Lasers, Lumps, Bumps, & More

Chris Wroten, O.D.
Diplomate – American Board of Optometry
Fellow – American Society of Optometric Surgeons
chris.wroten@bweyes.com

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DISCLOSURES

No relevant financial disclosures for this course

Mention of products in no way implies endorsement by the presenter

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COURSE OVERVIEW

- Basic surgical definitions, including types of ocular surgical procedures
- LASER Interactions
- YAG Cap (& LPI)
- SLT
- Lid Lesions/Injections
- Scheduling & Coding & Billing Considerations
- Q&A

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DEFINITIONS

Surgery –from Greek & Latin for "hand work"

- Ancient medical specialty that uses operative manual & instrumental techniques on a patient ***to investigate &/or treat a pathological condition (such as disease or injury), to help improve bodily function or appearance, or to repair unwanted ruptured areas*** (e.g. perforated ear drum)
- ...is considered surgical when it involves ***cutting of a patient's tissues or closure of a previously sustained wound***
- A technology consisting of ***a physical intervention on tissues***

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Types of Surgery (cont.)

- Excision(al) - *removal* (of a tumor, etc.) by cutting
- Incision(al) – the act of *cutting into* a substance, especially via a scalpel or similar medical instrument in the context of a surgical procedure
- Ablation - surgical alteration/removal of a body part, an organ, or especially a tumor (an abnormal growth)

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DEFINITIONS

Categories of Surgeries/Procedures

- Non-Elective – to correct life-threatening condition
- Elective - correcting a non-life-threatening condition, at patient's request (e.g. cataract sx)
  - Cosmetic/Aesthetic – elective procedure done to *subjectively improve the appearance* of *an otherwise normal structure*

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DEFINITIONS

Surgery (cont.) –

- Technically *all* forms of surgery are considered ***invasive***
- "Noninvasive surgery" usually refers to an excision that does not penetrate the structure being excised (e.g. *laser ablation of the cornea*), or to a radiosurgical procedure (e.g. irradiation of a tumor)

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DEFINITIONS

Types of Surgerical Technologies (cont.)

- LASER - use of a LASER for cutting, instead of a scalpel or similar surgical instrument
- Cautery - the process of using extreme heat or extreme cold to either cut or seal body tissue
  - Electro**cautery** – heats tissue using *electrode as the heating element*
    - Think curling iron/branding iron

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DEFINITIONS

- Electro**surgery** – passes high frequency current thru tissue, using the *tissue as the heating element*
  - e.g. Radiofrequency (RF) Surgery

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BASIC LASER PRINCIPLES

- LASER
  - **L**ight **A**mplification by **S**timulated **E**mission of **R**adiation
- Light in phase, of a certain wavelength
- Can vaporize/cut/mold tissue
  - e.g. LASIK, Laser Peripheral Iridotomy, Laser Trabeculoplasty

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COMMON LASERS USED IN EYE CARE

- YAG Laser (Posterior Capsular Opacification, Narrow Angles, Trichiasis, Vitreal Floaters)
- SLT Laser (Glaucoma)
- Argon Laser (Retinal Surgery, Narrow Angles)
- CO2 Laser (Oculoplastics)
- Excimer Laser (Refractive Error/LASIK)
- Femtosecond Laser (Cataracts)

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YAG LASER CAPSULOTOMY

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DISCLOSURES

YAG Capsulotomy Contributing Author:
Nathan Lighthizer, O.D., F.A.A.O.
Assistant Professor, NSUOCO
Director of Clinical Care Services
Chief of Specialty Care Clinics
lighthiz@nsuok.edu

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YAG LASER

- **Nd: YAG laser**
  - Neodymium: Yttrium Aluminum Garnet solid state laser
- Tissue interaction:
  - Photodisruption @ 1064 nm
    - Focusing beam: Helium-Neon (HeNe)
  - Extremely high light energy levels
    - Reduces tissue to plasma, disintegrating the tissue

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YAG LASER

- Nd: YAG laser
  - Large amount of energy delivered into very small, focal spots in a very brief duration of time
    - ~4 nsec
    - Temp. Rise = 15,000°C
    - Unlike Argon laser, vessels bleed if hit b/c temp. rise is so rapid there's no hemostasis/coagulation)
    - Energy shockwave travels back towards surgeon = greatest power is realized just anterior to the *HeNe beam (thus the need for the posterior offset to avoid pitting an IOL)*
  - Is ***pigment independent***

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WHEN DO WE DO YAG LASER POSTERIOR CAPSULOTOMY?

- Vision is decreased from PCO p-cat sx
  - Must document affect on daily living/BCVA, just as for Phaco/IOL

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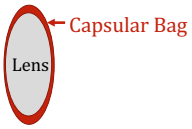
ANATOMY OF THE LENS

- Lens Capsule (aka Capsular Bag)
  - Smooth, transparent basement membrane
  - Comprised of elastin & collagen
  - Synthesized by lens epithelium
  - 2-28 microns thick
- Lens Epithelium
  - Located anterior lens
  - Pumps regulate homeostasis
  - Constantly lay down lens fibers
    - Oldest (nucleus) to newest (outer cortex)



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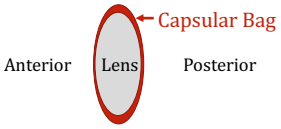
POSTERIOR CAPSULAR OPACIFICATION (PCO)

- Lens capsule (aka capsular bag) has anterior & posterior surfaces
  - Part of anterior surface removed with capsulorrhexis during phacoemulsification



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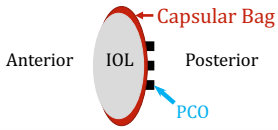
POSTERIOR CAPSULAR OPACIFICATION (PCO)

- PCO is the formation of a cloudy membrane or fluid on the posterior surface of the capsular bag following ECCE
  - AKA: Secondary cataract, After-cataract Obscuring Vision, PC Haze/Folds



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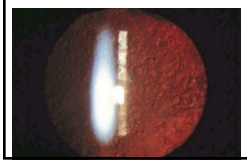
PCO: MORPHOLOGY



Elschnig Pearls

- Migration/accumulation/proliferation of residual natural lens cells in capsule
- Visually deteriorating

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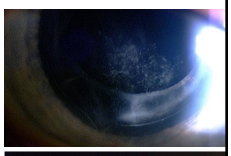
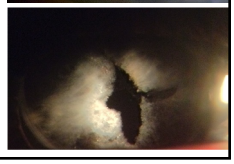
PCO: MORPHOLOGY

Capsular Fibrosis

- Metaplasia of residual lens epithelial cells
  - Resulting contraction of capsule & fibrosis
- Basement membrane formation & collagenesis with white opacification





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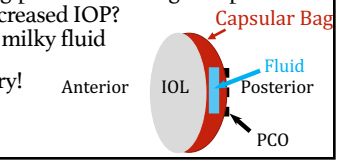
CAPSULAR BAG DISTENTION SYNDROME

- aka Capsular Block Syndrome
- Recalcitrant viscoelastic or aqueous entrapment b/t IOL & posterior capsule
- Visualized on slit lamp exam as turbid fluid behind IOL, sometimes with thickening/posterior bowing of capsule
  - Possible myopic shift? …increased IOP?
- YAG Cap creates explosion of milky fluid into anterior vitreous
  - This will resolve, don't worry!



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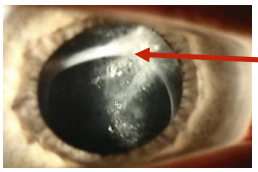
ANTERIOR CAPSULAR PHIMOSIS



- Migrating/proliferating lens epithelial cells cause annular contraction/fibrosis of anterior capsulorrhexis
- Can invade visual axis & need YAG Cap
- Very little tension (so somewhat limited laser/tissue response)

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PCO

Incidence:

- Most common complication post-ECCE
- 10-80% of eyes following cataract surgery
- Can form anywhere from days to yrs post-sx
- Younger patients = ↑↑ PCO
- IOL Choice
  - ↑↑ PCO with Silicone > PMMA > Acrylic

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PCO

Prevention:

- Primary capsulotomy during surgery (rare)
- Posterior capsular polishing(?)
- Small anterior capsulorrhexis
- IOL Design (truncated, square edge)
- Diabetes?

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YAG CAP PRE-OP EXAM

- Visual acuity (NVA), glare testing, PAM/Heine lambda
  - BVA 20/30 or worse or significant ADL
- Slit Lamp Exam
- IOPs
- Dilate – to visualize the PCO better (retro & direct)
- Posterior seg exam
  - Macula
  - Periphery
- Educate Pt
- Informed Consent Signed

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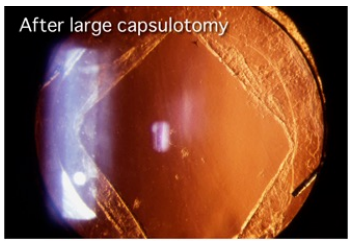
YAG CAP: INTRA-OP



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YAG CAP CONTRAINDICATIONS & POTENTIAL RISKS/COMPLICATIONS

Contraindications

1. Corneal concerns
   - Scars
   - Edema
2. Intraoc. inflammation
3. Macular problems
   - ERM
   - Mac edema
   - Mac hole
   - V-M traction, etc.
4. Patient unable to hold steady or fixate

Poss. complications

1. IOP spike/elevation
   - Most often transient
2. Inflammation
   - Pred Forte QID x 1 wk
   - Use min laser energy
3. IOL damage (pits)
4. Floaters
5. CME
6. Retinal detachment
7. Permanent vision loss?
8. Vitreal prolapse
9. Endophthalmitis

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YAG CAPSULOTOMY COMPLICATIONS

- Can we minimize complications?
- Does higher energy per pulse cause more complications?
- What about total cumulative energy?

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COMPLICATIONS OF ND: YAG LASER CAPSULOTOMY

Khan, B., et al. *Pakistani Journal of Ophthalmology*, Sept. 2014, Vol. 30, No. 3, pp. 133-136

- Prospective study
- 437 eyes of 406 patients…
  - 53.4% Female, 46.6% Male
  - Mean age 56.7 yrs (range: 15-82)
  - Used Abraham Lens
  - Mean energy = 4.1 mJ/pulse (range: 1.5-8.0)
  - Mean number of shots = 10.7 (range: 6-19)
  - Diclofenac qid x 1 week post-op
  - Post-op visits @ 1 day, 1 wk, 2 wks, & 4 wks

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COMPLICATIONS OF ND: YAG LASER CAPSULOTOMY

Khan, B., et al. *Pakistani Journal of Ophthalmology*, Sept. 2014, Vol. 30, No. 3, pp. 133-136

- Complications of YAG laser capsulotomy

• IOL Pitting	12.81%	(n=56)	
• Transient IOP Elevation*	8.69%	(38)	*mean=7.4 mmHg
• Cystoid Macular Edema	3.89%	(17)	
• Uveitis	1.14%	(05)	
• Hyphema	0.68%	(03)	
• Retinal Detachment	0.45%	(02)	
• Lens subluxation/dislocation	0.22%	(01)	
• Endophthalmitis	0.22%	(01)	

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COMPLICATIONS OF ND: YAG LASER CAPSULOTOMY

Khan, B., et al. *Pakistani Journal of Ophthalmology*, Sept. 2014, Vol. 30, No. 3, pp. 133-136

- Complications of YAG laser capsulotomy vs. other studies…
  - IOL Pitting: 12.81% (vs. 3.3%, 19.2%, & 22.4%)
  - Transient IOP Elevation: 8.69% (vs. 0.8% & 82%)
  - Cystoid Macular Edema: 3.89% (0.2%, 8.0%, 9.6%)
  - Uveitis: 1.14% (vs. 0.6% & 8.0%)
  - Hyphema: 0.68% (vs. uncommon)

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COMPLICATIONS OF ND: YAG LASER CAPSULOTOMY

Khan, B., et al. *Pakistani Journal of Ophthalmology*, Sept. 2014, Vol. 30, No. 3, pp. 133-136

- Complications of YAG laser capsulotomy vs. other studies…
  - Retinal Detachment: 0.45% (uncommon)
  - Lens subluxation/dislocation: 0.22% (uncommon)
  - Endophthalmitis: 0.22% (uncommon)
- Elsewhere: corneal endothelial damage, vitreous heme/prolapse, macular hole, & macular heme

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NEODYMIUM-YTTRIUM ALUMINUM GARNET LASER CAPSULOTOMY ENERGY LEVELS FOR POSTERIOR CAPSULAR OPACIFICATION

Bhargava, R., et al. *Journal of Ophthalmic & Vision Research*. 2015 Jan-Mar: 10(1):37-42.

- 474 consecutive eyes
  - Mean age = 56 yrs
- Analyzed factors that led to complications
- Pattern: 4 mm Cruciate
- Exclusions:
  - Pre-existing peripheral retinal conditions

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2015 YAG CAP COMPLICATION STUDY

- Conclusion:
  - Total laser energy is an important factor leading to complications
  - Contradicted earlier studies

??

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2015 YAG CAP COMPLICATION STUDY

Complication	Incidence
IOP spike*	12.6%*
Uveitis**	9.9%**
IOL pitting	7.8%
Cystoid macular edema	2.9%
Retinal detachment	2.3%

* No prophylactic hypotensives pre-/post-op
** At 1-day f/u

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2015 YAG Cap Complication Study

Complication	Mean total energy *with complication* (mJ)	Mean total energy *without complication* (mJ)
Uveitis	65	42
IOP spike	76	42
IOL pitting	62	43
Cystoid macular edema	71	42
Retinal detachment	78	43
Overall average	**66**	**37**

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2015 YAG CAP COMPLICATION STUDY

Retinal Detachment: A Closer Look

- 11 RDs in 474 eyes (2.3%)
- Mean onset 11.7 months post YAG
  - Range: 4-15 months
- Risk factors
  - Higher total laser energy
  - Longer axial length (>24 mm)
- Recommendation: ***Avoid large capsulotomy in patients with longer axial length***

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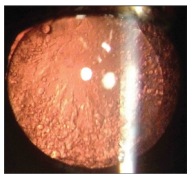
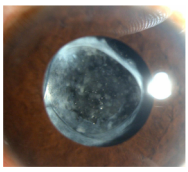
2015 YAG CAP COMPLICATION STUDY

- Mean energy level by PCO subtype





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YAG CAP LENS OPTIONS

Volk
Ocular Instruments
Cost: ~$425-$700

Combo YAG Cap & PI Lens

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BE CAREFUL!!!

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YAG CAP PERI-OP

- "Day of":
  - VA
  - IOP
  - BP?
  - Informed Consent
  - Verify IOL Type
    - Risk Pitting: Silicone>PMMA>Acrylic
    - MF? Crystalens?
  - Verify Surgery Eye

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YAG CAP PERI-OP

- Patient Pre-op Drops:
  - Dilating drops
  - 1 gt Alphagan or Iopidine 15-30 minutes pre-op
  - Topical anesthetic OU
  - If using lens, insert fluid (e.g. Celluvisc, Goniosol, or Goniovisc) into sterilized YAG Cap Lens "bowl"

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YAG CAP PRE-OP

Laser Settings

- Posterior Offset=250µ
- # Shots = Zero counter
- # Pulses = 1
- Energy = 1.3 – 2.5 mJ
- Spot Size: fixed
- Duration: fixed

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YAG LASER POSTERIOR CAPSULOTOMY

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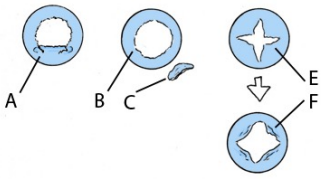
YAG CAP INTRA-OP PROCEDURE

- Focus oculars, then HeNe beams on the PCO
- Perform procedure
  - No pain for patients
  - May feel popping/snap/clap
- Usually done in a Cruciate pat
- Other patterns/techniques:
  - Hinge/Horseshoe
  - Circular
  - Spiral
  - Star
  - Postage stamp

Capsulotomy Techniques



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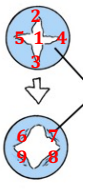
YAG CAP: CRUCIATE TECHNIQUE

- Most common pattern used
- Pros:
  - Quick
  - Minimizes floaters from capsule remnants post-YAG
- Cons:
  - Some tendency for remaining 4 petals to refuse to spread open (although usually do eventually)



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YAG CAP: HINGE/HORSESHOE TECHNIQUE

- Round opening with "tuna can lid"
- Pros:
  - All shots outside visual axis (limits potential damage to central IOL)
- Cons:
  - Can create free-floating capsule remnant

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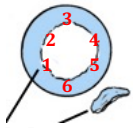
YAG CAP: CIRCULAR TECHNIQUE



- Pros:
  - All shots outside visual axis, limiting potential damage to central IOL
- Cons:
  - Will leave free-floating capsule remnant (usually settles near vitreous base, but theoretically possible to settle in visual axis & cause subjective symptoms)

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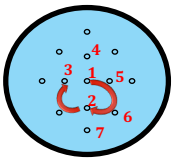
YAG CAP: SPIRAL TECHNIQUE

- Start centrally & spiral outward
- Pros:
  - Adjustable as go
  - Pleasingly round openings
  - Some prefer for Crystalens
- Cons:
  - Tendency to produce capsular tags (sometimes free-floating)
  - Possibility of pitting central IOL since first shots in visual axis



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YAG CAP: STAR TECHNIQUE

- Linear incisions creating 5 or more "flaps"
- Pros:
  - Low risk of capsular tags
- Cons:
  - Longest time to do?
  - "Flaps" could refuse to spread open

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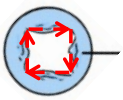
YAG CAP: POSTAGE STAMP TECHNIQUE

- Linear incisions tracing shape of a square/rectangle
- Pros:
  - All shots outside visual axis
  - Relatively quick
- Cons:
  - Creates free flap which could settle in line of sight



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YAG CAP POST-OP PROCEDURE

- Post-op In-Office
  - Remove laser lens
  - Rinse/Clean eye (if used lens)
  - 1 drop of Alphagan or Iopidine post-laser
  - IOP measurement 15-30 minutes post-laser
    - If >5mm Hg increase, treat as IOP spike
- Post-op drops
  - Pred Forte QID to surgical eye X 1 week
  - Pt ed r.e. S/Sx of RD
- RTC 1-4 wks for f/u

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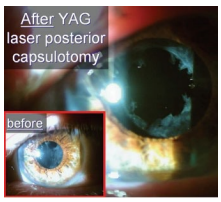
1-2 WEEK YAG CAP POST-OP EXAM

- VA's
- Anterior segment exam
  - Check for cell/flare
- Check IOP
- Dilate
  - Check for holes/tears/RD's
- D/C Pred Forte if not already done
- Release back to referring doc?



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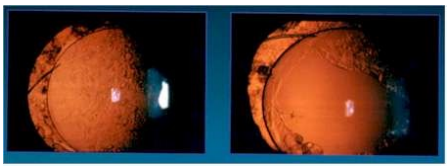
YAG CAP

- CPT Reimbursement codes
  - 66821
- 90-day global period



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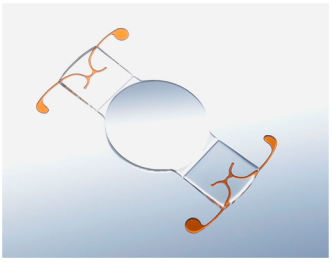
CAPSULOTOMY AND CRYSTALENS



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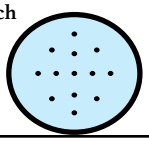
YAG CAPSULOTOMY & CRYSTALENS

- Capsulotomy *may spontaneously enlarge with lens translation*
  - Increases risk of IOL dislocation
- Recommendations
  - Maximum 4mm diameter
  - Avoid acute edges
    - Circular or octagonal approach



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YAG CAPSULOTOMY TECHNIQUES

- Techniques are largely based on practitioner preference
- How to determine best practices?

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2011 YAG CAPSULOTOMY TECHNIQUES SURVEY

- 2011 survey of British ophthalmologists
  - 300 surveyed, 158 replied
- Use of dilating drops, capsulotomy shape/size, use of contact lens, steroid use, follow-up schedule

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2011 YAG CAPSULOTOMY TECHNIQUES SURVEY

- Dilation
  - 98.5% dilate before capsulotomy
- Size
  - 64% aim for size larger than undilated pupil
- Shape
  - 47% cruciate, 27% circular, 24% combination
- Use of contact lens?
  - 88% use one

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2011 YAG CAPSULOTOMY TECHNIQUES SURVEY

Postoperative Follow-up:
39% see patients for routine postoperative visits
Mostly within 1 month
Topical steroid use:
42% use postoperative prophylactic steroids

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"YAG Capsulotomy, part 1," *EyeWorld*, May 2015, Mitch Gossman, M.D.

"YAG Capsulotomy, part 2," *EyeWorld*, June 2015, Mitch Gossman, M.D.

- **Survey of 100 U.S. OMDs...**

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1. WHAT METHOD DO YOU USE FOR DOING A YAG CAPSULOTOMY FOR A CONVENTIONAL LENS, I.E. NOT CRYSTALENS?

- **44 % = Cruciate (start superiorly & incise from 12 to 6, then from 3 to 9, creating a Maltese Cross)**
- **20% = Circular (round opening with free capsular circle to descend into vitreous)**
- **14% = Star (linear incisions creating ≥5 flaps)**
- **12% = Spiral (start centrally & work way around until opening the desired width)**
- **7% = Hinged (circular opening with hinge to avoid free-floating circulars)**

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2. WHAT METHOD DO YOU USE FOR DOING A YAG CAPSULOTOMY FOR CRYSTALENS?

- **26 % = Cruciate (start superiorly & incise from 12 to 6, & then incise from 3 to 9, creating a Maltese Cross)**
- ***24% = Spiral* (start centrally & work way around until opening the desired width)**
- **20% = Circular (round opening with free capsular circle to descend into vitreous)**
- **5% = Star (linear incisions creating ≥5 flaps)**
- **5% = Hinged (circular opening with hinge to avoid free-floating circular capsule)**

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3. DO YOU USE A CONTACT LENS IN MOST CASES FOR AN ACRYLIC OR COLLAMER INTRAOCULAR LENS?

- Yes= 53%
- No= 47%

4. DO YOU USE A CONTACT LENS IN MOST CASES FOR A SILICONE INTRAOCULAR LENS?

- Yes = 52%
- No = 45%
- Do not use = 3%

65

5. DO YOU USE A CONTACT LENS IN MOST CASES FOR A CRYSTALENS?

- **Yes = 46%**
- **No = 44%**
- **Other* = 10%**

*Do not use for Crystalens

66

6. WHAT DROP(S) DO YOU GIVE AFTER YAG TO BLUNT PRESSURE SPIKE?

- Brimonidine = 50%
- None = 32%
- Combigan = 10%
- Apraclonidine = 8%
- Prostaglandin = 2%
- Beta-blocker = 1%
- Pilocarpine = 1%

67

7. DO YOU PERFORM A 1-HOUR PRESSURE CHECK FOR AN ORDINARY CASE (E.G. EXCLUDING ADVANCED GLAUCOMA, PROPENSITY TO PRESSURE SPIKE SUCH AS PSEUDOEXFOLIATION, ETC.)?

- No = 80%
- Yes = 20%

68

8. DO YOU PERFORM A 1-DAY PRESSURE CHECK FOR AN ORDINARY CASE?

- No = 96%
- Yes = 3%

69

9. WHEN DO YOU SEE THE PATIENT BACK FOR A FINAL POST-YAG CHECK FOR AN ORDINARY CASE WHERE A SATISFACTORY REFRACTION COULD NOT BE ACHIEVED BEFORE THE YAG (E.G., CAPSULE TOO CLOUDY FOR A MEANINGFUL REFRACTION, INDICATION OF A DIFFERENCE FROM WORN GLASSES, ETC.)? CHOOSE THE CLOSEST MATCH.

- 1-2 weeks = 68%
- 4 weeks = 21%
- PRN = 9%
- 2-3 months = 1%
- 1 year = 1%
- 4-6 mos = 0%

70

10. WHEN DO YOU SEE THE PATIENT BACK FOR A FINAL POST-YAG CHECK FOR AN ORDINARY CASE WHERE THERE IS LITTLE REASON TO ANTICIPATE A NEED FOR A REFRACTIVE CHANGE (E.G., PRE-YAG REFRACTION CLOSE TO WORN GLASSES)?

- 1-2 weeks = 37%
- 4 weeks = 22%
- PRN = 14%
- 1 year = 11%
- 2-3 months = 7%
- 4 months = 5%
- 6 months = 4%

71

YAG CAP CODING & BILLING

- CPT: 66821
  - Medicare National Payment Amt: $338.40
  - BC/BS (Louisiana): $470.55
- 90-Day Global
- If just doing post-op, use modifier -55
  - Medicare National Payment Amt: $90.00

72

YAG LASER OPTIONS

- Laser Rental
  - Lease per patient ($50 & up)
  - Owner does setup, calibration, maintenance, takedown
- Laser Share
  - Part owner
  - Laser travels between multiple offices/doctors
- Laser Purchase
  - New ($18.7K)
  - Used/Refurbished ($10K?)

73

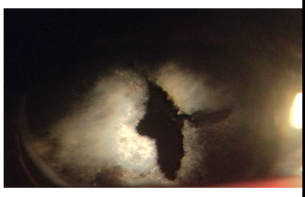
ADDITIONAL YAG LASER PROCEDURES

- Anterior Capsulotomy
  - Due to contraction of anterior capsule (phimosis)
- Pupillary membranes
- Peripheral Iridotomy
- Laser "Electrolysis" for Trichiasis
- Vitreolysis
- Others?

74

YAG LASER MYTHS

- This is easy
- A monkey could do it
- It's just like playing a video game



YAG Laser Capsulotomy is NOT easy...it takes SKILL & you can do it!!!

75

YAG LASER PEARLS

- Try with & without a lens to see what works for you
  - Use Goniosoft or Celluvisc if use lens

The Case for Using a Lens:	The Case for "No Lens":
• Control of Lid/Eye	• Faster
• Lower & Less Energy	• More Comfortable
• Fewer Shots	• No anesthetic?
• Less Pits	• Less reflections

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YAG LASER PEARLS

- ALWAYS focus oculars at least once the day of!!!
- Max He-Ne beam rheostat setting
- As needed to focus on PC:
  - Turn slit lamp illumination up
  - Adjust mag (either direction)
  - Reposition patient
  - Tilt lens/rotate beam
- Posterior Offset = 250 microns

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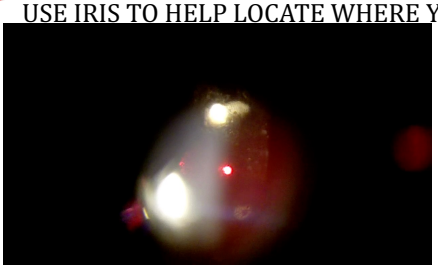
YAG LASER PEARLS

- If lose place, align HeNe beams on iris, then swing to pupil & move forward (i.e. *toward patient*)
- Early on/if concerned with pitting, start with 1st shots OUTSIDE visual axis
- If pit, move toward patient for next shot!
- Initial energy setting = 1.3-1.5 mJ
  - Adjust UP if heavily opacified
- Can bill 1 Anterior Segment Photograph to Document

78

USE IRIS TO HELP LOCATE WHERE YOU ARE



79

80

?? STATES & COUNTING…

81

YAG LASER PERIPHERAL IRIDOTOMY

82

YAG LPI

- For acute angle closure & narrow angles
- Essentially same cautions/contraindications as for YAG Cap & SLT
- Essentially same potential complications as YAG Cap, plus hyphema & dysphotopsias

83

YAG LPI

- For acute angle closure & narrow angles
- Triple pulse/burst
- Energy = 2.5-3.0 mJ
- Use Iridotomy lens
- Pre-tx with brimonidine & pilocarpine
- Find iris crypt ~1/3 of way from limbus to pupil:
  - @ 11:00 OD, @ 1:00 OS; or
  - @ 9:00 OD, @ 3:00 OS
- Ploom of aqueous into A/C
- ~1 mm opening
- Post-op: Rx steroid qid x 1 week

84

SELECTIVE LASER TRABECULOPLASTY (SLT)

- Developed 1999
- Uses Frequency Doubled, Q-switched Nd:YAG Laser @ 532 nm
- 3ns Pulse, 400 μm Spot Size
- Mechanism of Action: Cellular?

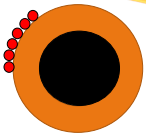
85

WHY DO WE DO SLT?

- Poor compliance with glaucoma drops
- Additional IOP lowering/avoid adding additional drops
- Complications/Side Effects from drops
- Convenience

86

SLT



- Max. IOP lowering in ~6 wks
- Recall, does not destroy or cut tissue
- Think it stretches "drains" open &/or activates macrophages to "clean up" drainage channels
- Effect wears off
  - Average effect ~24-26 mos, some up to 6+ yrs
- Repeatable

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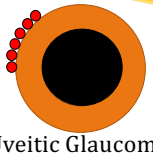
SLT



- Treatment of Glaucoma
  - but NOT Neovascular Glaucoma or Uveitic Glaucoma & caution in Pigmentary Glaucoma
- Spot size fixed & energy setting typically 0.8-1.0mJ
- Normally ~100 shots, side-by-side, 360° around TM, using Gonio lens
- Mild discomfort for patient, but only takes 3-4 min
- Post-op: Rinse conditioning fluid, check IOP>15 minutes post-SLT, rx topical NSAID prn (or Tylenol)

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SLT GONIO LENS OPTIONS

Volk
Ocular Instruments
Cost: ~$500-$700

Cuts SLT time in half?

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SLT PRE-OP EXAM

- Visual acuity
- Slit Lamp Exam
- IOPs
- Dilate
- Gonio
- Posterior seg exam
  - Macula
  - Periphery
- Educate Pt
- Informed Consent Signed
- VF, OCT

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SLT CONTRAINDICATIONS & POTENTIAL RISKS/COMPLICATIONS

Contraindications

1. Neovascular Glaucoma
2. Uveitic Glaucoma
3. Intraocular Inflammation
4. Corneal concerns?
   - Scars, Edema
5. Macular problems?
   - ERM
   - Mac edema
   - Mac hole
   - V-M traction, etc.
6. Poor fixator/unsteady?

Possible complications

1. IOP spike/elevation
   - Most often transient
2. Inflammation/Iritis
   - Use min laser energy
3. Hyphema
4. CME
5. Foveal burn/Permanent vision loss? (Operator error)
6. K Haze

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SLT COMPLICATIONS

- Can we minimize complications?
- Does higher energy per shot cause more complications?
- What about total cumulative energy or total # shots?

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Complications of selective laser trabeculoplasty: a review

Julia Song

› Author information › Copyright and License information Disclaimer

This article has been cited by other articles in PMC.

SLT COMPLICATIONS

(In 2014 alone, 204 studies on SLT published!)

- Elevated IOP (≥6 mm Hg @ 1hr post-op) = 4.5% (↑ if pigmentary glc?)
- Iritis = 83% @ 2-3 days post-op…transient & resolved x 5 days; 1 OU?
- Choroidal Effusion = 1 patient reported in literature
- Hyphema = 2 cases in literature
- Macular Edema = 4 cases in literature, most pre-existing conditions
- Foveal burn/Permanent vision loss = 1 case but 2° to surgeon error
- K Haze = 0.8% @ 1-2 hours post-op, but transient & insignificant
- Keratitis/Refractive = 8 reported cases keratitis with hyperopic shift, all in high myopes; 1 case myopic shift

94

Primary selective laser trabeculoplasty for open-angle glaucoma and ocular hypertension: clinical outcomes, predictors of success, and safety from the laser in glaucoma and …

Anurag Garg, Victoria Vickerstaff, Neil Nathwani, David Garway-Heath, Evgenia Konstantakopoulou, Gareth Ambler, Catey Bunce, Richard Wormald, Keith Barton, Gus Gazzard, Rupert Bourne, David Broadway, Marta Buszewicz, Amanda Davis, Rachael Hunter, Hari Jayaram, Yuzhen Jiang, Sheng Lim, Joanna Liput, Timothy Manners, Stephen Morris, Gary Rubin, Nicholas Strouthidis, Sarah Wilson, Haogang Zhu , , ,

Ophthalmology 126 (9), 1238-1248, 2019

SLT

Study Design

- Randomized to SLT or Topical Medication at baseline
  - n=611 eyes of 355 pts (195 OHT, 416 OAG) to SLT
  - n=622 eyes of 362 pts (185 OHT, 437 OAG) to Topical Med
- Tx Target: ≥20% IOP reduction

Results

@ 2 mos:

- 1° SLT = comparable absolute IOP-lowering in OHT & OAG
- No difference in IOP ↓ SLT vs topical medication
- (+) assoc. with baseline IOP; (-) assoc. if Female gender

@ 36 mos:

- Drop-free ds. control in 74.6% of eyes x 1-2 txs (58.2% after 1)
- Total SLT power & 2 mo-IOP were predictors of drop-free disease control @ 36 mos p-SLT x 1
- 6 eyes of 6 pts experienced immediate post-laser IOP spike (>5mm Hg increase), with 1 eye requiring tx

95

SLT

Predictive factors for outcomes of selective laser trabeculoplasty

Matthew Hirabayashi, Vikram Ponnusamy, Jella An

Scientific Reports 10 (1), 1-6, 2020

Study Design

- Retrospective SLT analysis
- n=252 eyes of 198 adult OAG pts
- Success: ≥20% IOP reduction OR ≥1 medication reduction
- Evaluated IOP spikes ≥5mmHg & associations with success

Results/Conclusions

- @ 2 mos & 6mos: 33.6% & 38.5% of eyes met success respectively
- Baseline IOP >18mm Hg assoc. with greater success at both endpts (23.7% IOP reduction)
- No other baseline characteristics signif. predicted success or IOP spikes
- No correlation with success or IOP spike for: age, type or severity of glc, TM pigmentation, or total energy used
- SLT may yield greater IOP lowering in higher baseline IOP, but may be equally successful for patients with a variety of other characteristics

96

SLT

Intraocular pressure-lowering medications and long-term outcomes of selective laser trabeculoplasty

David M Woo, Paul R Healey, Stuart L Graham, Ivan Goldberg

Clinical & experimental ophthalmology 43 (4), 320-327, 2015

Study Design
- Retrospective study of 1st time SLT pts
- Grouped per # pre-SLT meds & followed x 5 yrs
- No previous ALT, Trabec, or ACG
- Ellex SLT to 180° or 360°
- n=206 pts (with OHT, POAG, PXF, or PG)
  - 0 pre-sx gtt=20 pts; mean baseline IOP=23.7; p-SLT=17.9
  - 1 pre-sx gt=33 pts; mean baseline IOP=22.2; p-SLT=17.7
  - 2 pre-sx gtt=61 pts; mean baseline IOP=20.7; p-SLT=15.5
  - ≥3 pre-sx gtt=92 pts; mean baseline IOP=20.4; p-SLT=15.7

Results/Conclusions
- Higher % in groups 2&3 needed further laser or surgery
- SLT IOP reduction @ 60 mos similar among all (23.6%-25.6%)
- # Pre-SLT meds did not affect IOP-lowering effectiveness
- Groups on more meds required more interventions

97

SLT

Topical prostaglandin analogues do not affect selective laser trabeculoplasty outcomes

D Singh, MA Coote, F O'hare, MJ Walland, S Ghosh, J Xie, JB Ruddle, JG Crowston

Eye 23 (12), 2194-2199, 2009

Study Design
- Retrospective, consecutive
- 1st time SLT to 180°
- n=123 pts (74 with previous PG tx; 49 without)
- Success: ≥20% reduction in IOP without further intervention

Results/Conclusions
- No significant difference in IOP lowering @ 6 mos
- No long-term difference in SLT success rates
- Higher pre-SLT IOP was found to predict SLT success
- IOP lowering efficacy of SLT is not influenced by use of topical PG analogues

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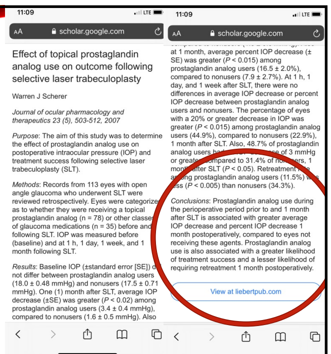
SLT



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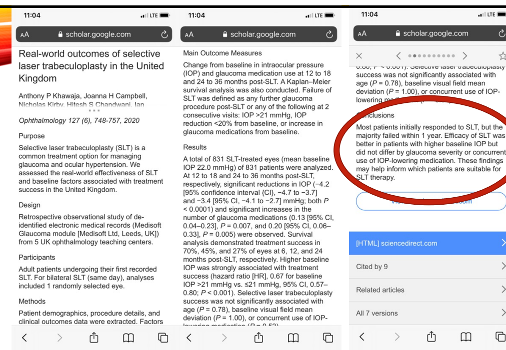
SLT



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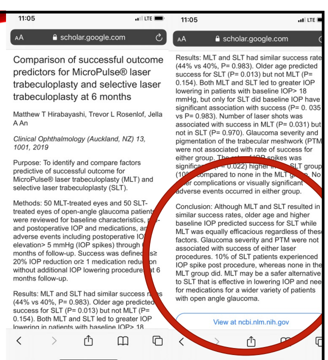
SLT



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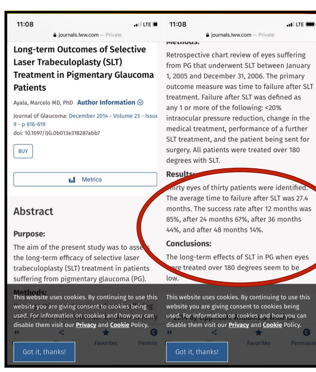

SLT

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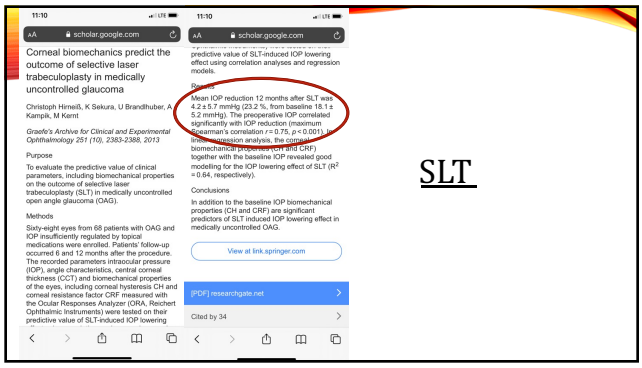

SLT

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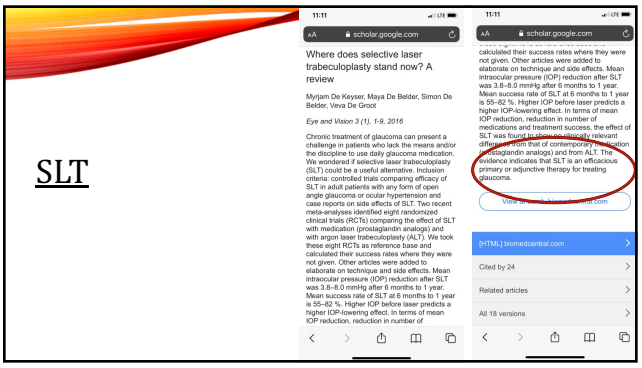

SLT

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ADDITIONAL SLT PROCEDURES

- None (?)

105

SLT LASER MYTHS

- This is easy
- A monkey could do it
- It's just like playing a video game

SLT is NOT easy…it takes SKILL!!!

106

SLT PEARLS

- Find Gonio lens you like & use Goniosoft or Celluvisc
- ALWAYS focus oculars & use enough light with right mag!!!
- Always start at 09:00
- Initial energy setting = 0.9-1.0 mJ
  - Adjust DOWN if heavily pigmented TM or excess "champagne bubbles"
- Goal = ~100 shots over 360º
- Easier than YAG Cap (at least initially)
- If lose view, adjust patient/gaze/lens tilt
- Can bill 3 Anterior Segment Photographs of Angles (?)

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Medical Record Should Always Include:

- Medical necessity for the procedure (e.g. gtt side effects, drop $$, noncompliance, gtt contraindications, etc.)
- Orders for the procedure
- Informed consent (signed, dated, & witnessed)
  www.omic.com/risk-management/consent-forms/
- An Operative Report (i.e. what was done, anesthetic/instruments used, procedure done, complications or not, etc.) & vitals

https://www.abfprs.org/docs/Sample%20operative%20reports.pdf

- Discharge instructions (meds, RTC, c/b if symptoms)

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Peri-Operative Protocols

- Informed Consent
- Photos pre- & post-procedure, as appropriate
- Record vitals (BP/pulse/IOP/VA) pre- & post-procedure
- Post-op instructions
- Schedule f/u & inform to call back if pain/redness/edema
- Clean & sterilize all non-disposable equipment post-op

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Scheduling Considerations

- Schedule all same day/consecutively? Personal Preference
- How long between procedures? 10-15 minutes
- Schedule 1st eye Post-Op on same day as 2nd eye sx?

110

Other Laser/Advanced Procedure Considerations

Make sure your Professional Liability Insurance policy covers these procedures!!!

- Some don't!
- Lockton Affinity through AOA Excel definitely does!!

111

YAG Cap Coding & Billing

- CPT: 66821
  - '19 Medicare National Payment Amt: $317.86
  - '19 BC/BS PPO (Louisiana): $470.55
- 90-Day Global

112

SLT Coding & Billing

- CPT:65855
  - '19 Medicare National Payment Amt: $238.78
  - '19 BC/BS (Louisiana): $352.41
- 10-Day Global

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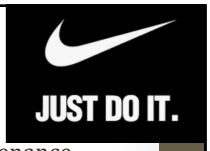
Laser Options



- Laser Rental
  - Lease per patient ($50 & up)
  - Owner does setup, calibration, maintenance
- Laser Share
  - Part owner
  - Laser travels between multiple offices/doctors
- Laser Purchase
  - New (YAG: ~$18.7K; SLT: ~$20K)
  - Used/Refurbished (YAG, SLT: ~$10K)

114

WHAT CAN BE DONE FOR PERIOCULAR SKIN LESIONS?

- Excision
  - Scalpel/Beaver blade
  - Cautery (electro- or chemical)
  - Radiofrequency/Radiosurgery
- Ablation
  - Plasma Technology

115

What is Radiofrequency (RF)?

- RF waves have affinity for intracellular H_2O molecules, causing them to vibrate
  - Vibration causes heat buildup b/t molecules
- Higher power = more violent vibration
  - Water vaporizes to steam, & depending on *rate of heating*, either:
    - Causes cell to explode (CUT)
    - Causes cell to desiccate/dry (COAG)
    - Low power = Heats tissue from inside
- *IS NOT CAUTERY!!! (i.e. the tip never gets hot)*

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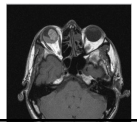
RADIOFREQUENCY (RF) IN MEDICINE

- RF energy (as radiating waves of electrical currents) has been used in medical treatments >75 yrs
  - generally for minimally invasive surgeries
    - e.g. RF ablation as treatment for sleep apnea
  - *Magnetic Resonance Imaging (MRI) uses RF waves to generate images*



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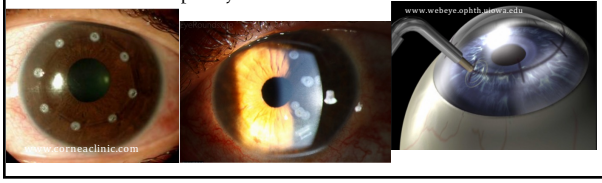
RF FOR PRESBYOPIA REVERSAL

- **Conductive Keratoplasty (CK)**
  - Utilizes RF to alter peripheral cornea
  - Temporary



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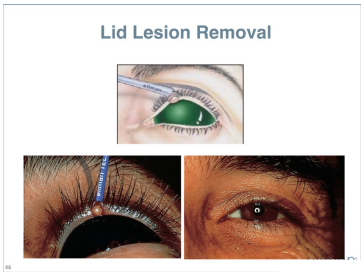
RF can also be used for...



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Peri-Operative Procedure

AAA Battery (Antisepsis, Anesthesia, Antibiotics) – Rich Castillo, D.O., O.D.

- Antibiotics (post-procedure for these)
- Sterile technique (instruments, PPE, periop. area, field)
- Anesthetic
  - None vs. Topical Lidocaine vs. Infiltrative (generally with lidocaine 0.5% or 1% w/ or w/o epinephrine 1:100,000 or 1:200,000)

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Peri-Operatively

- Proper Personal Protective Equipment (sterile gloves, sterile field, mask?, etc.) with Universal Precautions
- Use skin marker prn
- Asepsis/prepping area (Betadine swab or alcohol)
- Anesthetize area (topical, injectable, iontophoresis, other) & test efficacy with forceps, etc.:
  - Topical lidocaine gel
  - 2% Lidocaine with epi for infiltrative anesthesia
  - Alternatives...

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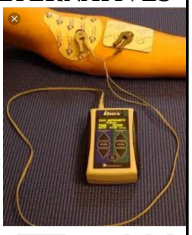
INFILTRATIVE ANESTHETIC ALTERNATIVES

- **Topical Anesthetic**
- **Iontophoresis** - Numby System (topical lidocaine)
- **Conscious Sedation**



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TOPICAL LIDOCAINE ANESTHETIC

- LMX 5
  - 5% lidocaine cream
  - Fast-acting, OTC
  - ~$54.00 per 30g tube
- LMX 4
  - 4% lidocaine cream
  - Fast-acting, OTC
  - ~$49.00 per 30g tube

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LITERATURE UPDATE

"ELA – Max {4% lidocaine} topically applied 30 minutes before IV sedation is as effective as injected buffered lidocaine in reducing pain"

Luhmann J, Hurt S, Shootman M, et al: A comparison of buffered lidocaine versus ela-max before peripheral intravenous catheter insertion in children. In: Pediatrics 2004 Mar; 113(3): 217-20

Courtesy: Dave Talley, O.D. West TN Eye

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IONTOPHORESIS

Numby System
Eyegate Pharma: EyeGate II

Figure 1. EyeGate II Delivery System.

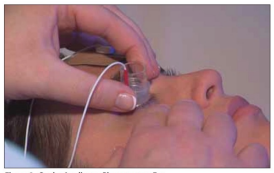

Figure 2. Ocular Applicator Placement on Eye.

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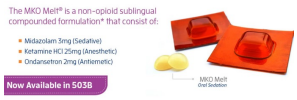
Conscious Sedation (Imprimis)

- Novel proprietary formulation of...
  - midazolam (Versed; Sch. IV)
  - ketamine (Sch. III)
  - ondansetron (Zofran)
- Sedation/amnesia + anesthesia/analgesia
- Specifically for ophthalmic use (as well as others)
- Approved 2016
- Sublingual...(2-pack = usually only need 1)



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Peri-Operative Protocols

- Informed Consent
- Photos pre- & post-procedure
- Record vitals (generally BP/pulse) pre- & post-procedure
- Hemostasis prep
- Sterile technique & proper tissue-handling/sharps/biohazardous waste - ***Beware bloodborne pathogens & needlesticks!***
- Post-op instructions (e.g. steroid-antibiotic, pain meds)
- Schedule f/u & inform to call back if pain/redness/edema
- Clean & sterilize all non-disposable equipment post-op

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Skin Lesion Removal

Courtesy of Joe Niamtu III, DMD

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Telangiectasia

129

Hemangioma

- Lesion should turn dark
- If on lid, consider K shield or pull lid over orbital bone

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Papilloma & "Flat Warts"

- Light, tapping motion used

131

Plasma Ablation: Fugo Plasma Blade

- Portable, electrosurgical, nanomedical incising device
- High energy LASER pulses ionize molecules within femtoseconds of the pulse
- Leads to submicrometer-sized bubble of plasma that can ablate tissue
- Negligible heat transfer & collateral damage
- Yields nanotechnological arrangement of molecular lattice

Approved in U.S.

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RF Alternative: Fugo Plasma Blade

- Numerous ophthalmic applications:
  - Cataract Surgery (anterior capsulotomy)
  - Glaucoma Surgery (transciliary filtration)
  - Peripheral Iridotomy
  - Lesion Removal

Approved in U.S.

133

RF Alternative: Cryotherapy

- Rich Castillo, DO, OD – developing periocular technique
- For lesion removal
- Uses Liquid Nitrogen
- Treat lesion for 20-30 secs post-topical anesthetic (i.e. no needles, no scalpels)
- Lesion blanches & falls off after 2-3 weeks
- Inexpensive (<$1200 for entire system)

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CHARACTERISTICS OF THE BAD ACTORS...

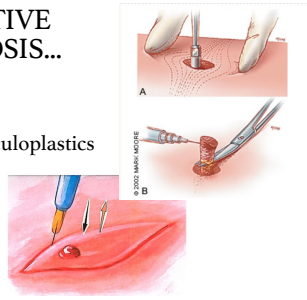
ABCDE's
- A= Asymmetry?
- B= Borders (irreg.?)
- C= Color (multi-/dark?)
- D= Diameter (large?)
- E= Evolution (over time?)

Other Possible Lid Malignancy Signs:
- Ulceration
- Induration (firm)
- New/fast growing
- Painful to touch
- Feeder vessels/Telangectasias

135

DEFINITIVE DIAGNOSIS...

- Is made via *Biopsy*
- Usually best to let Dermtology/Oculoplastics handle if suspicious at all



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LID LESIONS

Malignant
- *Actinic Keratosis
- *Lentigo Maligna
- Basal Cell Carcinoma
- Squamous Cell Carcinoma
- Sebaceous Cell Adenocarcinoma
- Malignant Melanoma
- Kaposi's Sarcoma

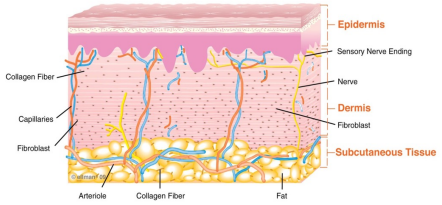
*Pre-malignant

Benign
- Telangiectasia, Hemangioma
- Nevi (Nevocellular Nevi)
- Papilloma/Skin Tag
- Seborrheic Keratosis
- Xanthelasma
- Cutaneous Horn
- Epidermal Inclusion Cyst
- Sebaceous Cyst
- Molluscum Contagiosum
- Syringoma
- Apocrine Hydrocystoma
- Keratoacanthoma
- Chalazion

137

Skin Anatomy

The Skin



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Other Ophthalmic RF Applications...

- Trichiasis
- Vascular Lesion Treatment
- Mild Entropion/Ectropion Repair
- Rhytids, Malar Edema, & others?

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Trichiasis

Treatment Options:

- Forceps Epilation
- Electrolysis*
- Cryotherapy*
- Eyelid surgery (including Yag Laser & **RF options**)*
- Also treat any 1° & 2°secondary conditions (e.g. SPK, blepharitis, etc.)

* Definitive Therapy

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Hair Follicle Epilation for Trichiasis

This is a different CPT code than forceps epilation!

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THANK YOU!

Chris Wroten, O.D.
Diplomate – American Board of Optometry
Fellow – American Society of Optometric Surgeons
chris.wroten@bweyes.com

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APPENDIX

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PAPILLOMA EXCISION PREP

Set-up tray

- Informed consent
- Wash hands & glove
- Clean surgical site
- Administer anesthetic

Courtesy: Dave Talley, O.D. West TN Eye

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MEDICATIONS - INJECTABLE

- Xylocaine 2% w/ 1:100000 conc. of epinephrine
- Used for anesthetic prep of Sx areas

Courtesy: Dave Talley, O.D. West TN Eye

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ADMINISTER ANESTHETIC

- Set-up tray
- Informed consent
- Wash hands & glove up
- Clean surgical site (alcohol or betadine)
- Administer anesthetic
  - Advance needle under & to opposite side of lesion, inject bolus, retract to opposite side, repeat, insuring not in vessel each time

Adapted from: Dave Talley, O.D. West TN Eye

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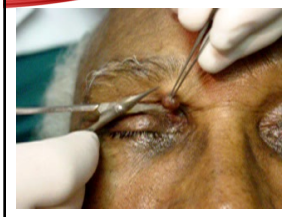
PAPILLOMA PROCEDURE



- Anesthetic test
- Reassure patient
- Excise lesion flush to skin
- Control bleeding

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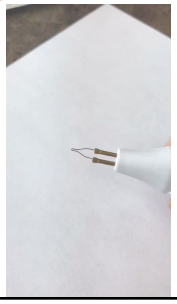
CAUTERY



- Use High Temp. Model
- Single use
- Works well for:
  - Hemostasis
  - Wound closure if needed
- Activate & tap area
- Beware aroma!

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PAPILLOMA POSTOP

- Apply antibiotic/steroid combination ointment in office & write Rx BID-TID to surgical site
- Schedule 1-2 wk PO

Courtesy: Dave Talley, O.D. West TN Eye

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PATHOLOGY PAPERWORK

- Complete medical record documentation
- Complete pathology report & arrange for pick-up
- Wait to do billing until report received

Adapted from: Dave Talley, O.D. West TN Eye & Rich Castillo, DO, OD, NSU-OCO

150

Friends
don't let friends
do stupid things
...alone!!!
Anesthetic: Beer & Whiskey
Surgical Equip: Exacto Knife + Finger Clamp
Technique: Non-sterile, Horizontal, Trans-Dermal Approach
(Don't do this!!!)

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PERIOCULAR INJECTIONS: CHALAZIA

- Chalazia Rule of "6" :
  - <6 mm diameter &/or <6 mos duration, then 60% chance response to steroid injection
- Apply topical anesthetic to lid margin & to palpebral conjunctiva
- Apply chalazion clamp

Adapted from: Dave Talley, O.D. West TN Eye

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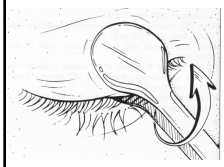
CHALAZION CLAMP APPLICATION



- Tighten circular clamp knob firmly or use spring-loaded clamp
- Evert eyelid & allow clamp to rest away from cornea, then evert when ready

Adapted from: Dave Talley, O.D. West TN Eye

155

PERIOCULAR INJECTIONS: CHALAZIA

- Insert needle directly into center of lesion
- Using 27 ga, ½" needle, inject ~0.15 ml of Kenalog 40
- WARNING: PAIN!!

Adapted from: Dave Talley, O.D. West TN Eye

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INFILTRATIVE PERIOCULAR INJECTIONS

Infiltrative Intralesional Injection Technique

Courtesy: Dave Talley, O.D. West TN Eye

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PERIOCULAR INJECTIONS: CHALAZIA

- Remove chalazion clamp
- Apply gentle pressure through closed eyelids for hemostasis
- Discard waste/sharps

Adapted from: Dave Talley, O.D. West TN Eye

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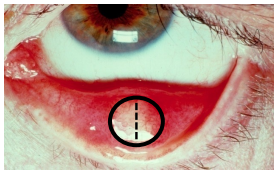
CHALAZION – INCISION / CURETTAGE



Chalazion

- Topical Anesthetic to Lid & Palpebral Conjunctiva
- Apply Chalazion Clamp
- Infiltrative Anesthetic
  - Anesthetic Test
- Incise with Scalpel/#11 Beaver Blade/RF parallel to MG & avoiding lid margin
- Curettage, Hemostasis, Close

Adapted from: Dave Talley, O.D. West TN Eye

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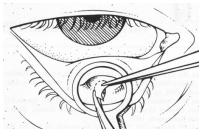
CHALAZION – INCISION / CURETTAGE

- Vertical incision through the palpebral conjunctiva, staying away from the lid margin

Courtesy: Dave Tally, O.D. West TN Eye

160

CHALAZION – INCISION / CURETTAGE



Incise & Open

- To promote drainage a small elliptical piece of the flap can be removed using Vanass scissors & tissue forceps

Adapted from: Dave Talley, O.D. West TN Eye

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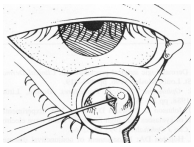
CHALAZION – INCISION / CURETTAGE



Curettage & Close

- Insert curette & vigorously remove granulomatous material
- Cauterize wound to control bleeding before removing the clamp?

Courtesy: Dave Tally, O.D. West TN Eye

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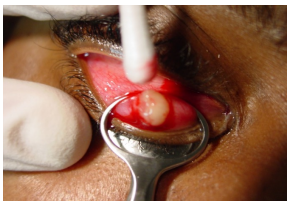
CHALAZION I & C – CLEAN UP

Curettage Vigorously



Granulomatous Material

Courtesy: Dave Tally, O.D. West TN Eye

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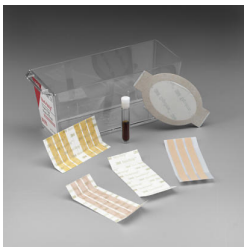
WOUND CLOSURE: STERI STRIPS



- Steri Strips can be used for small to medium wound closure of the skin
- Excellent for excision of a chalazion using a transcutaneous approach

Courtesy: Dave Tally, O.D. West TN Eye

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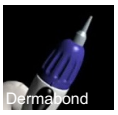
WOUND CLOSURE: TISSUE GLUE



Courtesy: Dave Tally, O.D. West TN Eye

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WOUND CLOSURE: TISSUE GLUE

- Apply using three thin layers using a light brushing stroke while holding wound together
- Flexible bond in 45 –60 seconds & full strength in 2½ minutes

Courtesy: Dave Tally, O.D. West TN Eye

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CHALAZION – IPL & RF TREATMENTS

- Established protocols exist to use both RF & Intense Pulsed Light Therapy to treat Chalazia non-invasively, as well
- Cash pay procedure

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INTENSE PULSED LIGHT THERAPY (IPL)

- Brief, powerful bursts of light (500-800 nm) emitted by handpiece & absorbed by oxyhemoglobin
- Heat coagulates cells causing vascular thrombosis, ⇊ redness & ⇊ problematic skin flora
- FDA-approved: Acne & Rosacea
- Off-label for MGD/DES & to rejuvenate skin

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Scheduling Considerations

- Personal preference is to schedule lid procedures & injections the last appointment slot of a.m./p.m.
- How long between procedures?
  - I&C/Excision = 20 minutes
  - Injections = 10-15 minutes
- Always take pre-procedure photos! (& bill for them)
  - Can also take post-op photos @ f/u to show patient

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Medical Record Should Always Include:

- Medical necessity for the procedure (e.g. redness, irritation, itching, blur, growth, pain, etc.) or ABN
- Orders for the procedure
- Informed consent (signed, dated, & witnessed) www.omic.com/risk-management/consent-forms/
- An Operative Report (i.e. what was done, anesthetic/instruments used, procedure done, complications or not, etc.) & vitals

https://www.abfprs.org/docs/Sample%20operative%20reports.pdf

- Discharge instructions (meds, RTC, c/b if symptoms)

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Coding & Billing: Injectables/BoTox

For Injectable Neuromodulators (BoTox):

- For Skin Tightening = cosmetic = cash pay
- For Blepharospasm = medical = can bill for injection & medication (must throw unused meds away)

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Coding & Billing: Chalazion I&C

- CPT Codes:
  - 67800 = Single Chalazion
  - 67801 = Multiple Chalazia on same lid
  - 67805 = Multiple Chalazia on different lids
- All 10 day Global Period? (check carrier)

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Coding & Billing: Lesion Excision

Adapted from Rich Castillo, D.O., O.D.

- All 678XX codes must include documentation of "more than just skin" being removed (e.g. lid margin, palpebral conjunctiva, lashes, tarsus, etc.)
- CPT Codes:
  - 67840 = Excision of lesion of eyelid (except chalazion) without closure or with simple direct closure
  - 0-10 day Global Period (check carrier)

173

Coding & Billing: Lesion Excision

Adapted from Rich Castillo, D.O., O.D.

- If only skin removed & not skin tags/papillomas, choose CPT based on size in cm (measured at its greatest diameter):
  - Benign Lesions = CPT 11440-11446
  - Malignant Lesions = CPT 11640-11646
  - Wait until path report received to choose CPT!
- All 0-10 day Global Period (check carrier)

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Coding & Billing: Lesion Excision

Adapted from Rich Castillo, D.O., O.D.

- For only Papilloma/Skin Tags, get ABN & bill:
  - CPT 11200 for 1st 15 removed
  - CPT 11201 for each additional 10 removed
    - e.g. if remove 35 skin tags, submit codes 11200, 11201 & 11201
  - High risk claim denial; better off cash pay?
- All 0-10 day Global Period (check carrier)

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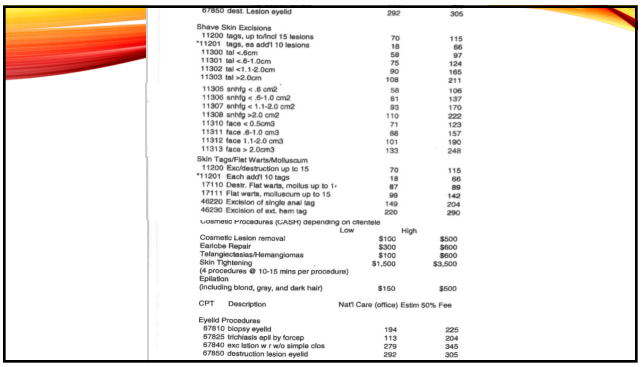

67850 dest. Lesion eyelid	292	305
Shave Skin Excisions		
11200 tags, up to/incl 15 lesions	70	115
*11201 tags, ea add'l 10 lesions	18	66
11300 tal <.6cm	58	97
11301 tal <.6-1.0cm	75	124
11302 tal <1.1-2.0cm	90	165
11303 tal >2.0cm	108	211
11305 snhfg < .6 cm2	58	106
11306 snhfg < .6-1.0 cm2	81	137
11307 snhfg < 1.1-2.0 cm2	93	170
11308 snhfg >2.0 cm2	110	222
11310 face < 0.5cm3	71	123
11311 face .6-1.0 cm3	88	157
11312 face 1.1-2.0 cm3	101	190
11313 face > 2.0cm3	133	248
Skin Tags/Flat Warts/Molluscum		
11200 Exc/destruction up to 15	70	115
*11201 Each add'l 10 tags	18	66
17110 Destr, Flat warts, mollus up to 14	87	89
17111 Flat warts, molluscum up to 15	99	142
46220 Excision of single anal tag	149	204
46230 Excision of ext. hem tag	220	290
Cosmetic Procedures (CASH) depending on clientele		
	Low	High
Cosmetic Lesion removal	$100	$500
Earlobe Repair	$300	$600
Telangiectasias/Hemangiomas	$100	$600
Skin Tightening (4 procedures @ 10-15 mins per procedure)	$1,500	$3,500
Epilation (including blond, gray, and dark hair)	$150	$500
CPT Description	Nat'l Care (office) Estim 50% Fee	
Eyelid Procedures		
67810 biopsy eyelid	194	225
67825 trichiasis epil by forcep	113	204
67840 exc lation w r w/o simple clos	279	345
67850 destruction lesion eyelid	292	305

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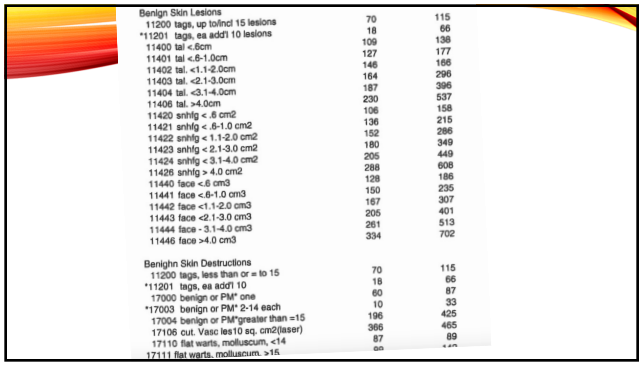

Benign Skin Lesions		
11200 tags, up to/incl 15 lesions	70	115
*11201 tags, ea add'l 10 lesions	18	66
11400 tal <.6cm	109	138
11401 tal <.6-1.0cm	127	177
11402 tal. <1.1-2.0cm	148	166
11403 tal. <2.1-3.0cm	164	296
11404 tal. <3.1-4.0cm	187	396
11406 tal. >4.0cm	230	537
11420 snhfg < .6 cm2	106	158
11421 snhfg < .6-1.0 cm2	136	215
11422 snhfg < 1.1-2.0 cm2	152	286
11423 snhfg < 2.1-3.0 cm2	180	349
11424 snhfg < 3.1-4.0 cm2	205	449
11426 snhfg > 4.0 cm2	288	608
11440 face <.6 cm3	128	186
11441 face <.6-1.0 cm3	150	235
11442 face <1.1-2.0 cm3	157	307
11443 face <2.1-3.0 cm3	205	401
11444 face - 3.1-4.0 cm3	261	513
11446 face >4.0 cm3	334	702
Benighn Skin Destructions		
11200 tags, less than or = to 15	70	115
*11201 tags, ea add'l 10	18	66
17000 benign or PM* one	60	87
17003 benign or PM 2-14 each	10	33
17004 benign or PM*greater than =15	196	425
17106 cut. Vasc les10 sq. cm2(laser)	366	465
17110 flat warts, molluscum, <14	87	89
17111 flat warts, molluscum, >15	99	142

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Coding & Billing for RF

For RF Lesion Removal/Ablation:

Any lesion that can be removed using a scalpel can also be billed if using RF

CPT 67825=Correction of Trichiasis by Other than Epilation

For Skin Tightening RF Procedurse:

Depending on carrier's definitions, could be used for:

- Ectropion Repair (CPT 67915)
- Entropion Repair (CPT 67922)
- Express Conjunctival Follicles (CPT 68040)
- Correct an everted punctum (CPT 68705)

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Coding & Billing for RF

Similarly, RF Devices may be used to non-invasively repair mild-to-moderate dermatochalasis & brow ptosis

All have appropriate ICD-10 codes, but no carrier-recognized, applicable CPT codes for using radio frequency in this manner (i.e. patients may have to pay out-of-pocket)

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Coding & Billing for RF

Category III CPT **Code 0207T** can be used with RF Devices to evacuate meibomian glands (automated, using heat & intermittent pressure, unilateral), like other commercial units do, but this code is generally not reimbursed by carriers & thus also likely out-of-pocket from patient

180

Coding & Billing for RF

RF & IPL Devices can also be used to treat chalazia with direct heat/massage for several sessions prior to more invasive procedures...

- Especially for those uncomfortable with I&C, intralesional steroid injection
- No CPT, so would be out-of-pocket for patient

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THANK YOU!

Chris Wroten, O.D.
Diplomate – American Board of Optometry
Fellow – American Society of Optometric Surgeons
chris.wroten@bweyes.com

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