SELECTIVE LASER TRABECULOPLASTY

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Selective Laser Trabeculoplasty

- Uses a frequency-doubled Q switched (10ns-1micro second) 532nm Neodymium:Yttrium Aluminum Garnet (Nd:YAG) laser

- Argon Laser Trabeculoplasty (ALT): uses argon gas (454-528nm), produces heat.
Selective Laser Trabeculoplasty

- Repeatable due to absence of extracellular coagulative tissue damage
  - ALT: extracellular tissue damage with cicatrization & peripheral anterior synechiae formation - NOT REPEATABLE (180 degrees done twice ok if different areas)
Selective Laser Trabeculoplasty
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- Technique:
  - 50 to 100 spots (latest study up to 200 with lower power may work)
  - Spot size larger than ALT 400 micron versus 50
  - 0.8-0.9 millijoules /pulse
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- Non overlapping spots 180 to 360 degrees just before champagne bubble formation.

SLT TREATMENT
Video courtesy of Shlomo Melamed
Selective Laser Trabeculoplasty

- Indications
  - Ocular Hypertension
  - Primary Open Angle Glaucoma
  - Specific Secondary OPEN Angle Glaucomas
    - Pigmentary Glaucoma
    - Pseudoexfoliation Glaucoma
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- Contraindications
  - Narrow angles (however may be done after peripheral iridoplasty in some cases)
  - Chronic angle closure glaucoma (synechial closure)
  - Neovascular glaucoma
  - Glaucoma's secondary to inflammation
  - Traumatic glaucoma (angle recession)
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- Prognosis
  - Expect 20% -35% reduction from baseline
    - if primary therapy 30-35% IOP reduction
      - 90% success rate at one year
  - Adjunctive therapy 20-35% IOP reduction
    - 70-85% response rate at one year
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- Preoperative management
  - Vision & IOP
  - Pre-medicate with Brimonidine one drop 20 minutes prior
  - Topical anesthetic prior to laser lens placed
Selective Laser Trabeculoplasty

- Immediately post-laser
  - Optional brimonidine (or iopidine) 1 gtt to treated eye
  - IOP check 45-60 minutes post SLT

- In case of IOP spike
  - Other glaucoma medications (topical or systemic) until stabilized

- First postoperative week
  - Artificial tears
  - Topical NSAID (e.g. ketorolac, nepafenac)
  - Topical steroid (e.g. prednisolone, loteprednol)

  - Advise patient to continue current (glaucoma) eye drops (if SLT used as adjunctive therapy)
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- Expect response in 6-8 weeks
- Prognosis for repeat not necessarily poor if first laser not effective (new data)-i.e. repeat may work where first laser did not!
Selective Laser Trabecuuloplasty

- Thank you!