OR Glaucoma Surgical Procedures

- Phaco Trabeculectomy and Trabecular Meshwork Laser Procedures
- Phaco with Express Tube Shunt Insertion
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Review of Glaucoma

- Optic neuropathy with damage to the optic nerve
- Portions or all of the nerve are killed
- Usually associated with:
  - high IOP
  - visual field or OCT changes
  - enlargement of optic nerve
Glaucoma Treatment

- First line of glaucoma treatment is medications
- When we are unable to adequately control IOP and stop damage to optic nerve with medications
  - Move onto other alternatives for treatment
Glaucoma Treatment

Alternatives are:

- Laser surgery
- Glaucoma filtering surgery with or without some form of tube shunt
- Viscocanulostomy
- Trabectome
Indications for Laser Surgery

- Unable to adequately control IOP using meds
- Patient who does not want to start meds
- When the laser lets us avoid a more invasive surgery
What They Really Teach Docs in Medical School

Examine them?

Wrong! After they wait in the waiting room, you make them wait in another room.

MED SCHOOL
OR Glaucoma Surgical Procedures

With failure of meds and laser, next option for control of IOP is surgery.

Two of the most common glaucoma procedures:

- Trabeculectomy
- Express Shunt
Trabeculectomy and Express Shunt

Create a new drain in the eye

Indication for glaucoma surgery

Advanced glaucoma that is not controllable with medications or laser
Trabeculectomy

In some cases trabeculectomy and express shunt are combined with cataract surgery.

Called phaco trab, phaco express trab or a glaucoma combined surgery.
Indications for Combined Surgery

- Visually significant cataract plus uncontrolled or poorly controlled glaucoma
- Worry about post cataract pressure spike in an eye with advanced disease
- Decrease or end need for glaucoma medications
Phaco Trab vs. Phaco Shunt

- Phaco trab is a one site procedure
- Phaco Express shunt is a two site procedure
Phaco Trab vs. Phaco Express

Benefits
- Not having to shift positions during the surgery
- Lower IOP post surgery, better control
Phaco Trab vs. Phaco Express

- Negatives
- Higher Risk of hypotony
- With more outflow, higher risk of wound leak
- Higher risk of hyphema
- More inflammation and may scar closed faster than the express shunt
Trabeculectomy Procedure

- Peritomy is created on conjunctiva and retracted back toward the fornix
- 4 mm scleral flap is measured out and dissected back toward limbus
- Mitomycin C is placed over this area for 1 to 3 minutes
Trabeculectomy
Cataract Procedure

- Anterior chamber is entered
- Capsulorhexis is created
- Lens nucleus is emulsified
- Cortex is removed
- Lens implant is placed
Trabeculectomy Procedure

- Full thickness sclerotomy is created either with a punch or blade
- Peripheral iridectomy is created
- Sutures are used to close scleral flap
- Sutures then close conjunctiva
Phaco Trab Surgery
Pumpkinotommy
Trabeculectomy vs Shunt

Problem with trabeculectomy is:

- Surgery creates a hole in body that does not normally exist
- Body tries to scar closed this opening
Tube Shunt

- Solution is placing a metal or plastic tube instead of cutting hole in the sclera.
- Tube stops sclerostomy from closing.
- Any tube device is called a seton.
Indications for Shunt

- Failed previous glaucoma surgery
- High risk for failure from excessive inflammation from uveitis or neovascular glaucoma
- Very advanced glaucoma
Express Tube Shunt

- Small metal shunt created for primary glaucoma surgery
- Takes place of sclerotomy
- No need for peripheral iridectomy
- Less inflammation and may be longer lasting than trab
Combined Cataract Express Shunt

- Visually significant cataract plus uncontrolled or poorly controlled glaucoma
- Worry about post cataract pressure spike
- Decrease or end need for glaucoma medications
Combined Cataract and Express Shunt

- This is a two site surgery
- I do cataract first, then move on to express shunt
- If complication with cat sx, shunt can be cancelled easily, no wound issues
- Personally find it easier than the phacotrab
Express Tube Shunt Procedure

- Peritomy is created and conjunctiva retracted back toward the fornix
- A four mm scleral flap is dissected toward the limbus
- Mitomycin C is placed over this area for 1 to 3 minutes
Express Tube Shunt Procedure

- 27 gauge needle makes tract into eye above iris
- Express shunt is inserted
- Scleral flap is closed with releasable or non releasable sutures
- Conjunctiva is closed
Combined Cataract and Tube Shunt Insertion

Show video
Just The Words a Patient Wants to Hear

Congratulations! If we ever figure out what you've got, we're going to name it after you.
Combined Surgeries

- My preference is for really advanced glaucoma in the presence of a cataract to do the combined cataract trabeculectomy.
- For less advanced glaucoma in the presence of a cataract, I prefer the phaco express shunt.
Thank You and Have a Great Day