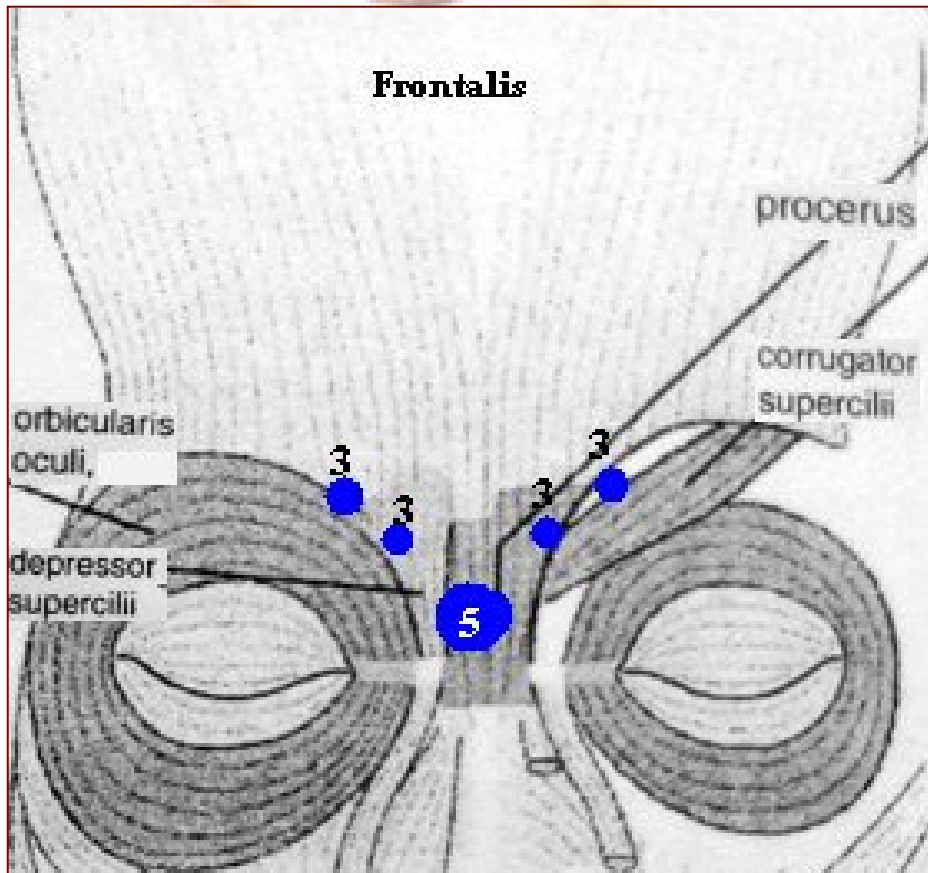
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Glabellar Lines



Forehead Lines

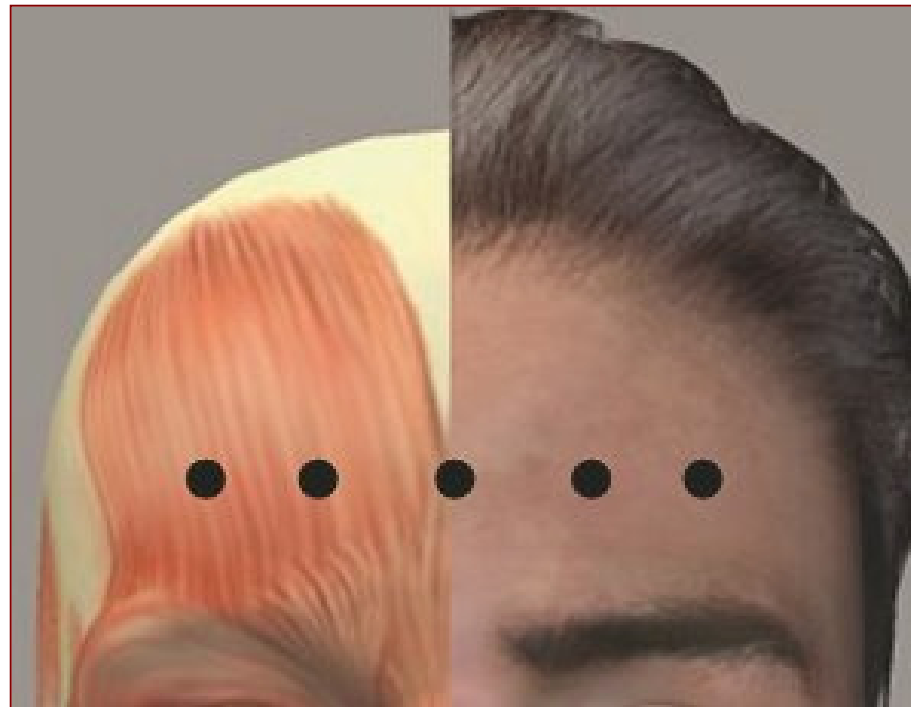
Inject 2 cms above orbit

For lines lower than 2 cm above orbit use fillers

Frontalis paralysis lasts longer than glabella so for patient convenience inject lower doses

Centrally focused injection will lead to lateral brow elevation

Inject 10-20 units divided on 4-6 points

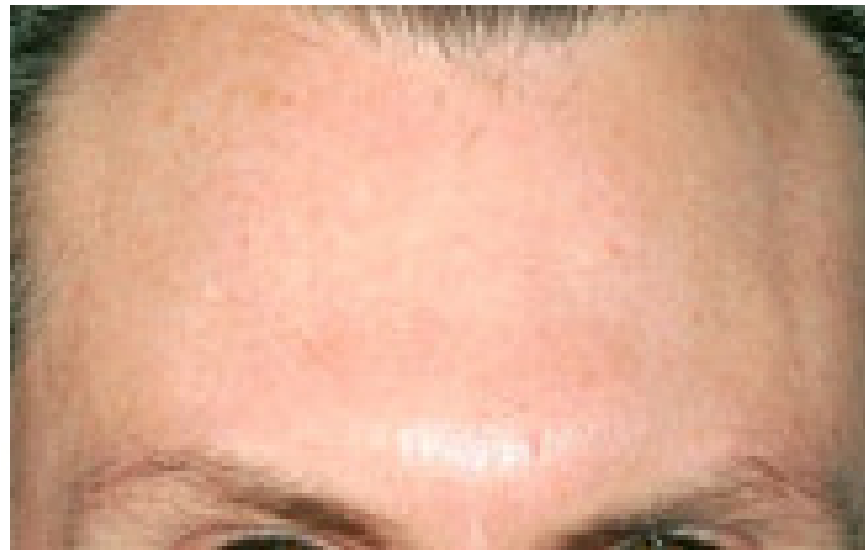


Forehead Lines “Mephisto sign”

Especially in **MEN**

Do not paralyze muscles completely

Do not restrict injection to mid-pupillary area



Crow's feet

Inject 1-1/2 cms from lateral canthus

Inject superficially (Dermal belbs)

Duration is dose dependant

Inject 12-30 units divided on 2-5 points

Avoid area below Zygomatic arch to avoid lip deformity



Crow's feet

Avoid area below Zygomatic arch to avoid lip deformity

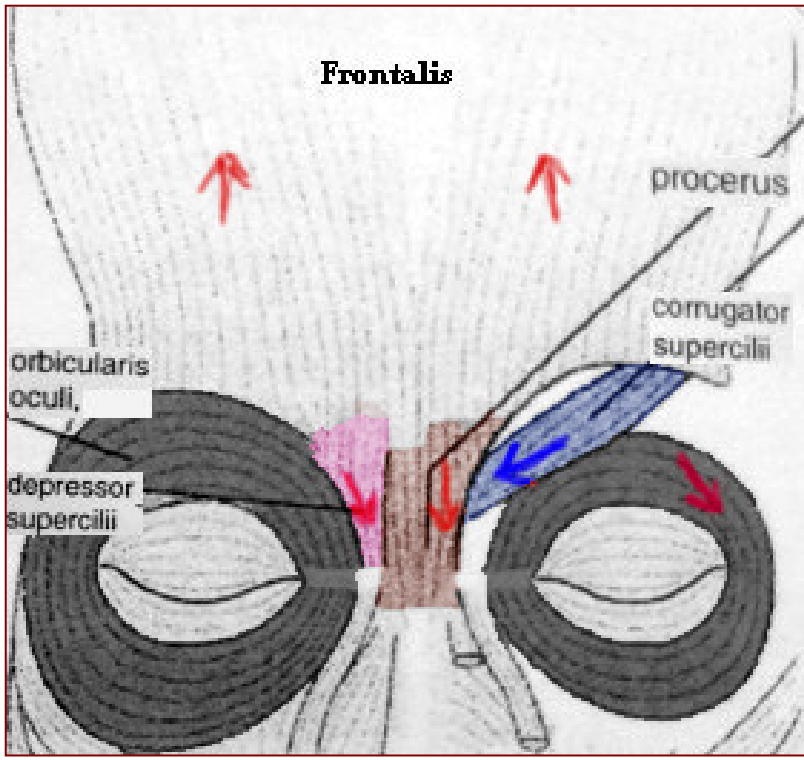


Lower Lid

SNAP TEST IS MANDATORY



BROW LIFTING





UPPER LID PTOSIS

The most feared complication

Approximately 1-3% of patients may experience a temporary upper lid or brow ptosis

How to avoid

Inject at least 1 cm from Orbit

Press below injection when injecting above orbit

Exercises 2-3 Hrs

Stay vertical 3-4 Hrs??

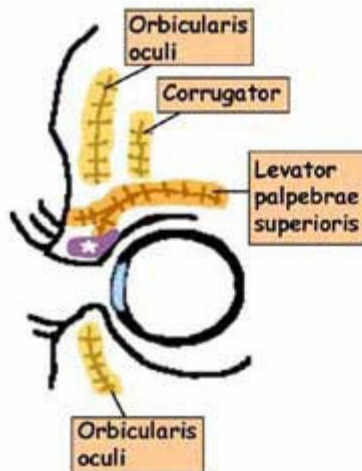
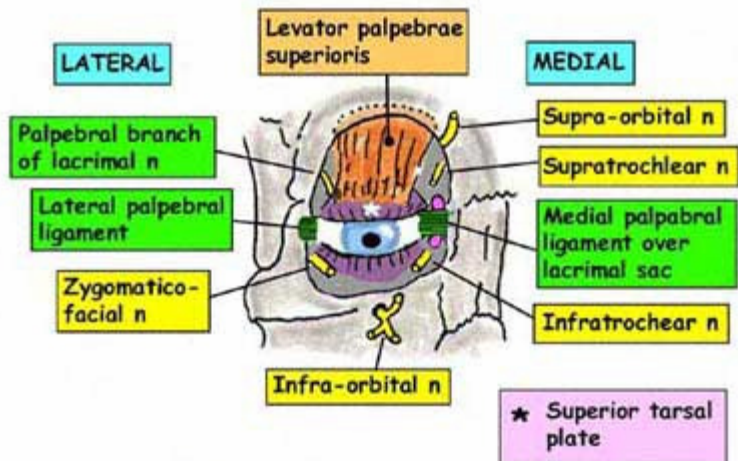
Lid ptosis usually lasts 2-6 weeks.

It can be treated with apraclonidine (Iopidine, Alcon). This is an alpha-adrenergic agent that stimulates the Müller muscle and immediately elevates the upper eyelid. This treatment can usually raise the eyelid 1-3 mm.

The treatment of 1-2 drops 3 times per day continues until the ptosis resolves, however its annoying medriatic action restrict its use.

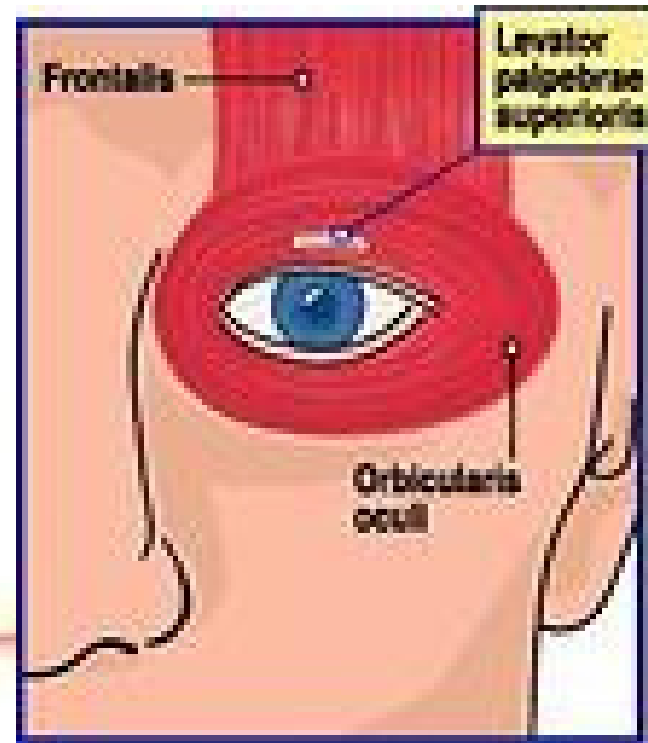
Levator Palpebrae Superioris

LEVATOR PALPEBRAE SUPERIORIS



Levator palpebrae superioris

Arises from posterior orbit above tendinous ring and inserts into eyelid skin and into superior tarsal plate. Nerve supply is via oculomotor (III) Somatic to both tarsal plate and skin. Sympathetic to tarsal plate only



Bunny Lines

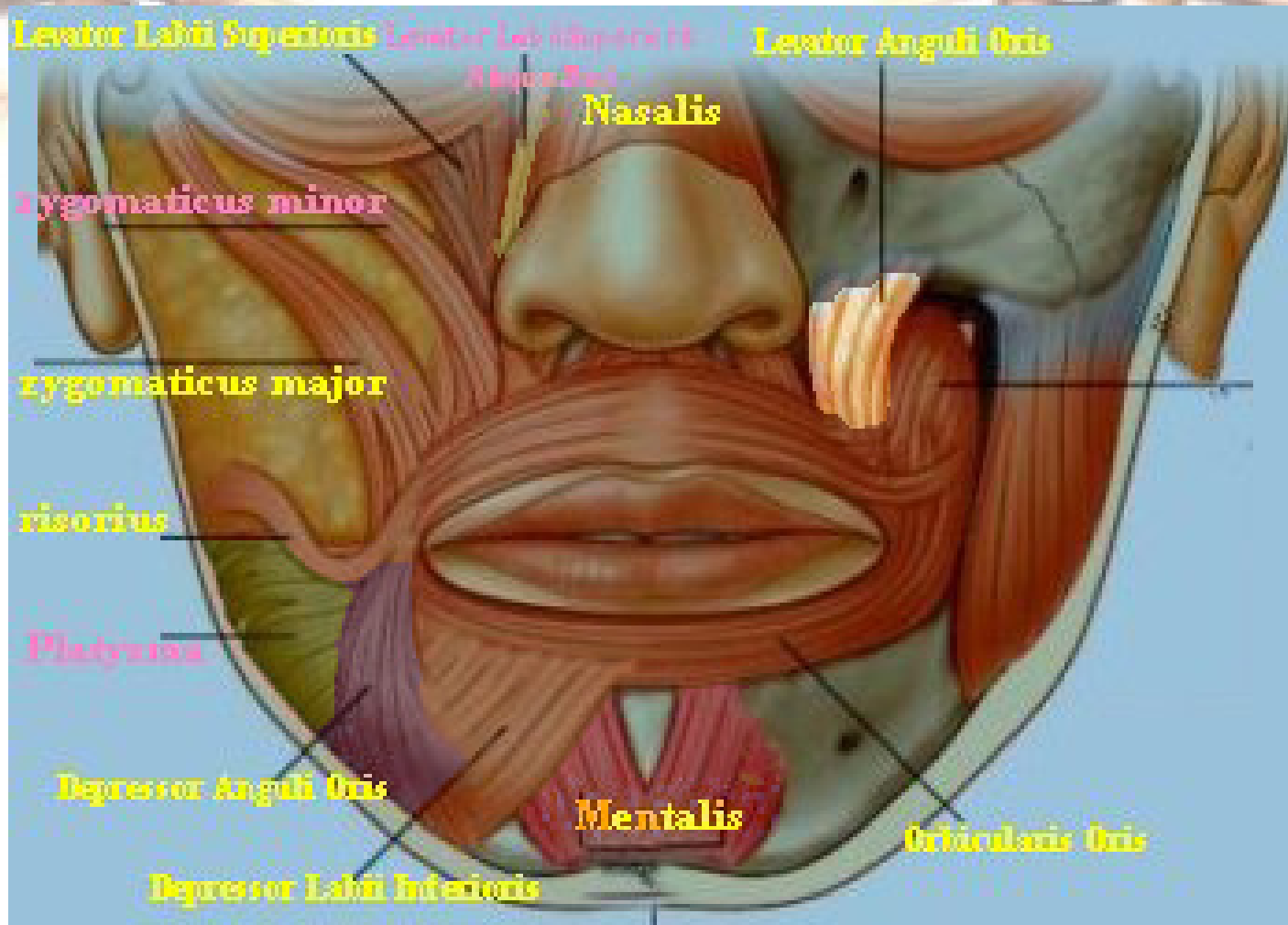
Procerus & Nasalis action

Can appear as a complication after glabellar treatment

Do not massage downwards to avoid lip elevators



Perioral Lines



Perioral Lines

CUPID'S BOW SHOULD BE AVOIDED to Avoid flat upper lip

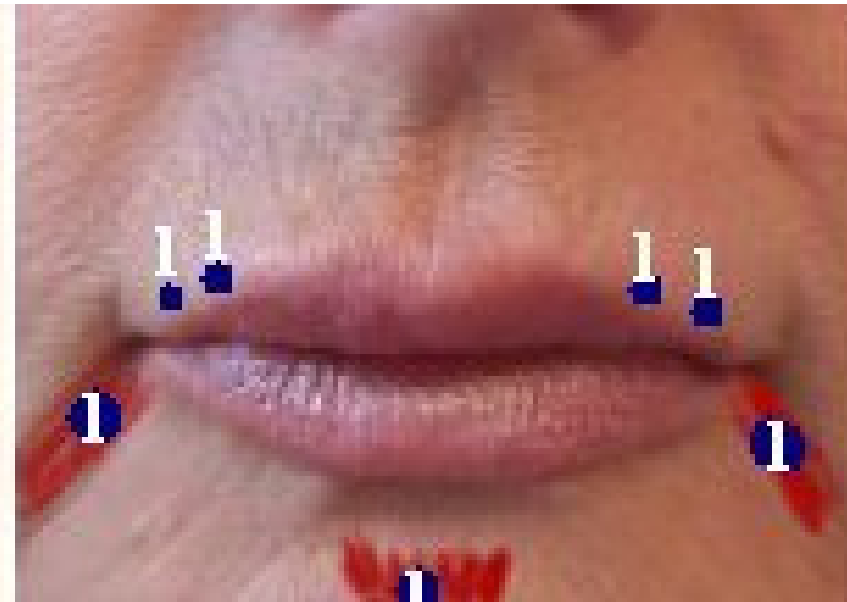
Inject Just above vermilion border but never above 5mm from it to avoid lip distortion

Inject Superficially

Over Treatment may lead to Loss of Letters Ps & Bs, drooling and Mouth incompetence

Injection of depressor very close to mouth can cause drooling and Mouth incompetence

If you combine Fillers with Botox, inject fillers first to avoid moving of Botox



Chin

MENTALIS Muscle

Inject too low or just below tip or prominence of chin

Injection should be angled upwards

Inject One or two points of a maximum of 10 Units

Massage Laterally

If mentalis is hypertrophic do not inject (oral incompetence highly likely)



Platysmal Bands

AVOID STRAP MUSCLES (by grasping band and injecting directly into muscle)

Inject multiple points per band for better results

Injection may be superficial allowing botox to diffuse into muscle

Inject 2-12 points/band

with a maximum of 10-30 Units in females and 10-40 in males





COMPLICATIONS

Adverse Side Effects Due to Injection

Pain / Bruising / Headache / Eye dryness

Adverse Side Effects Due to Local Diffusion/Distribution

Ptosis / Ectropion / Strabismus / Pseudo Herniation of Lower Lid Fat / Dysphagia / Horseness

Adverse Events Due to Hyperactivity of Adjacent Muscles / Brow Malposition

Adverse Events due to Generalized Distribution

Allergies to Botulinum Toxin-A

Formation of Antibodies





NEWER INDICATIONS

GUMMY SMILE

CHEEK LINES

NASOLABIAL FOLDS

MARIONETTE LINES

BOTOX FACE LIFTING

FACIAL ASYMMETRIES

FACIAL PALSY

NEWER INDICATIONS

BOTOX FACE LIFTING

