COSMETIC EYELID SURGERY

PART 2

MARIE SOMOGYI, MD, FACS

OCULOFACIAL PLASTIC & RECONSTRUCTIVE SURGERY

FACIAL COSMETIC SURGERY

PRIVATE PRACTICE, AUSTIN, TX

CLINICAL FACULTY, DELL MEDICAL SCHOOL AT UT AUSTIN

American Academy of Cosmetic Surgery

The University of Texas at Austin Dell Medical School

I HAVE NO FINANCIAL DISCLOSURES

OUTLINE

- PERIORBITAL ANATOMY
- UPPER BLEPHAROPLASTY
- EYEBROW AND FOREHEAD LIFT
- LOWER BLEPHAROPLASTY
- HA FILLER AND FAT TRANSFER
- CASE STUDIES

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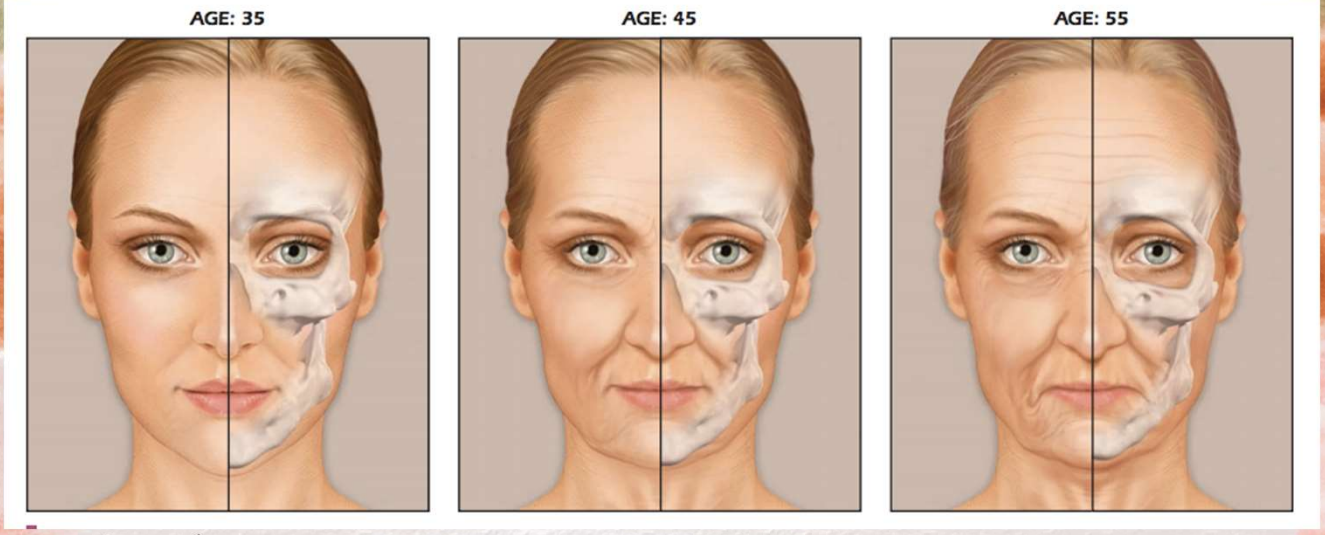
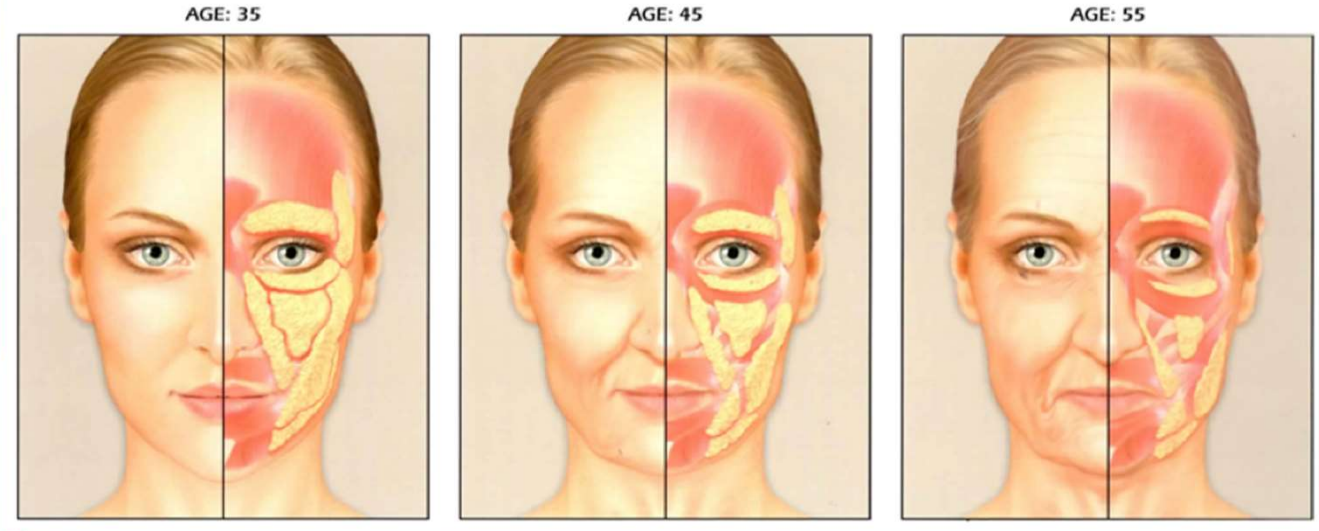
BONY FRAMEWORK



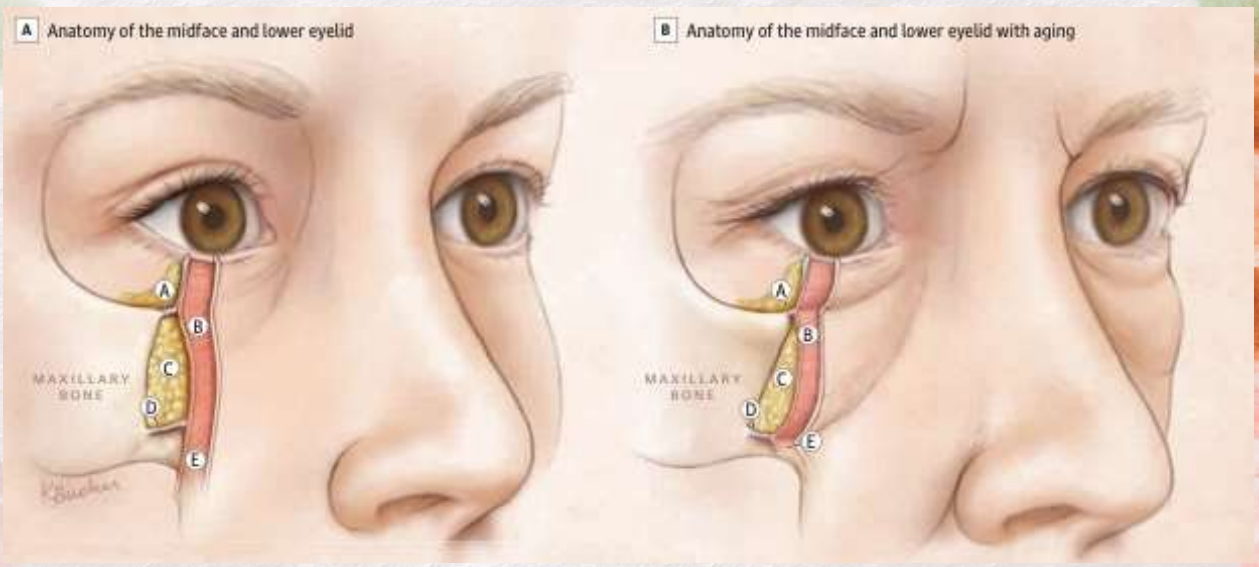
Source: Galderma

FAT ATROPHY



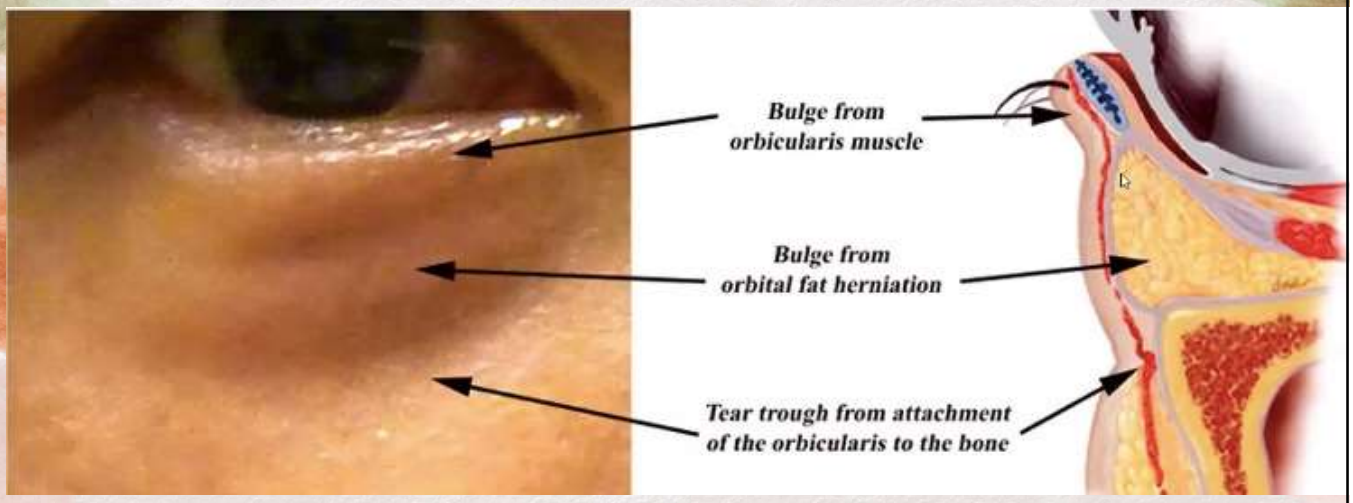
Source: Galderma

PERIORBITAL AGING CHANGES

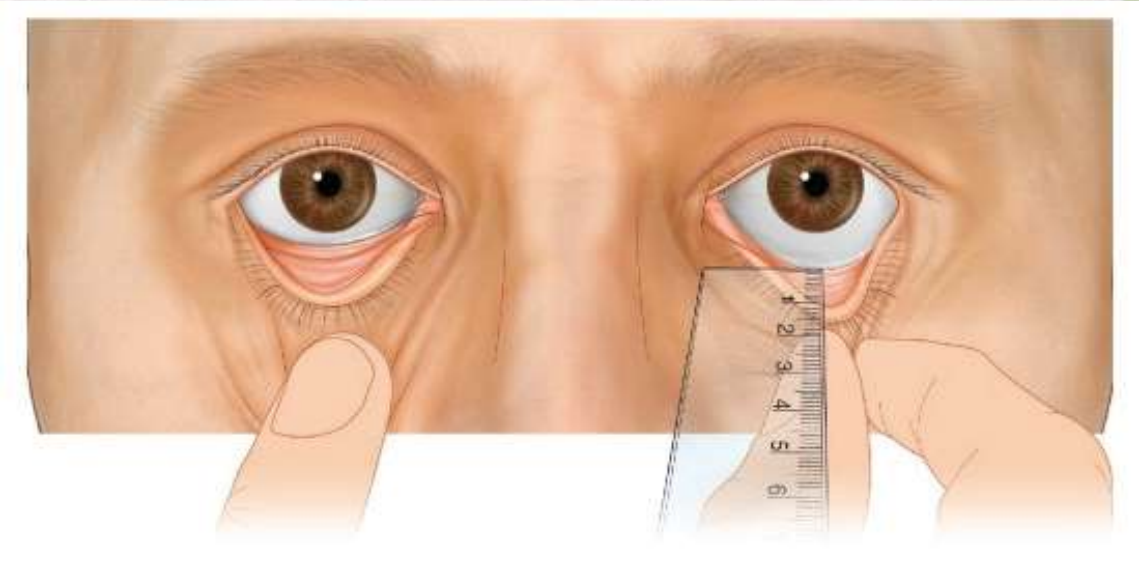


Nakra, T. Biplanar Contour-Oriented Approach to Rejuvenation. Jama Facial Plast Surg.

LOWER EYELID NUANCES



PRE-OPERATIVE EVALUATION



Brent R Moody MD, Paul J Weber MD, Surgery of the Skin (2005), Figure 42.7

"SNAP" TEST

DISTRACTION
TEST

ORBITAL FAT PROLAPSE
VERSUS
EYELID EDEMA

ORBITAL FAT PROLAPSE

- CHARACTERISTIC CIGAR SHAPED FAT PAD
- PROMINENCE INCREASES IN UPGAZE

EYELID EDEMA

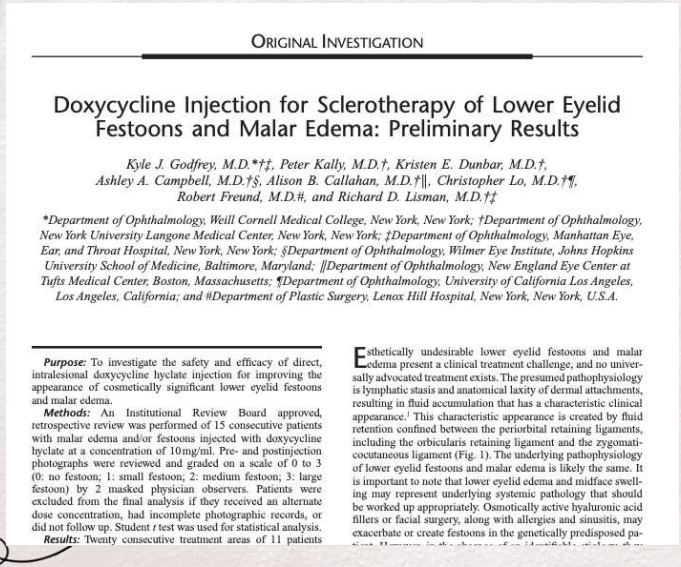
- WORSE AFTER A SALTY MEAL OR IN THE MORNING
- NOT LIMITED BY ORBITAL COMPARTMENTS
- PURPLISH COLOR
- DOES NOT INCREASE IN PROMINENCE IN UPGAZE

EYELID EDEMA → NO CHANGE IN UPGAZE

MALAR EDEMA --> FESTOON

- FLUID SPONGE
- BOUND BY RETAINING LIGAMENTS
- FAMILIAL
- ALLERGIC

TREATMENT OF EYELID/MALAR FLUID OR 'FESTOONS'



ORIGINAL INVESTIGATION

Doxycycline Injection for Sclerotherapy of Lower Eyelid Festoons and Malar Edema: Preliminary Results

Kyle J. Godfrey, M.D.†‡, Peter Kally, M.D.†, Kristen E. Dunbar, M.D.†, Ashley A. Campbell, M.D.†§, Alison B. Callahan, M.D.†‖, Christopher Lo, M.D.†¶, Robert Freund, M.D.#, and Richard D. Lisman, M.D.†‡*

**Department of Ophthalmology, Weill Cornell Medical College, New York, New York; †Department of Ophthalmology, New York University Langone Medical Center, New York, New York; ‡Department of Ophthalmology, Manhattan Eye, Ear, and Throat Hospital, New York, New York; §Department of Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, Maryland; ‖Department of Ophthalmology, New England Eye Center at Tufts Medical Center, Boston, Massachusetts; ¶Department of Ophthalmology, University of California Los Angeles, Los Angeles, California; and #Department of Plastic Surgery, Lenox Hill Hospital, New York, New York, U.S.A.*

Purpose: To investigate the safety and efficacy of direct, intralesional doxycycline hyclate injection for improving the appearance of cosmetically significant lower eyelid festoons and malar edema.

Methods: An Institutional Review Board approved, retrospective review was performed of 15 consecutive patients with malar edema and/or festoons injected with doxycycline hyclate at a concentration of 10 mg/ml. Pre- and postinjection photographs were reviewed and graded on a scale of 0 to 3 (0: no festoon; 1: small festoon; 2: medium festoon; 3: large festoon) by 2 masked physician observers. Patients were excluded from the final analysis if they received an alternate dose concentration, had incomplete photographic records, or did not follow up. Student *t* test was used for statistical analysis.

Results: Twenty consecutive treatment areas of 11 patients

Esthetically undesirable lower eyelid festoons and malar edema present a clinical treatment challenge, and no universally advocated treatment exists. The presumed pathophysiology is lymphatic stasis and anatomical laxity of dermal attachments, resulting in fluid accumulation that has a characteristic clinical appearance.[1] This characteristic appearance is created by fluid retention confined between the periorbital retaining ligaments, including the orbicularis retaining ligament and the zygomaticocutaneous ligament (Fig. 1). The underlying pathophysiology of lower eyelid festoons and malar edema is likely the same. It is important to note that lower eyelid edema and midface swelling may represent underlying systemic pathology that should be worked up appropriately. Osmotically active hyaluronic acid fillers or facial surgery, along with allergies and sinusitis, may exacerbate or create festoons in the genetically predisposed pa-

- DIURETICS
- THERMOPLASTY
- CAMOUFLAGE
- ?? SCLEROTHERAPY WITH DOXYCYCLINE
- SURGERY +/- CO2 LASER

OPTIONS TO IMPROVE LOWER EYELID

- SKIN RESURFACING
- FILLER INJECTIONS
  - HYALURONIC ACID ("FILLERS")
  - AUTOLOGOUS FAT TRANSFER
- TRANSCONJUNCTIVAL LOWER BLEPHAROPLASTY
- TRANSCUTANEOUS LOWER BLEPHAROPLASTY
- ORBITAL FAT TRANSPOSITION
- CHEEK AUGMENTATION

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TRANSCONJUNCTIVAL LOWER BLEPHAROPLASTY

+/- LATERAL CANTHAL RELEASE

1. TRANSCONJUNCTIVAL INCISION 2-3MM BELOW THE INFERIOR BORDER OF THE TARSUS
2. PRESEPTAL DISSECTION TO THE INFERIOR ORBITAL RIM
3. PERIOSTEAL INCISION
4. RELEASE OF THE ORBITAL RETAINING LIGAMENT
5. DISSECTION OF THE FAT PEDICLES
6. TRANSPOSITION OF THE FAT PEDICLES

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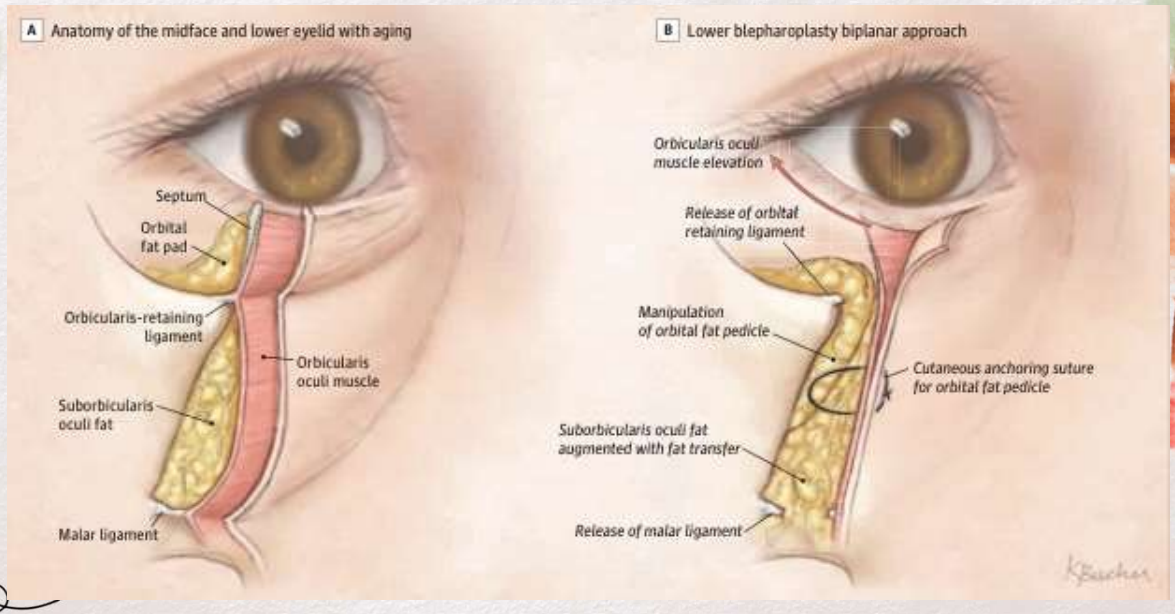
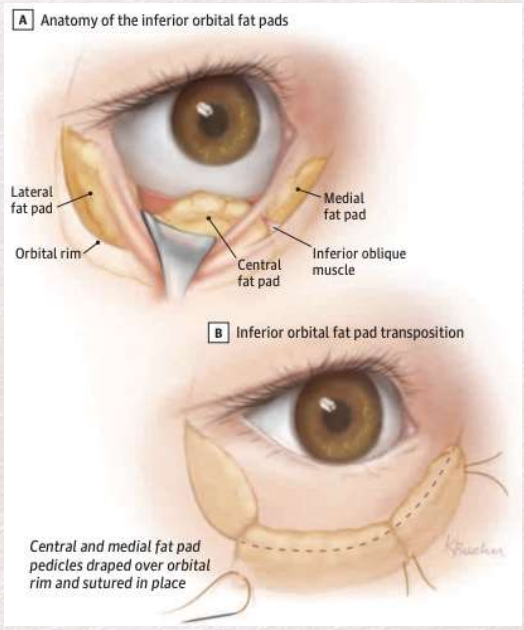
TRANSPOSITION OF FAT PEDICLES



a, T. Biplanar Contour-Oriented Approach to Rejuvenation. Jama Facial Plast Surg.

END-TO-END TECHNIQUE



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VOLUME LOSS IN AGING

TREAT VOLUME LOSS...
WITH
VOLUME AUGMENTATION

VOLUME AUGMENTATION OPTIONS

- IMPLANTS
- SYNTHETIC FILLERS
  IE HYALURONIC ACID
- FAT TRANSFER

SYNTHETIC FILLERS

Juvéderm® INJECTABLE GEL

Radiesse® Radiance FN

BELOTERO®

Restylane® redefining beauty®

Sculptra® Poly-L-lactic acid Natural Collagen Stimulation

FAT TRANSFER: EQUIPMENT

Tulip® MEDICAL PRODUCTS

AMPLE SCIENTIFIC

FAT TRANSFER: EQUIPMENT

- INFILTRATION
- HARVESTOR
- LUER LOCK TRANSFER
- 1CC AND 10CC LUER LOCK SYRINGES
- ALBUMIN
- CENTRIFUGE
- Ø.9 INJECTOR

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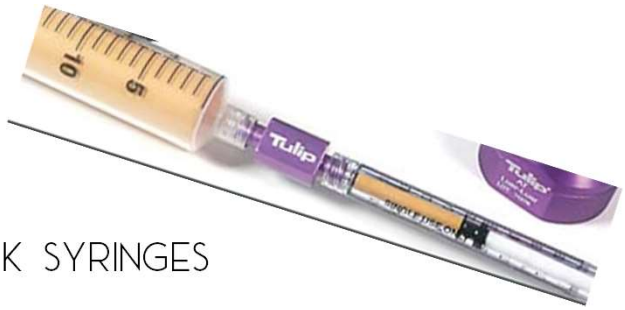

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FAT TRANSFER: ESSENTIAL STEPS

1. TUMESCE HARVEST SITE
2. SENSORY BLOCKS
3. HARVEST AND PROCESS FAT
4. INJECT FAT

STEP 1: TUMESCE HARVEST SITE

STEP 1: TUMESCE HARVEST SITE

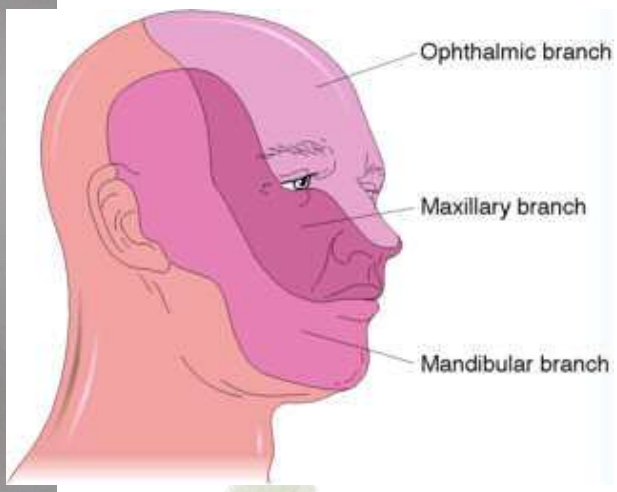
LIDOCAINE TOXICITY

- DETERMINED BY TOTAL DOSE AND RATE OF ABSORPTION
- TOTAL DOSE = 4.5 MG/KG
- RATE OF ABSORPTION → DEPENDENT ON BLOOD FLOW TO THAT TISSUE
  - VASOCONSTRICTORS, SUCH AS EPINEPHRINE, ARE FREQUENTLY USED
  - MAY INCREASE TOXIC DOSE TO 7 MG/KG

LIDOCAINE TOXICITY
SIGNS & SYMPTOMS

- **EARLY SIGNS (*AWAKE PATIENTS*)**
  - CIRCUMORAL NUMBNESS
  - TONGUE PARESTHESIA
  - DIZZINESS
  - TINNITUS
  - BLURRED VISION
- **PROGRESSIVE SIGNS**
  - MUSCLE TWITCHING
  - SEIZURES
- **LATE SIGNS**
  - UNCONSCIOUSNESS
  - COMA

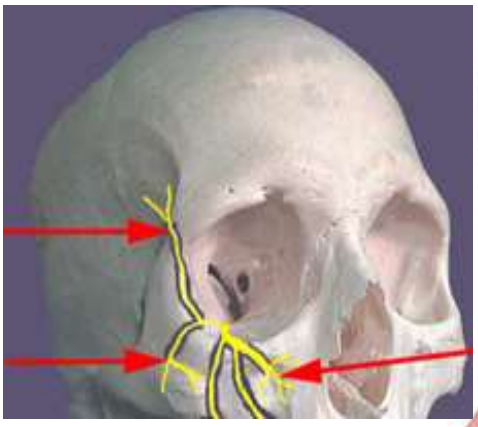
STEP 2: SENSORY NERVE BLOCKS

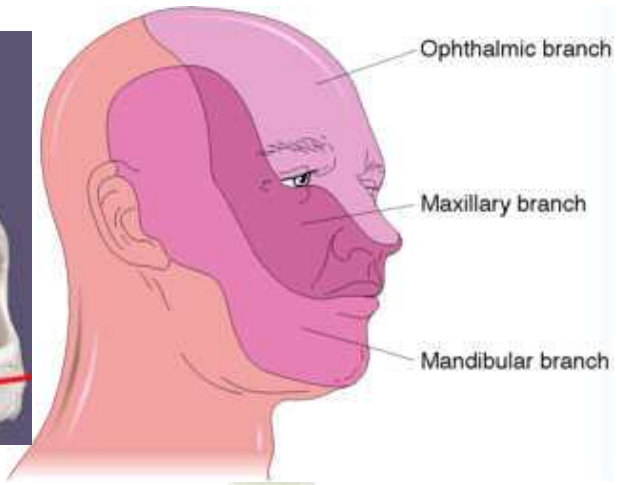


STEP 2: SENSORY NERVE BLOCKS

ZYGOMATICO -TEMPORAL

ZYGOMATICO -FACIAL





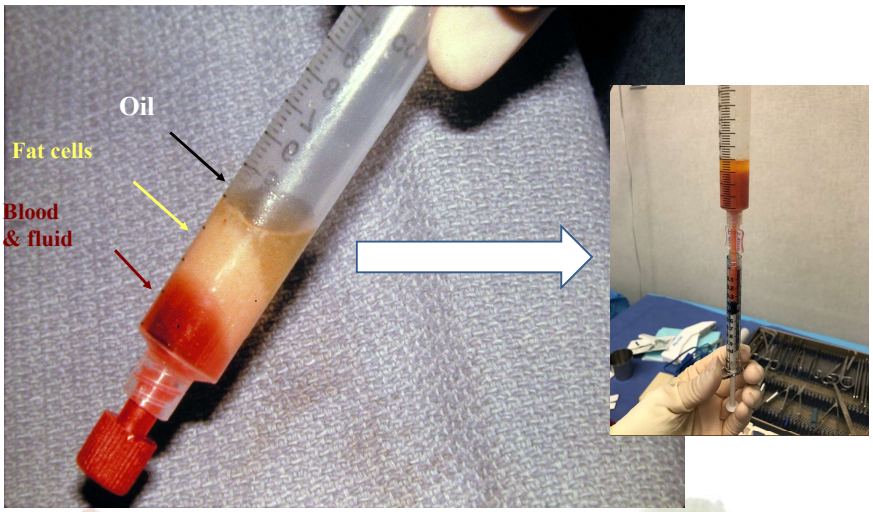
STEP 3: HARVEST AND PROCESS FAT

**MAINTAIN 2CC OF BACK PRESSURE

STEP 3: HARVEST AND PROCESS FAT

CENTRIFUGE
3 MINUTES
1000 RPM

STEP 3: HARVEST AND PROCESS FAT

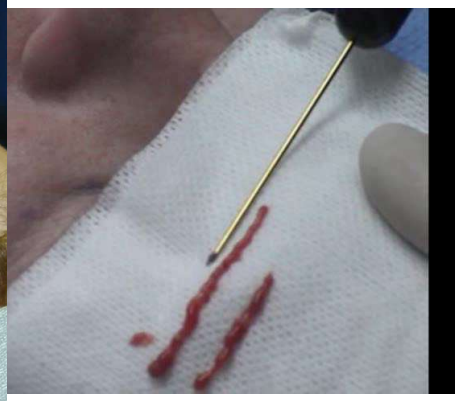


STEP 4: INJECT FAT

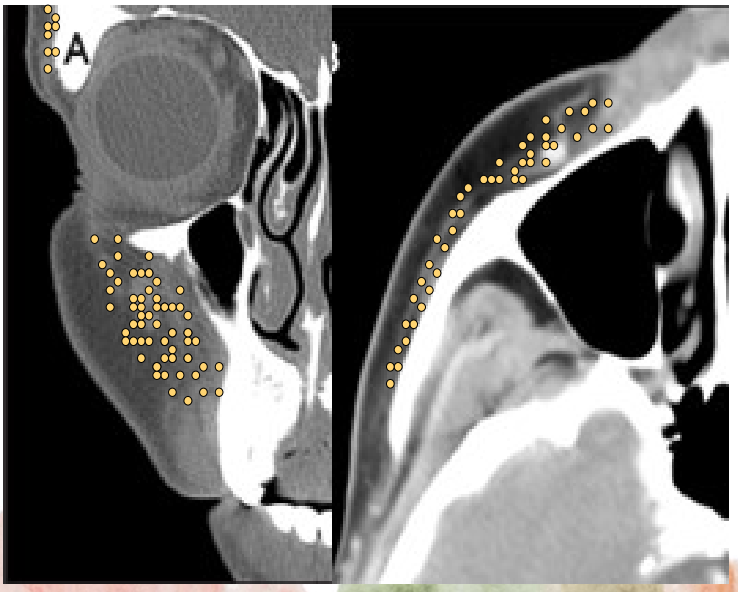
LARGER
(COL

SMALLER
(TULIP)

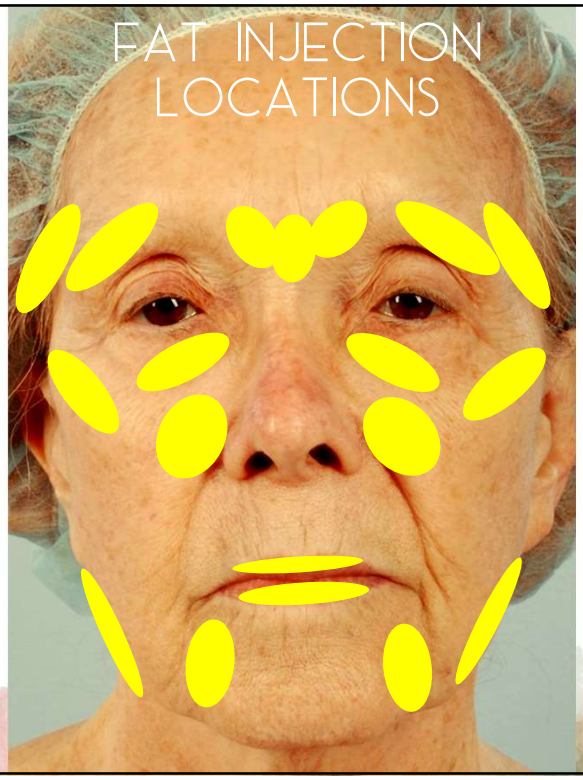
STEP 4: INJECT FAT



STEP 4: INJECT FAT

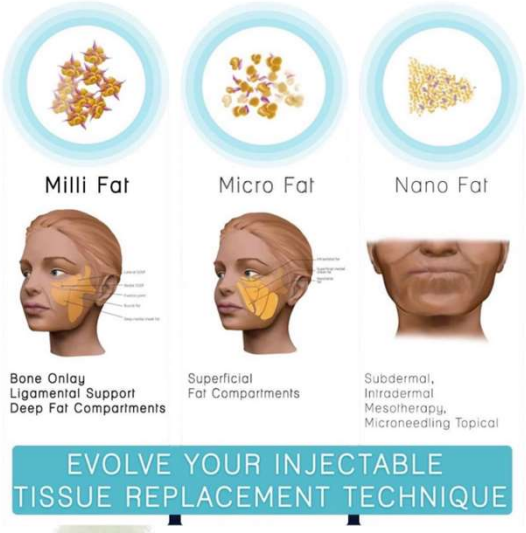


FAT INJECTION LOCATIONS



ADVANTAGES OF NANOFAT

- DOES NOT CONTAIN ADIPOCYTES!
- HIGH CONCENTRATION OF REGENERATIVE STEM CELLS
- CAN BE INJECTED *INTRADERMALLY* WITH A 27-30 G NEEDLE



NANOFAT

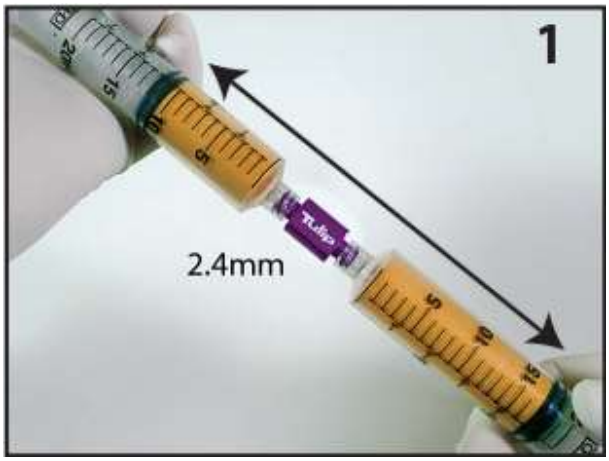
STEP 1

HARVEST FAT

EMULSIFY

- 20CC SYRINGE
- 2.4 MM TRANSFER
- MANUALLY TRANSFER

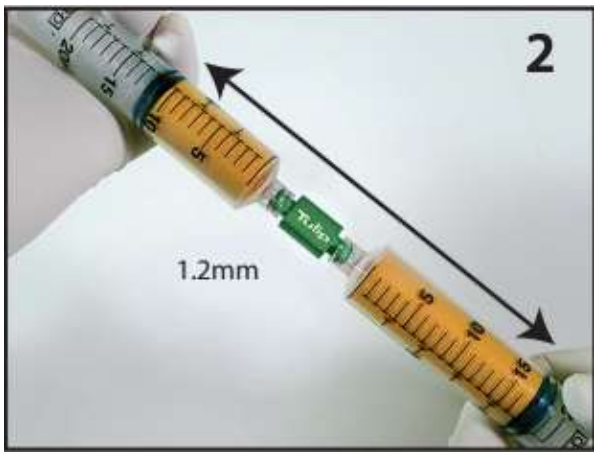
  30 TIMES



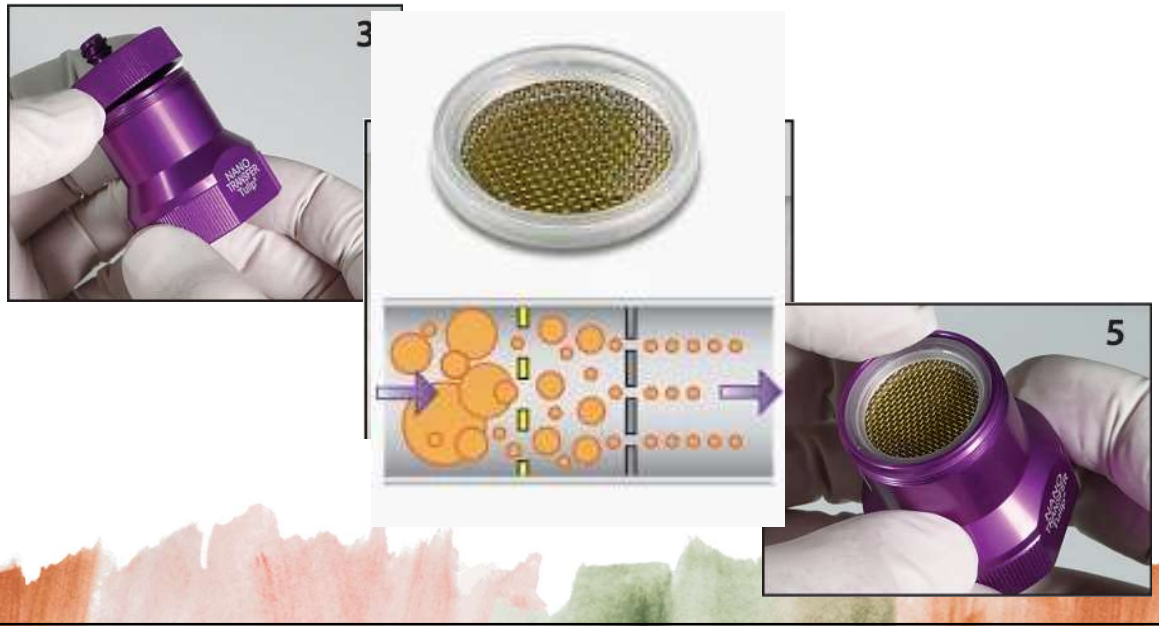
EMULSIFY → SIZE DOWN

- CHANGE TO 1.2 MM
- MANUALLY TRANSFER

  30 TIMES



PROCESS THROUGH NANOTRANSFER



PROCESS THROUGH NANOTRANSFER

- STERILE 20 CC SYRINGE TO OUTPUT PORT
- PASS THROUGH ONCE!

PROCESS THROUGH NANOTRANSFER

- INDIVIDUAL 1CC SYRINGES TO INJECT

QUESTIONS?

DRMARIESOMOGYI@GMAIL.COM

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CASE #1

QUAD BLEPH IN MEXICO – NOW WITH "EYE REDNESS"

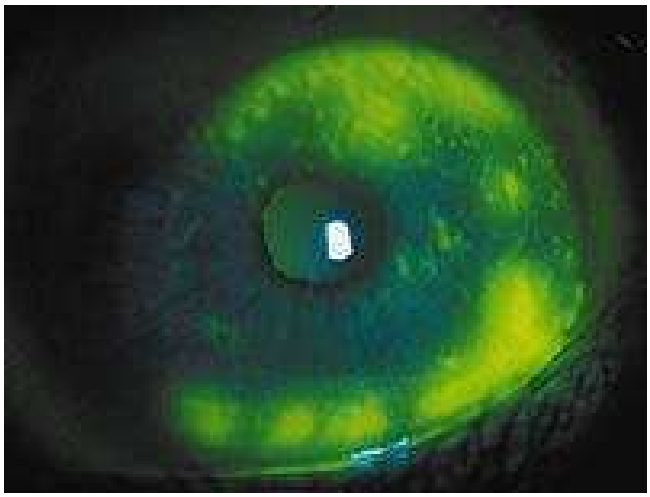
POST BLEPHAROPLASTY LOWER EYELID RETRACTION

THREE PRIMARY FEATURES

1. RETRACTED LOWER EYELIDS
2. SCLERAL SHOW
3. ROUNDING OR DISTORTION OF THE CANTHAL ANGLE

EXAM

- CHECK VISION
- OCULAR SURFACE
  - FLUOROSCEIN STAINING
- LOWER EYELID POSITION
  - LAXITY
  - FORCED UPWARD TRACTION TEST
- ORBICULARIS WEAKNESS
  - FISH MOUTHING OF THE EYELIDS
- NEGATIVE VECTOR EYELID`



POST BLEPHAROPLASTY LOWER EYELID RETRACTION

- RETROSPECTIVE CHART REVIEW
- **ALL** PATIENTS HAD TRANSCUTANEOUS LOWER BLEPHAROPLASTY
- **NO** PATIENTS HAD TRANSCONJUNCTIVAL APPROACH
- FACTORS:
  - ANTERIOR LAMELLAR SHORTAGE
  - EYELID TETHER (IE INTERNAL SCAR)
  - UNRECOGNIZED EYELID LAXITY
  - ORBICULARIS WEAKNESS
  - PRESENCE OF NEGATIVE VECTOR TOPOGRAPHY

Oculoplastic Surgery

New Insights Into Physical Findings Associated With Postblepharoplasty Lower Eyelid Retraction

Garrett Griffin, MD; Babak Azizzadeh, MD; and Guy C. Massry, MD

Aesth Surg J. 2014 34: 995-1004

IDENTIFY THE PROBLEM --> SURGICAL SOLUTION

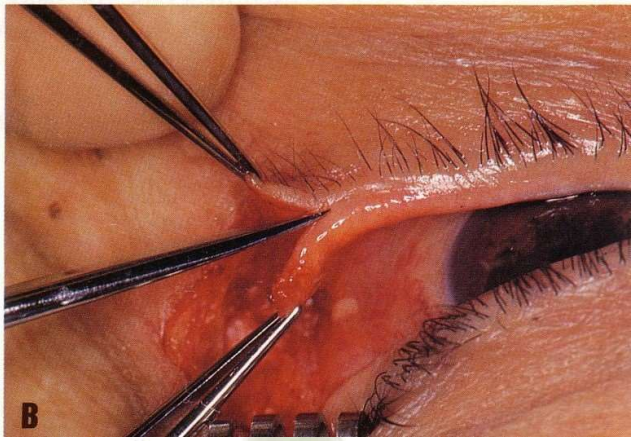
- LOWER EYELID RETRACTION WITH MILD ANTERIOR LAMELLAR SHORTAGE
  - PATIENT REFUSED SKIN GRAFT
  - RECESSION OF THE LOWER EYELID RETRACTORS TRANSCONJUNCTIVALLY

- UNRECOGNIZED LOWER EYELID LAXITY
  - CANTHOPLASTY

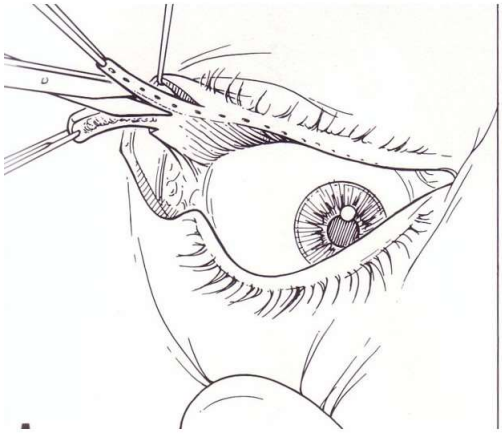
LATERAL TARSAL STRIP
STEP 1: 1 CM LATERAL SKIN INCISION

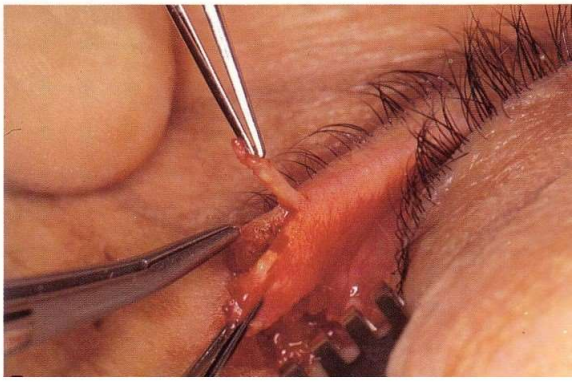
STEP 2: DISSECTION TO LATERAL ORBITAL RIM PERIOSTEUM

STEP 3: CONSTRUCTION OF TARSAL STRIP



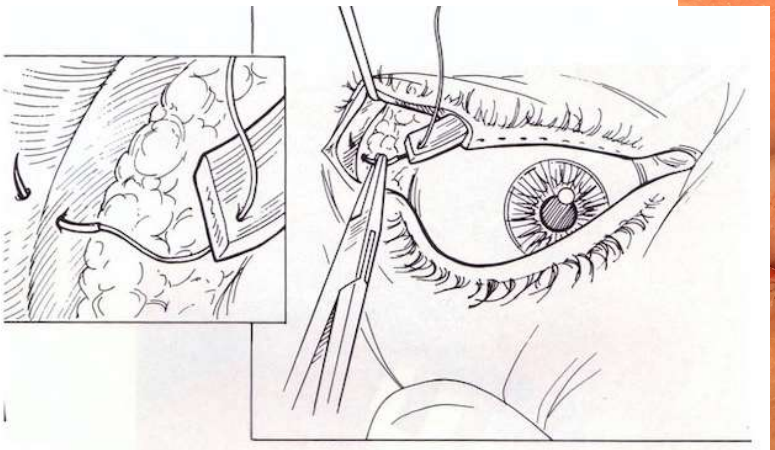
STEP 4: DENUDE EPITHELIUM

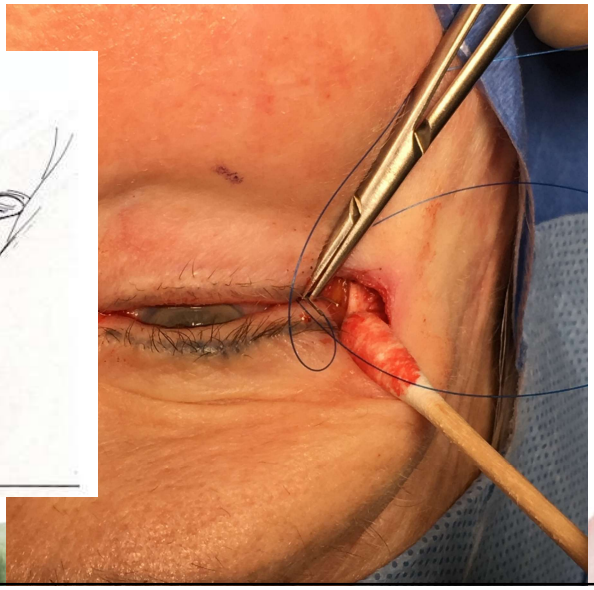




STEP 5: PREPLACE TARSAL STRIP SUTURE

STEP 6: PASS SUTURE THROUGH RIM PERIOSTEUM *INSIDE THE ORBITAL RIM* NEAR WHITNALL'S TUBERCLE





STEP 7: REFORM LATERAL CANTHAL ANGLE

CASE #2

FRIDAY OR

- 75 YO FEMALE SCHEDULED FOR UPPER BLEPHAROPLASTY AND PTOSIS REPAIR
- HISTORY OF PROPHYLACTIC ASPIRIN
  - STOPPED 10 DAYS PRIOR
- SURGERY UNEVENTFUL

8PM FRIDAY NIGHT --> PHONE CALL

- COMPLAINS OF NAUSEA, VOMITING, AND PAIN IN THE RIGHT EYE
- ON CALL DOCTOR RECOMMENDS TAKING THE PAIN MEDICATION AND ZOFRAN
- "CALL BACK IF THIS DOES NOT IMPROVE"

10 PM FRIDAY NIGHT --> *ANOTHER* PHONE CALL

- REPORTS INCREATE IN PAIN
- NOW, UNABLE TO OPEN THE EYE
- APPEARS MORE SWOLLEN THAN AFTER SURGERY

WHAT DO YOU DO?

OFFICE VISIT

"MEET ME AT THE OFFICE NOW"

EXAM

- *QUICKLY* CHECK VISION
- PUPILLARY EXAM
- EXTRAOCULAR MOTILITY
- INTRAOCULAR PRESSURE
  - NORMAL: 10-21 MMHG
  - COMPARE TO THE 'NORMAL' SIDE

CHECKING THE PUPIL'S RESPONSE TO LIGHT

THE NORMAL PUPILLARY REACTION

Image Courtesy of: Dr. Marc Cohen

LIGHT SHINED IN COMPROMISED EYE

PUPILS DILATE BECAUSE LESS LIGHT PERCEIVED

NORMAL OPTIC NERVE

DAMAGED OPTIC NERVE

Image Courtesy of: Dr. Marc Cohen

RELATIVE AFFERENT PUPIL DEFECT (RAPD)

THE SWINGING LIGHT TEST

NORMAL OPTIC NERVE

DAMAGED OPTIC NERVE

Image Courtesy of: Dr. Marc Cohen

EXAM

- VA:
  - 20/100 IN THE RIGHT EYE VS 20/40 IN THE LEFT
- + RAPD IN THE RIGHT EYE
- RIGHT ORBIT FEELS TENSE
- IOP: 48 IN THE RIGHT EYE VS 16 IN THE LEFT EYE

MANAGEMENT

IMMEDIATE CANTHOTOMY AND CANTHOLYSIS

MANAGEMENT

- OPEN CANTHUS
- DRAIN HEMATOMA
- OBTAIN HEMOSTASIS
- CHECK VISION AND IOP AFTER FULLY RELEASING THE CANTHUS
- CONSIDER STARTING STEROIDS
- CHECK PATIENT THE FOLLOWING DAY

TEAR TROUGH FILLER

- RESTYLANE-L PERFORMED IN THE TEAR TROUGH AT 2PM
- UNEVENTFUL
- 5PM PHONE CALL → "GRAY VISION" IN THE RIGHT EYE

WHAT DO YOU DO?

FILLER RELATED VISION LOSS

- #1 → SEE THE PATIENT
- CHECK VISION, PUPILLARY EXAM, EXTRAOCULAR MOTILITY, EYELID POSITION
- CAREFUL SKIN EXAM

  **BLANCHING, ERYTHEMA, DUSKINESS
- IF ABLE → DIRECT OPHTHALMOSCOPE TO LOOK AT RETINA

  IF NOT, REFERRAL TO OPHTHALMOLOGY

TREATMENT??

FILLER RELATED VISION LOSS TREATMENT

REVIEW ARTICLE

Avoiding and Treating Blindness From Fillers: A Review of the World Literature

MD, FRCSC, FRC (OPHTH), EK JONES, MD[#§]

Cosmetic Medicine

Update on Avoiding and Treating Blindness From Fillers: A Recent Review of the World Literature

Katie Beleznay, MD, FRCPC; Jean D.A. Carruthers, MD, FRCSC, FRC (OPHTH); Shannon Humphrey, MD, FRCPC; Alastair Carruthers, MD, FRCPC; and Derek Jones, MD

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Aesthetic Surgery Journal
2014, Vol. 34(4) 584–600

DOI: 10.1177/1090820X14525035
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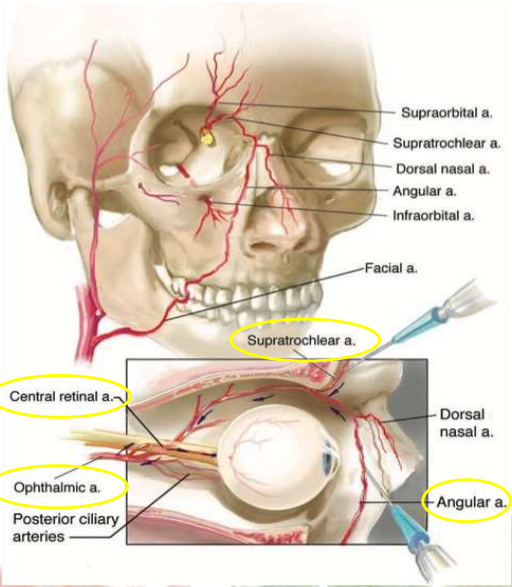
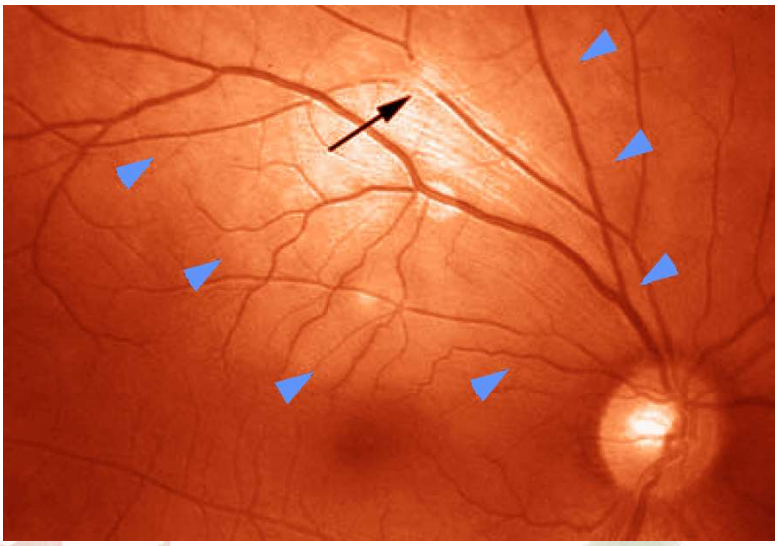
SAGE

HOW DOES THIS HAPPEN??



Beleznay, et al. Update on Avoiding and Treating Blindness From Fillers: A Review of the World Literature. Aesthet Surg J. 39 (2019), p. 662

RETINAL VASCULAR OCCLUSION



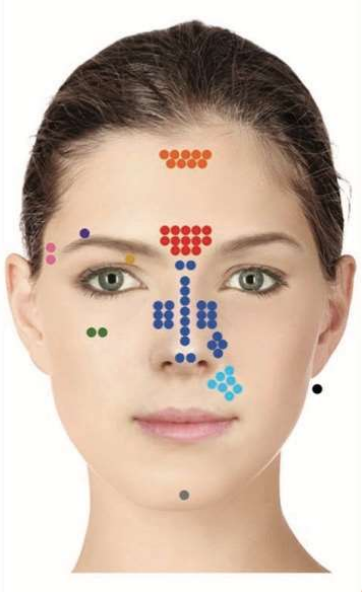
INJECTION LOCATIONS ASSOCIATED WITH VISION LOSS

REVIEW ARTICLE

Avoiding and Treating Blindness From Fillers: A Review of the World Literature

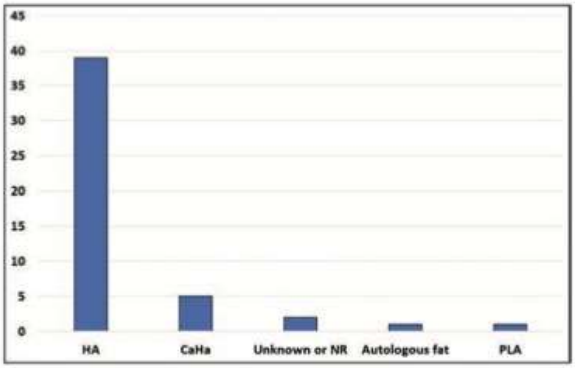
Katie Beleznay, MD, FRCPC, FAAD,* Jean D. A. Carruthers, MD, FRCSC, FRC (OPHTH), FASOPRS,† Shannon Humphrey, MD, FRCPC, FAAD,* and Derek Jones, MD‡§

1. NASAL = 56.3%
2. GLABELLA = 27.1%
3. FOREDHEAD = 18.8%
4. NASOLABIAL FOLD = 14.6%



TYPE OF FILLER ASSOCIATED WITH VISION LOSS

1. HA FILLER = 81.3%
2. CA HA = 10.4%
3. AUTOLOGOUS FAT = 2.1%
4. POLY-LACTIC ACID = 2.1%
5. UNKNOWN = 4.2%



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TREATMENT?

ORIGINAL INVESTI

Light Perception Vision Recovery
After Treatment for Calcium

b, M.D.,

Oculoplastic Surgery

Preliminary Report

Efficacy of Retrobulbar Hyaluronidase Injection for Vision Loss Resulting from Hyaluronic Acid Filler Embolization

Aesthetic Surgery Journal
2018, Vol 38(1)12–22

DOI: 10.1093/asj/sjw216
www.aestheticsurgeryjournal.com
OXFORD
UNIVERSITY PRESS

ıfter Hyaluronic Acid Filler

Guo-Zhang Zhu, MD, PhD; Zhong-Sheng Sun, MD; Wen-Xiong Liao, MD; Bing Cai, MD; Chun-Lin Chen, MD; Hui-Hui Zheng, MD; Li Zeng, MD; and Sheng-Kang Luo, MD, PhD

TREATMENT?

- NO GOLD STANDARD FOR TREATMENT
- HIGH VOLUME OF HYALURONIDASE
- NITROPASTE TO AREAS OF SKIN ISCHEMIA
- ASPIRIN
- LOWER THE INTRAOCULAR PRESSURE
  - ORBITAL MASSAGE
  - ANTERIOR CHAMBER PARACENTESIS
  - TOPICAL GLAUCOMA MEDICATIONS +/- ACETAZOLAMIDE
- INCREASE VASODILATION → HYPERVENTILATE IN PAPER BAG (INCREASE CO_2)
- RETROBULBAR HYALURONIDASE??
- ***HYPERBARIC OXYGEN***

HOW TO AVOID/MINIMIZE COMPLICATIONS

- KNOW YOUR ANATOMY
  - LOCATION OF KNOWN VESSELS
- CONSIDER USING A CANNULA RATHER THAN NEEDLE
- NON-PERMANENT FILLER (ABILITY TO DISSOLVE)
- AVOID AREAS OF SCARRING (FIXED BLOOD VESSELS)
- LIMIT INJECTION PRESSURE
- ??ASPIRATE BEFORE INJECTING??


THANK YOU!
QUESTIONS?
DRMARIESOMOGYI@GMAIL.COM