Nature works in wondrous cycles of renewal and refreshment. Tiny mists of dew on a leaf - multiplied many times - can eventually replenish rivers, streams, and even oceans. In glaucoma, the natural flow of the eye’s replenishing fluid is diminished, creating abnormal pressure which can lead to a gradual loss of peripheral vision.

Just as in nature, Trabectome reveals that the smallest difference can create the biggest miracle.

Trabectome offers a gentle, minimally invasive way to re-establish this flow and restore the eye’s natural pathway of renewal.

Trabectome® for Minimally Invasive Glaucoma Surgery

Trabectome is an FDA-cleared device for minimally invasive surgical treatment of open angle glaucoma. Trabectome safely ablates and removes a 60°-120° strip of trabecular meshwork and re-establishes access to the eye’s natural drainage pathway. Glaucoma surgeons across the United States have successfully used Trabectome on hundreds of patients.

Trabectome offers a gentle, minimally invasive way to
re-establish this flow and restore the eye’s natural pathway
of renewal.

Trabectome Advantages

- Minimally invasive
- Safe removal of trabecular meshwork and inner wall of Schlemm’s canal
- Creates direct access to outflow channels
- User-friendly: simple skill transfer
- Anterior segment surgery requires only small clear-corneal incision
- Easily combined with phaco cataract extraction
- No conjunctival or scleral manipulations
- Excellent safety profile
- Minimal post-operative complications
- Does not preclude standard filtering procedures

Histology and SEM Images

- Histology images of eye drainage tissue before and after Trabectome
- Trabectome® Removal of TM in diabetic eye: Collector channel, outer wall of Schlemm’s canal. Gelatin is intact, allowing aqueous access to episcleral vessels.
Safer and Simpler

Trabectome has been successfully used in hospitals and ambulatory surgical centers across the United States with more than 1,200 patient data points since 2002. Trabectome continues to show remarkable operative and post-operative safety profiles and has not resulted in any of the following post-operative conditions:

- Flat or shallow anterior chamber
- Persisting corneal edema
- Problematic pain
- Sustained hypotony
- Infection
- Wound leak
- Bleb formation
- Choroidal effusion
- Choroidal hemorrhage
- Visual acuity decrease (>2 lines)

**Table 1:** Follow-up data out to 60 months. Mean preoperative IOP (left line) & the mean IOP with standard deviations at various intervals after surgery.

**Table 2:** Demographics of patients included in this update summary, including the number of combined cataract and Trabectome cases to date.

**Table 3:** Tabulation of complications noted after Trabectome.

**Doctors Are Saying**

- **George Baerveldt, M.D.**
  Professor and Chief Department of Ophthalmology
  University of California, Irvine, CA.
  “Trabectome is unique in that it facilitates access to the eye’s natural drainage pathways.”

- **Don Minckler, M.D.**
  Clinical Professor, Department of Ophthalmology
  University of California, Irvine, CA.
  “Trabectome is considerably safer and simpler than currently available alternative glaucoma surgical therapies and has the potential to become a new “gold standard.”

- **Brian Francis, M.D.**
  Assistant Professor, Department of Ophthalmology
  UC Irvine Medical Center, Orange, CA.
  “Trabectome is an elegant and safe anterior segment procedure that can readily be combined with trabeculectomy extraction and provides excellent and effective reduction of IOP.”

- **Samah Mosaed, M.D.**
  Assistant Professor, Department of Ophthalmology
  University of California, Irvine, CA.
  “Considering the excellent safety profile and the ease of use of Trabectome, it may be recognized as an alternative to medical or laser therapy, given side effects and cost of glaucoma medications/patient compliance issues.”

- **Marina Ramírez, M.D.**
  Director, Minimally Invasive Surgery
  Centro Ocular de la Guadalajara, Mexico.
  “Trabectome has particular application in developing countries as it offers an economical, one time safe and effective glaucoma therapy.”

- **Richard Wilson, M.D.**
  Professor of Ophthalmology
  Wills Eye Hospital, Philadelphia, PA.
  “Using the trabectome to perform a trabeculotomy is the easiest of all the canalicular surgeries and one of the most effective.”

“Trabectome ... has the potential to become a new "gold standard"
**Trabectome System**

**Handpiece Design**
The Trabectome handpiece is a one-use disposable device that incorporates bipolar electro-surgical pulse with simultaneous irrigation and aspiration.
- **Irrigation** - for a stable anterior chamber
- **Aspiration** - for removal of ablated tissue
- **Electro-Surgical Pulse** - for safe ablation and removal of the trabecular meshwork and unroofing of Schlemm’s canal

**Tip Design**
The Trabectome tip is bent 90° to create the triangular protective footplate. The protective footplate:
- Provides protection from heat injury to adjacent tissue
- Is coated with a smooth insulating material
- Easily penetrates the trabecular meshwork
- Acts as a guide and glide inside Schlemm’s canal to protect the collector channels, outer wall of Schlemm’s canal and adjacent tissues
- Feeds trabecular and juxtaocular tissues into the ablative bipolar electrodes as the instrument tip is advanced along the Schlemm’s canal.

**Console Design**
Critical controls are handled by the Trabectome console.
- **High Frequency Generator** - An electro-surgical unit with a frequency of 550 kHz and power adjustments in 0.1 watt increments.
- **Irrigation/Aspiration Unit** - There is a pinch valve for irrigation flow. The aspiration pump is peristaltic with adjustable flow rates.
- **3-stage Foot Pedal Control** - Activates irrigation, aspiration and electro-surgical power in a stepwise fashion similar to that used in phacoemulsification.

**Surgical Steps**

**Step 1: Scleral Incision**
Create a 1.7 mm clear corneal incision with Keratome.

**Step 2: Visco-elastic**
Inject a small amount of viscoelastic at incision site for easy entry of tip into anterior chamber.

**Step 3: Gonioscopic Placement**
- Place Gonios or cornea and verify angle view.
- Remove Gonios and insert tip past the irrigation ports.
- Replace Gonios and activate continuous irrigation.
- Advance tip across anterior chamber under direct view.

**Step 4: Ablation**
Insert tip into Schlemm’s canal anterior to the scleral spur in either a clockwise or counter-clockwise direction. Depress the foot pedal to activate irrigation and ablation, while advancing the instrument within Schlemm’s canal. Ablate the trabecular meshwork for approximately one to two clock hours (30°-60°).

**Step 5: Rotate Tip**
Dis-insert tip from Schlemm’s canal and rotate instrument tip toward iris.

**Step 6: Ablation**
Re-insert tip in the opposite direction from the initial ablation and remove a similar arc in opposite direction.

**Step 7: Irrigate and Aspirate**
Irrigate and aspirate viscoelastic from anterior segment.

**Step 8: Suture**
Place one suture across incision. Re-pressurize the globe.
Trabectome® References


Trabectome Study Group contributors and institutions:
- D. Apte, Kaiser Permanente, Santa Clara, CA; RE Bandel, Mayo Clinic, Jacksonville, FL; EM Barnett, Washington University, St Louis, MO; C Baticco, Spectra Surgery Center, Glendale, AZ; D. Budenz, Bascom Palmer Eye Institute, Miami, FL; T. Chen, Mass Eye and Ear Infirmary, Harvard Medical School, Boston, MA; RL Chevrie, Ottawa Hospital, Ottawa Canada; J Compagna, Alamo Heights Surgical Center, San Antonio, TX; F Cotter, Vitter Eye Center, Roanoke, VA; K Dami, Ottawa Hospital, Ottawa Canada; N Donax, Community Hospital, Dubuque Ferry, NY; B. Equal, Glaucoma Associates of Texas, Dallas, TX; D. Friedman, William Eye Institute, Johns Hopkins University, Baltimore, MD; Z. Ghiasi, Kaiser Permanente, Fontana CA; C. Girkin, Celanese Eye Foundation, Birmingham, AL; L. Godfrey, Glaucoma Associates of Texas, Dallas, TX; A. Jaimini, Northgate Glaucoma Consultants; M. Johnstone, Northwest Glaucoma Consultants; LS Jones, Howard University, Washington, DC; YH Kwon, University of Iowa, Iowa City; J. A. L. Larochelle, New York Eye and Ear, New York, NY; M. Leen, Silverdale Surgical Center, Silverdale, WA; R. Maeda, Chikyo Eye Clinic, Nagoya, Japan; BB. Mahan, Hartford Medical Hospital, TN; D. Marshall, Ottawa Hospital, Ottawa Canada; B. Mills, Northwest Glaucoma Consultants, Seattle, WA; K. Mitchell, Palmetto Hospital, Columbia, SC; Q. Nguyen, Scripps Health Clinic, La Jolla, CA; G. Osmundsen, Sioux Falls Surgical Center, Sioux Falls, SD; C. Pattissas, JC Blair Hospital, Huntington, NY; X. Ramirez, Cedars Sinai, Boston, MA; A. Ramirez, Cedars Sinai, Los Angeles, CA; G. Raess, Spectra Surgery Center, Glendale, AZ; D. Reino, Mass Eye and Ear Infirmary, Harvard Medical School, Boston, MA; R. Rosenquist, Kaiser Permanente, Fontana, CA; J. Schuman, Univ. of Pittsburgh Medical Center, Pittsburgh, PA; R. Shetty, Mayo Clinic, Jacksonville, FL; F. Sidoti, New York Eye and Ear, New York, NY; CJ. Siegfried, Washington University, St Louis, MO; A. Sit, Mayo Clinic, Rochester, MN; M. Stiles, Stiles Eye Care Excellence, Kansas City, KS; R. Tamura, Loma Linda Hospital, Loma Linda, CA; T. Tanji, Kapolei Lani Hospital, Honolulu, HI; J. Trumble, Wolfe Eye Clinic, Des Moines, IA; SD. Vold, Boozman Hot Regional Eye Clinic, Rogers, AR; M. Watanabe, Chikyo Eye Clinic, Nagoya, Japan; R. Weinreb, Shirley Eye Institute, UCD, La Jolla, CA; PT. Zacharia, St. Vincent Hospital, Worcester, MA.

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