

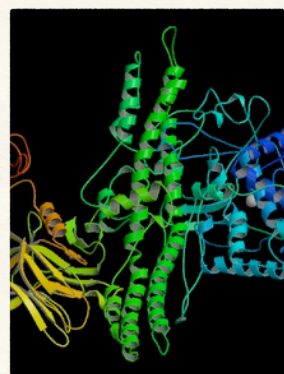
OCULOPLASTIC USES OF BOTULINUM TOXIN

Mr David Cheung
Consultant Ophthalmic and Oculoplastic Surgeon

Outline

- * Pharmacology
- * History
- * How to Use Botulinum Toxin
- * Functional Uses
- * Cosmetic Uses

Pharmacology- What is Botulinum Toxin



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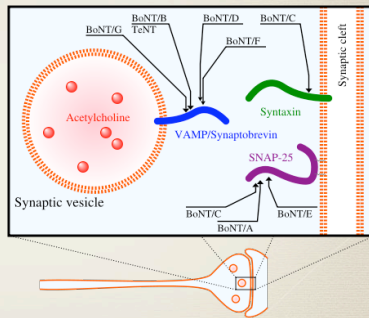


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- * 2002: ?WMD in Iraq war

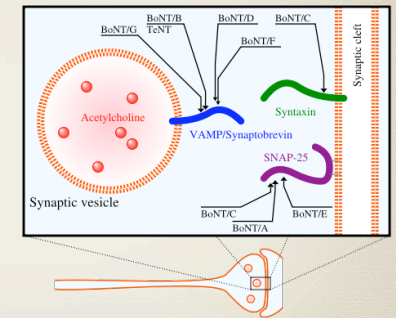


Pharmacology



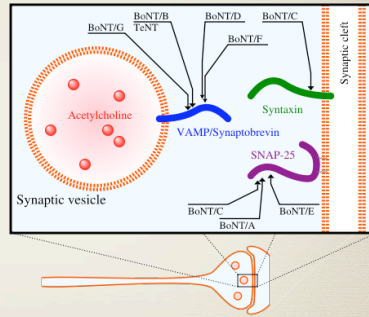
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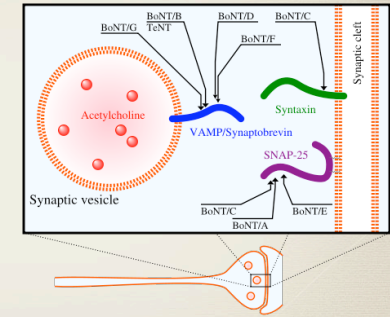
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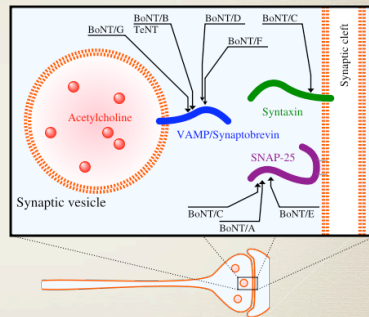
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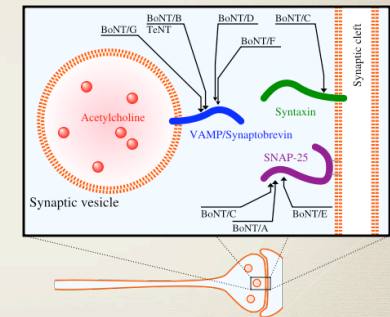
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- * A, B, E & F: toxic to humans



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- * 2002- Botox approved for glabellar folds
- * 2007- 4.3 million treatments in USA

Different Preparations

	Botox (Allergan)/ Vistabel/ Botox Cosmetic	Dysport (Ipsen)	Xeomin (Merz)
Storage	< 8°C	< 8°C	< 25°C
Shelf Life	24 months	15 months	36 months
Cl. Botulinum Strain	Hall A	Ipsen	Hall A
Biological Activity	100 MU-A/ vial (LD ₅₀ for humans 3000 MU-A)	500 MU- I/ vial	100 MU-M/ vial
Biological Strength Relative to Botox	1	1/3- 2/5	1
Molecular Weight of BoNT component	900 kD	900 kD	150 kD (pure neurotoxin) ? less neutralising antibody formation

Reconstitution



1. Sterility Assessment of Multiple Use Botulinum A Exotoxin Vials: A Prospective Simulation. Alam M et al- J Am Acad Dermatol. 2006;55:272-275
2. Reduction in injection pain with botulinum toxin type B further diluted using saline with preservative: a double-blind, randomized controlled trial. van Laborde S J- Am Acad Dermatol. 2003 Jun;48(6):875-7.
3. Botox: shaken, not stirred. Kazim NA et al Ophthal Plast Reconstr Surg. 2008 Jan-Feb;24(1):10-2.

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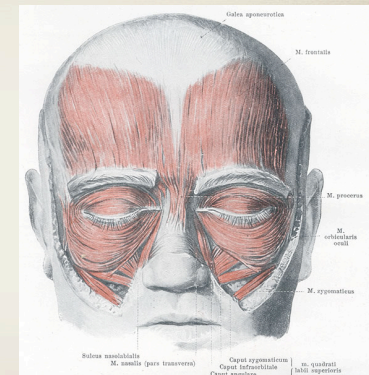
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- * Fudge factor: 1 u Botox= 2.5-4 U Dysport

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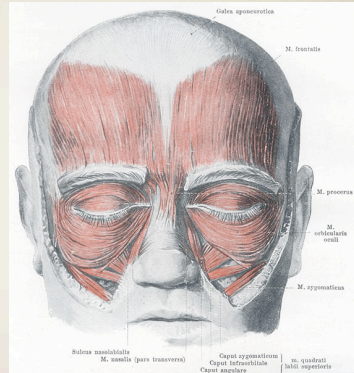
- * Usually none
- * EMLA
- * Pinch technique
- * Post Injection Ice

Injection Techniques



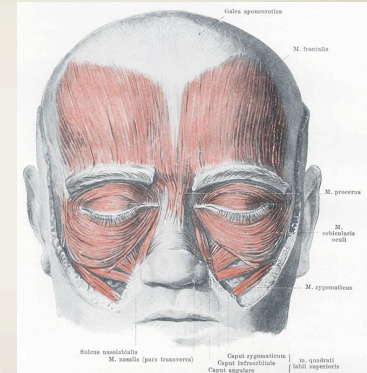
Injection Techniques

- * Most injections targeting superficial muscles of SMAS



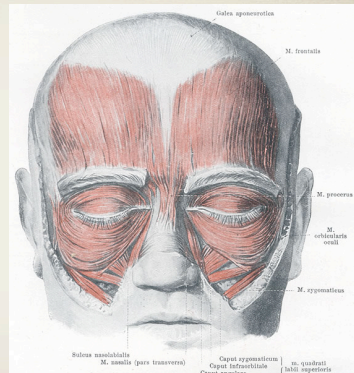
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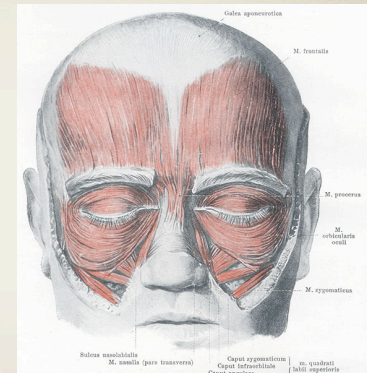
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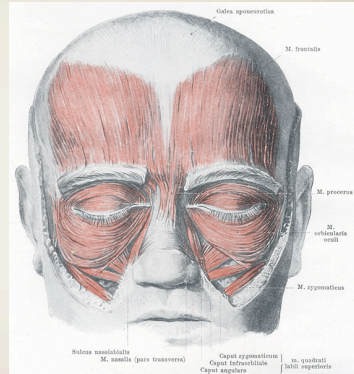
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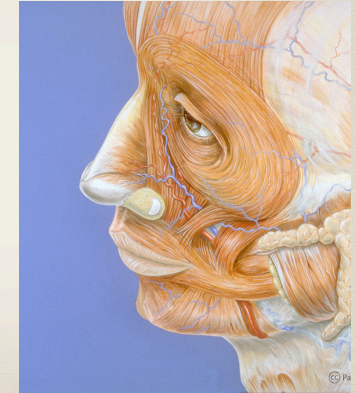


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- * Less collateral paralysis

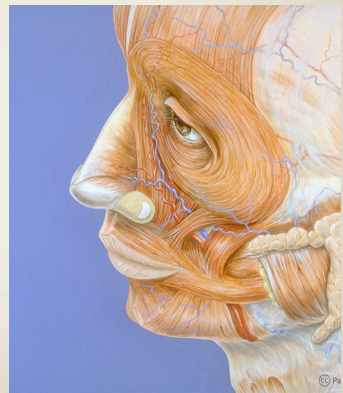


Dosages and Injection Frequency



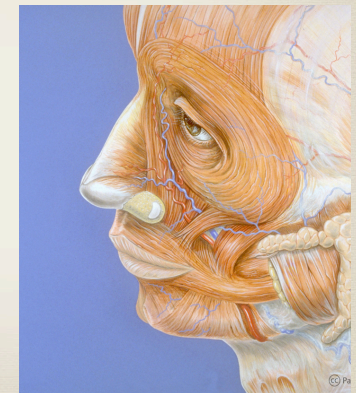
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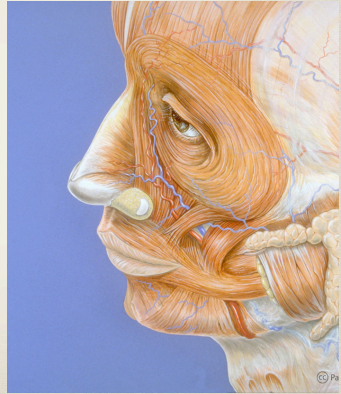
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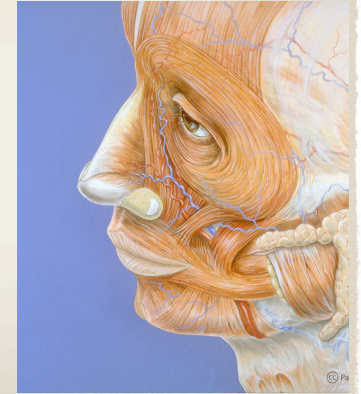
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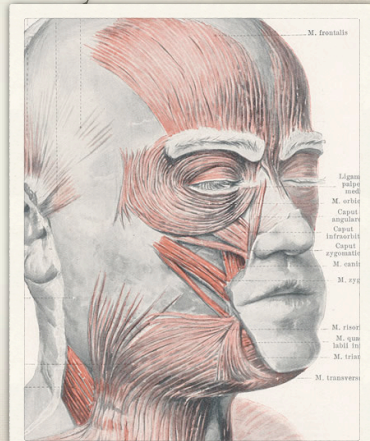


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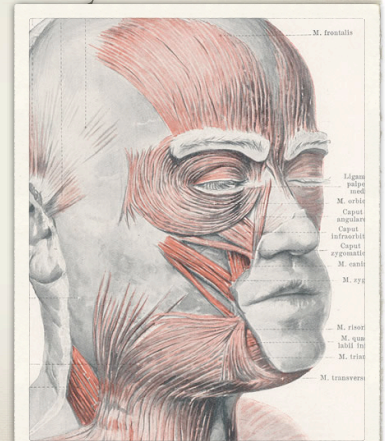
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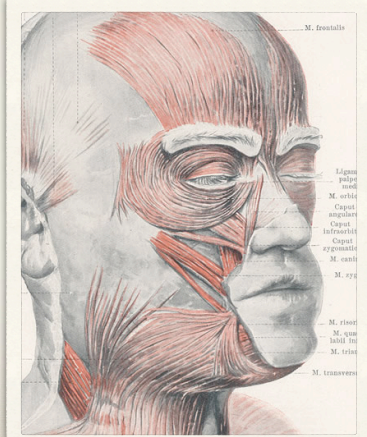


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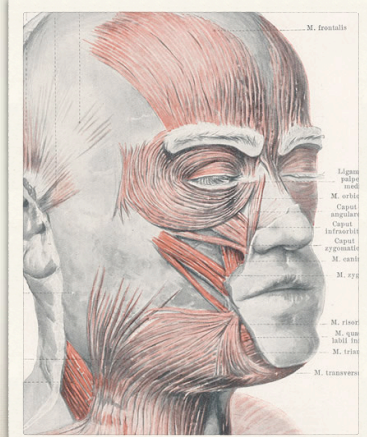
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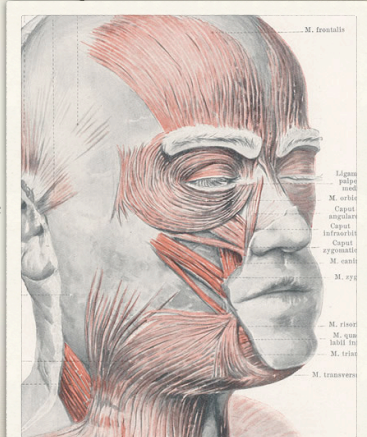
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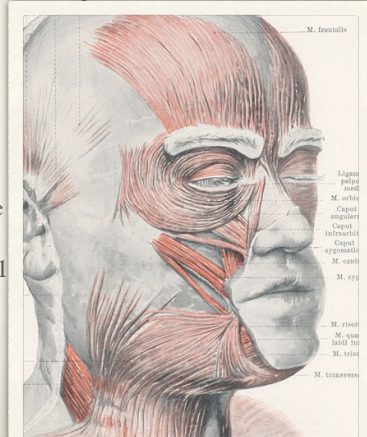
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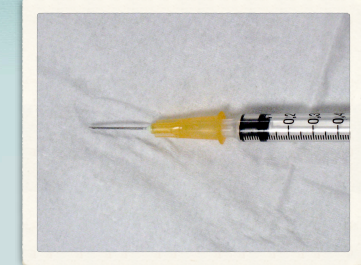
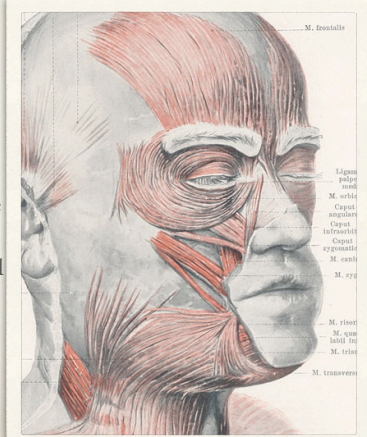
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- * Pretarsal Orbicularis- small, high risk - low dose (1-2U per injection site)



Use Insulin Syringe
Less Dead Space/Compliance

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Dosages and Injection Frequency



* Counsel: Kinetic vs. Hyperkinetic vs. Hypertonic patients

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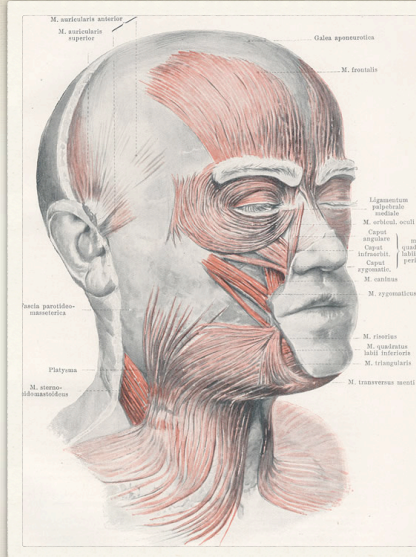
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- * Most due to incorrect injection site/dosage:

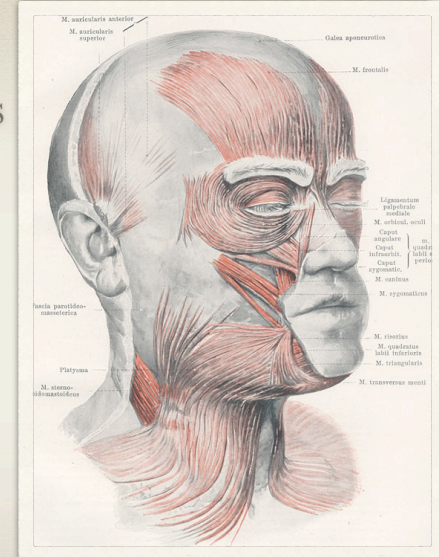
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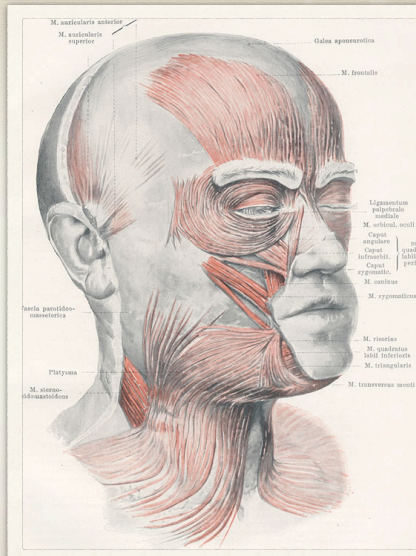
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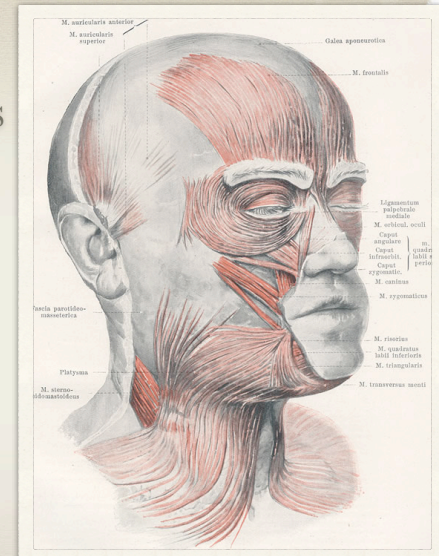
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 - * good anatomical knowledge
 - * Be conservative: titrate upwards



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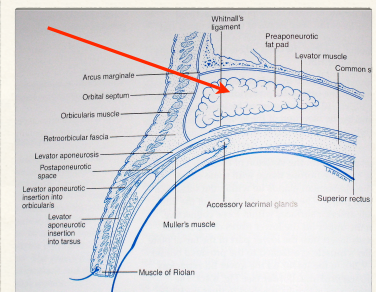
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- * Crocodile Tears/ Functional Epiphora

Functional Uses

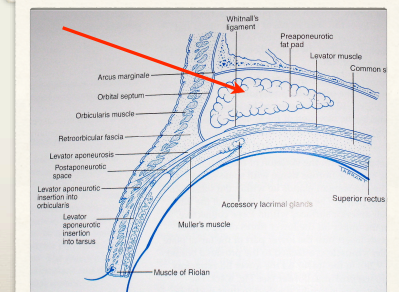
- * Paralytic Lagophthalmos
- * Spastic lower lid entropion
- * Blepharospasm
- * Hemifacial Spasm
- * Post Facial Nerve Aberrant movements e.g. Marin Amat Syndrome
- * Apraxia of Eyelid Opening
- * Orbicularis Myokymia
- * Crocodile Tears/ Functional Epiphora

Paralytic Lagophthalmos



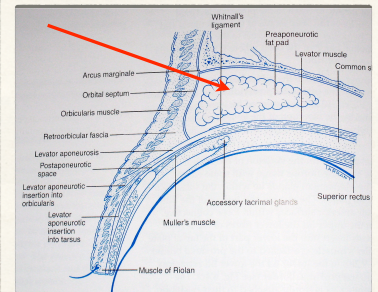
Paralytic Lagophthalmos

- * High risk facial nerve palsy- (dry eye, reduced corneal sensation, poor Bell's, severe lagophthalmos)



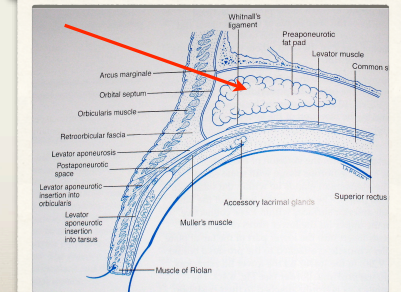
Paralytic Lagophthalmos

- * High risk facial nerve palsy- (dry eye, reduced corneal sensation, poor Bell's, severe lagophthalmos)
- * Corneal protection



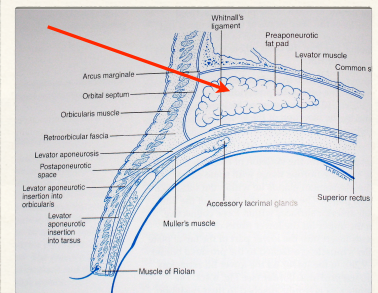
Paralytic Lagophthalmos

- * High risk facial nerve palsy- (dry eye, reduced corneal sensation, poor Bell's, severe lagophthalmos)
- * Corneal protection
- * Target: levator palpebrae superioris



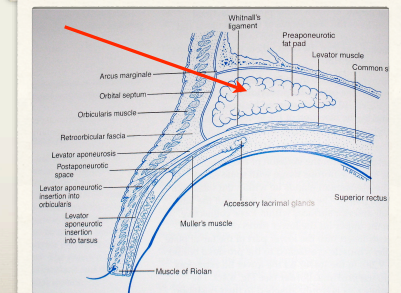
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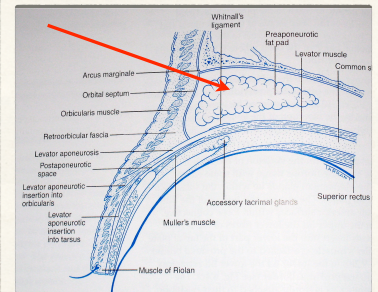
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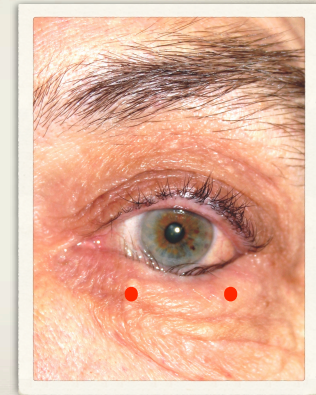


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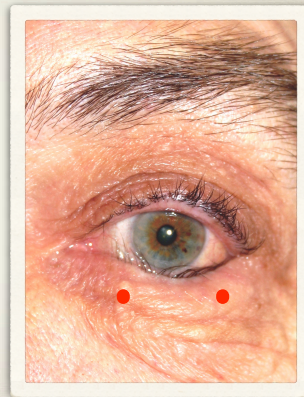


Spastic Entropion



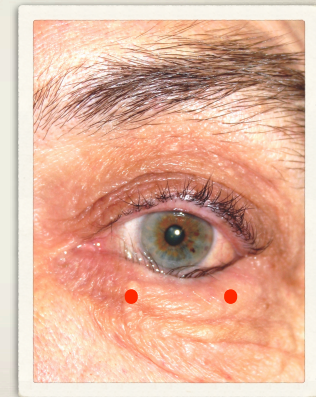
Spastic Entropion

- * Temporary till surgery



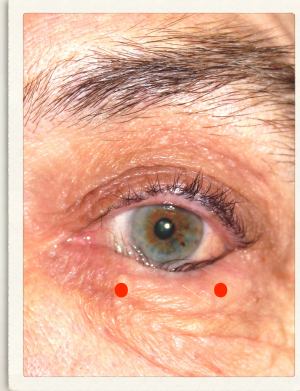
Spastic Entropion

- * Temporary till surgery
- * Target: Preseptal and pretarsal orbicularis
- * Reduce Override



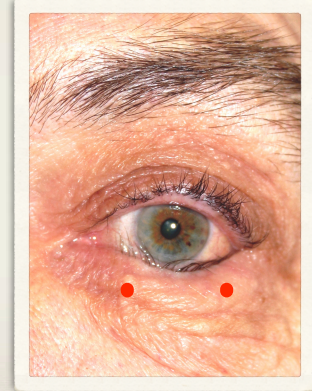
Spastic Entropion

- * Temporary till surgery
- * Target: Preseptal and pretarsal orbicularis
- * Reduce Override
- * Avoid EOMs



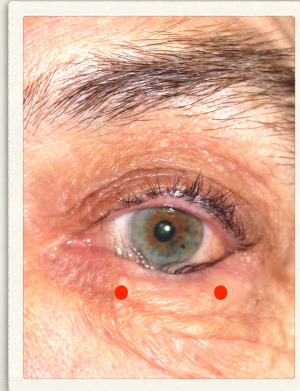
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- * Reduce Override
- * Avoid EOMs
- * Preseptal injection (subcutaneous)



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- * Target: Preseptal and pretarsal orbicularis
- * Reduce Override
- * Avoid EOMs
- * Preseptal injection (subcutaneous)
- * 1-2.5U Botox
- * Consider microinjection



Cosmetic Uses

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 - * Standalone
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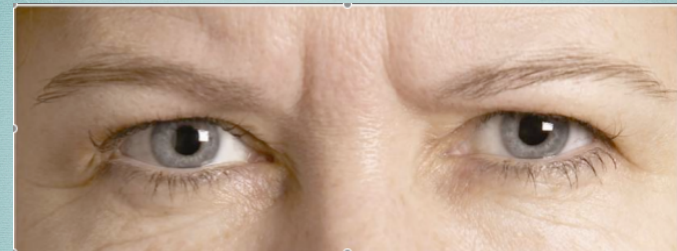
Cosmetic Uses

- * Glabellar Lines
- * Forehead Lines
- * Crows Feet
- * Non Surgical Brow Lifting
- * Lower eyelid
- * 'Bunny Lines'
- * Nasolabial Lines
- * Gummy Smiles
- * Upper & Lower Lip Wrinkling
- * Marionette Lines
- * Cobblestone Chin
- * Platysmal Bands
- * Hyperhydrosis

Cosmetic Uses

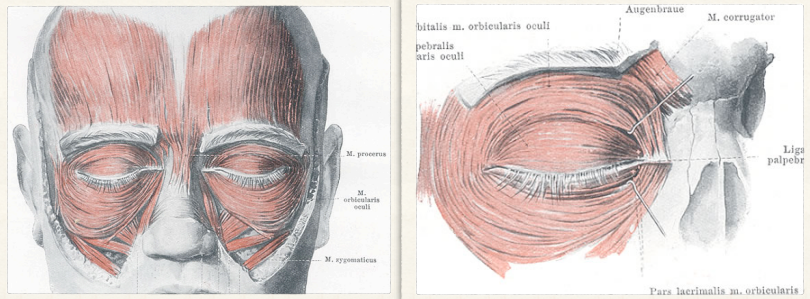
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Glabellar Lines



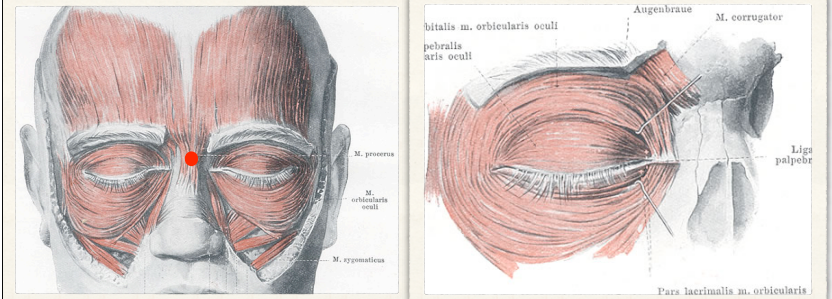
Targets: Procereus (5U)&
Corrugator Supercillii (5U)
per site

Glabellar Lines



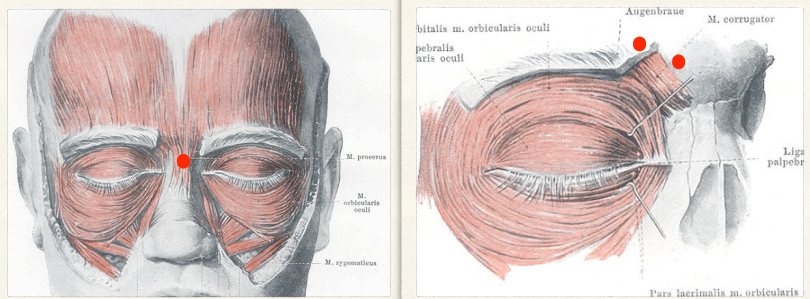
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Glabellar Lines

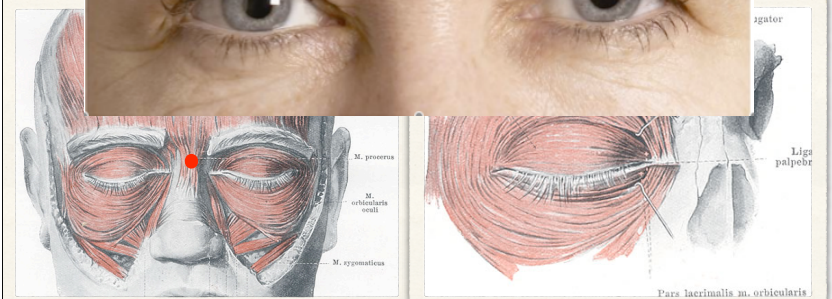


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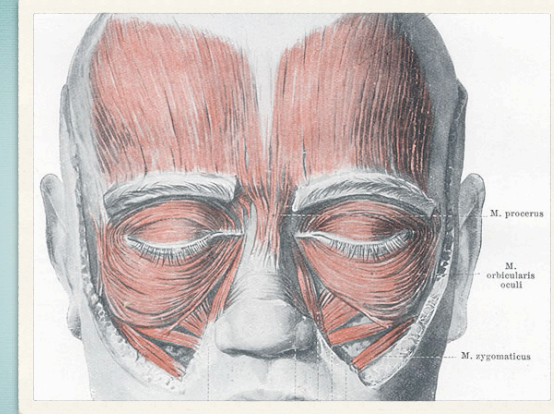
Target: Frontalis 5U per site

Forehead Lines



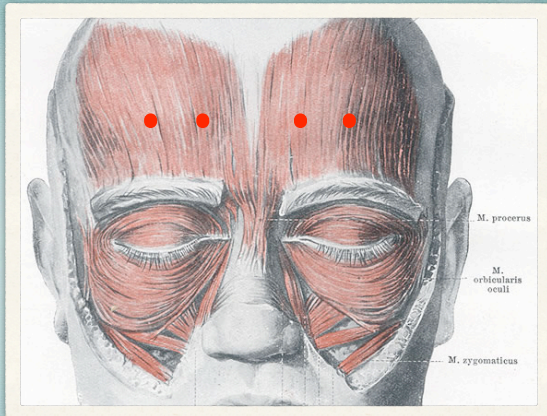
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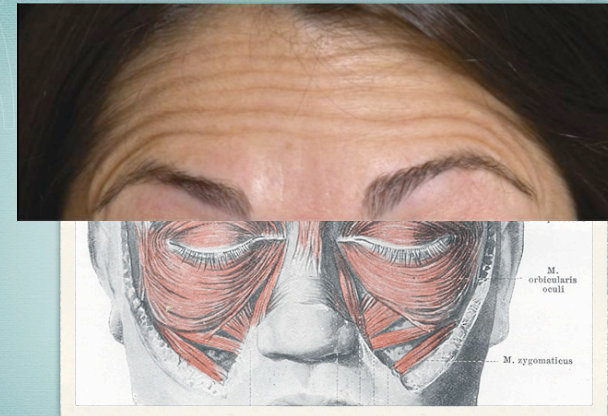
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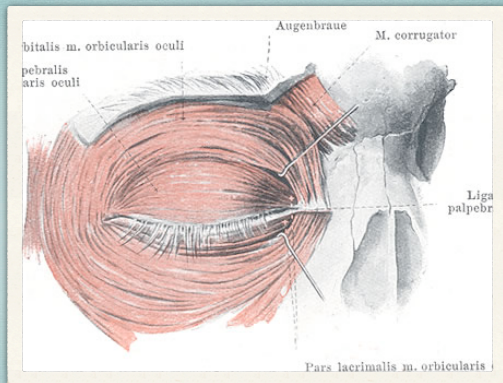
Beware: Hypertonic Lines due to Upper Face Ptosis
-Constantly Present

Crow's Feet



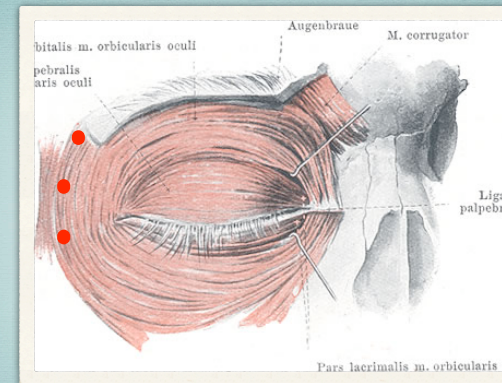
Target: Lateral Fibres Orbicularis
2.5-5U per site

Crow's Feet



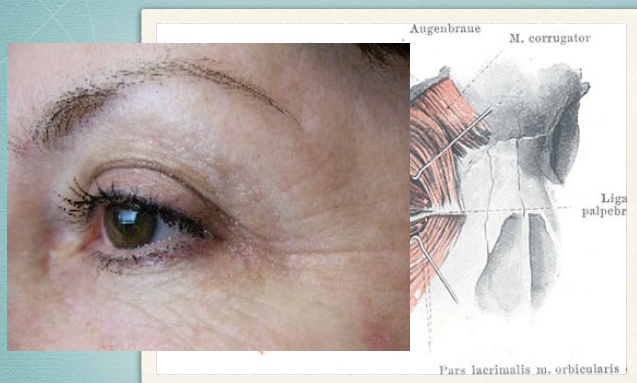
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Books

Procedures in Cosmetic Dermatology
Series: Botulinum Toxin: Text with
DVD: Cosmetic and Medical Uses
(Procedures in Cosmetic Dermatology)
by Alastair Carruthers, Jean Carruthers
Price: £89.29

Botulinum Toxin in Facial Rejuvenation
by Kate Coleman-Moriarty
Price: £53.19

Using Botulinum Toxins Cosmetically:
A Practical Guide
by Jean Carruthers, Alastair Carruthers
Price: £164.99

Botulinum Toxin in Aesthetic Medicine
by Mauricio De Maio, Berthold Rzany
Price: £58.43

Botulinum Toxin Injection Guide
by Ib R. Odderson
Price: £19.14

Courses

KT Training Course
www.kttraining.co.uk

Botoxtrainingcourse.co.uk

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