The Ahmed™ Glaucoma Valve
Leading the Way in Advanced Glaucoma Drainage Technology
New World Medical, Inc. (NWMI) is a high tech medical device company whose goal is to help humanity lead a better life through improved technology and innovation. Presently NWMI’s focus is in the areas of Ophthalmology, Tonometry, and Neuro surgery.

The Ahmed Glaucoma Valve has been successfully demonstrated to work in all types of glaucoma cases, particularly Neovascular, Congenital, and Uvietic glaucoma.

New World Medical, Inc. manufactures and markets its own products. In the U.S. NWMI markets its products through a team of sales representatives. In the international market, the company has more than 83 exclusive distributors around the world. Along with its own products, NWMI is licensed as a tissue bank, selling human tissue such as sclera and pericardium.

The R&D division of NWMI is actively involved in developing new products through collaborations with a number of renowned medical universities and individual doctors, in the U.S. and abroad. These partnerships allow NWMI to develop products through a first hand involvement in the medical device industry.

Dr. A. Mateen Ahmed founded New World Medical, Inc. Dr. Ahmed is also the President / CEO and Chairman of the Board of Directors for the company. The vision of Dr. Ahmed and NWMI is to help the lives of people around the world. This has earned the company many accolades, including the “Have a Heart, International Goodwill, and Understanding Award” given by Soroptimist International.
Mechanics of the Ahmed™ Glaucoma Valve

The Venturi Effect:
To reduce internal friction within the valve system, the Ahmed™ Glaucoma Valve (AGV™) utilizes a specially designed, tapered trapezoidal chamber to create a Venturi effect to help aqueous flow through the device. As demonstrated by Bernoulli’s equation of hydrodynamic principle, the inlet velocity of aqueous entering the larger port of the Venturi chamber increases significantly as it exits the smaller outlet port of the tapered chamber. In an AGV™ this increased exit velocity greatly helps in evacuating aqueous from the valve, thereby helping to reduce valve friction.

Non-Obstructive, Self-Regulating Valve Mechanism:
The Ahmed™ Glaucoma Valve has no obstruction in its path of fluid flow. For the flow to be non-obstructive, a particle large enough to pass through the lumen of the tube, will easily pass through the much larger opening of the Venturi-Flow™ chamber. The elastic membranes help to regulate fluid flow at all times, consistently by changing their shape. The tension on these membranes is responsible for reducing hypotony.
Features:
- Made of medical grade silicone
- Immediate reduction of intraocular pressure
- Unique, non-obstructive valve system to prevent excessive drainage and chamber collapse
- Implanted in a true, single-stage procedure
- Tapered profile for easy insertion
- Silicone plate
- Aqueous percolation holes
- Thinner Plate

Plate/Valve Specifications:
- Thickness: 0.9mm
- Width: 13.00mm
- Length: 16.00mm
- Surface Area: 184.00mm²

Tube Specifications:
- Length: 25.00mm
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

Materials:
- Valved Plate Body: medical-grade silicone
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane
- Valve Casing: medical-grade polypropylene

Ordering Information:
- Model: FP7 (Ahmed™ Flexible Plate™)
Features:
- Immediate reduction of intraocular pressure
- Unique, non-obstructive valve system to prevent excessive drainage and chamber collapse
- Implanted in a true, single-stage procedure
- Eliminates drainage tube ligature sutures, “rip-chord” sutures, and occluding sutures

Plate/Valve Specifications:
- Thickness: 1.9mm
- Width: 13.00mm
- Length: 16.00mm
- Surface Area: 184.00mm²

Tube Specifications:
- Length: 25.00mm
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

Materials:
- Valved Plate Body: medical-grade polypropylene
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane

Ordering Information:
- Model: S2 (Ahmed™ Glaucoma Valve)
Model FP8
Ahmed™ Glaucoma Valve
Flexible Plate™ (Pediatric)
Features:
- Made of medical grade silicone
- Used for pediatrics or small globes
- Immediate reduction of intraocular pressure
- Unique, non-obstructive valve system to prevent excessive drainage and chamber collapse
- Implanted in a true, single-stage procedure
- Eliminates drainage tube ligature sutures, “rip-chord” sutures, and occluding sutures
- Thinner Plate

Plate/Valve Specifications:
- Width: 9.60mm
- Length: 10.00mm
- Surface Area: 96.00mm²

Tube Specifications:
- Length: 25.00mm
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

Materials:
- Valved Plate Body: medical-grade silicone
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane
- Valve Casing: medical-grade polypropylene

Ordering Information:
- Model: FP8 (Ahmed™ Flexible Plate™ - Pediatric)
Model S3
Ahmed™ Glaucoma Valve
(Pediatric)
Features:
- Used for pediatrics or small globes
- Immediate reduction of intraocular pressure
- Unique, non-obstructive valve system to prevent excessive drainage and chamber collapse
- Implanted in a true, single-stage procedure
- Eliminates drainage tube ligature sutures, “rip-chord” sutures, and occluding sutures

Plate/Valve Specifications:
- Width: 9.60mm
- Length: 10.00mm
- Surface Area: 96.00mm²

Tube Specifications:
- Length: 25.00mm
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

Materials:
- Valved Plate Body: medical-grade polypropylene
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane

Ordering Information:
- Model: S3 (Ahmed™ Glaucoma Valve - Pediatric)
Model FX1
Ahmed™ Glaucoma Valve
Flexible Bi-Plate
**Features:**
- Made of medical-grade silicone
- Attachable on either right or left side
- Bi-Plate design allows for greater aqueous drainage
- Valve and Bi-Plate combined surface area: 364mm²
- Immediate reduction of intraocular pressure
- Unique, non-obstructive valve system to prevent excessive drainage and chamber collapse
- Implanted in a true, single-stage procedure
- Eliminates drainage tube ligature sutures, “rip-chord” sutures, and occluding sutures

**Valve Plate Specifications:**
- Width: 13.00mm
- Length: 16.00mm
- Surface Area: 184.00mm²

**Non-Valved Plate Specifications:**
- Width: 12.20mm
- Length: 14.80mm
- Surface Area: 180.00mm²

**Tube Specifications:**
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

**Materials:**
- Valved Plate Body: medical-grade silicone
- Non-Valved Plate Body: medical-grade silicone
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane
- Valve Casing: medical-grade polypropylene

**Ordering Information:**
- Model: FX1 (Ahmed™ Flexible Bi-Plate)
Model B1
Ahmed™ Glaucoma Valve
Polypropylene Bi-Plate
Features:
- Attachable on either right or left side
- Bi-Plate design allows for greater aqueous drainage
- Valve and Bi-Plate combined surface area: 364mm²
- Immediate reduction of intraocular pressure
- Unique, non-obstructive valve system to prevent excessive drainage and chamber collapse
- Implanted in a true, single-stage procedure
- Eliminates drainage tube ligature sutures, “rip-chord” sutures, and occluding sutures

Valve Plate Specifications:
- Width: 13.00mm
- Length: 16.00mm
- Surface Area: 184.00mm²

Non-Valved Plate Specifications:
- Width: 12.20mm
- Length: 14.80mm
- Surface Area: 180.00mm²

Tube Specifications:
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

Materials:
- Valved Plate Body: medical-grade polypropylene
- Non-Valved Plate Body: medical-grade polypropylene
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane

Ordering Information:
- Model: B1 (Ahmed™ Glaucoma Valve Bi-Plate)
Model PC7
Ahmed™ Flexible Plate™ with Pars Plana Clip™

Model PC8
Ahmed™ Flexible Plate™ (Pediatric) with Pars Plana Clip™
Features:
- Made of medical-grade silicone
- Reduces prep time for posterior chamber insertions
- Clip is fully adjustable along the tube length
- Easily sutured onto sclera
- Clip redirects the tube into the pars plana without bending or kinking

PC7 Specifications:
- Width: 13.00mm
- Length: 16.00mm
- Surface Area: 184.00mm²

PC8 Specifications:
- Width: 9.60mm
- Length: 10.00mm
- Surface Area: 96.00mm²

Materials:
- Valved Plate Body: medical-grade silicone
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane
- Clip: medical-grade silicone

Ordering Information:
- Model: PC7 (Model FP7 with Pars Plana Clip)
- Model: PC8 (Model FP8 with Pars Plana Clip)

Tube Specifications:
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm
Model PS2
Ahmed™ Glaucoma Valve with Pars Plana Clip™

Model PS3
Ahmed™ Glaucoma Valve (Pediatric) with Pars Plana Clip™
Features:
- Reduces prep time for posterior chamber insertions
- Clip is fully adjustable along the tube length
- Easily sutured onto sclera
- Clip redirects the tube into the pars plana without bending or kinking

PS2 Specifications:
- Width: 13.00mm
- Length: 16.00m
- Surface Area: 184.00mm²

PC3 Specifications:
- Width: 9.60mm
- Length: 10.00mm
- Surface Area: 96.00mm²

Tube Specifications:
- Inner Diameter: 0.305mm
- Other Diameter: 0.635mm

Materials:
- Valved Plate Body: medical-grade polypropylene
- Drainage Tube: medical-grade silicone
- Valve: medical-grade silicone, elastomer membrane
- Clip: medical-grade silicone

Ordering Information:
- Model: PS2 (Model S2 with Pars Plana Clip)
- Model: PS3 (Model S3 with Pars Plana Clip)
Pars Plana Clip Features:
- Provides for valve tube insertion into the pars plana
- Fully adjustable along the length of the tube
- Does not compromise integrity of valve tube
- Redirects the tube into the pars plana without bending or kinking
- Can be used with any drainage device
- Easily sutured onto sclera

Ordering Information:
Model: PC (Pars Plana Clip)

Tube Extender Features:
- Provides extra tube length
- Provides leak-proof junction between tubes
- Helpful when drainage tube is cut too short
- Can be used with any drainage device
- Easily sutured onto sclera

Ordering Information:
Model: TE (Tube Extender)

Tube Inserter Features:
- Notched tip secures valve tube
- Provides rigidity to valve tube for easy insertion into the anterior chamber
- Stainless steel
- Serrated grip
- Shorter tip helps to provide better view through microscope
- Reusable and Very inexpensive
- Can be used with any drainage device

Ordering Information:
Model: TI (Tube Inserter)
### Model FX4 Features:
- Made of medical-grade silicone
- Used with existing implants
- Can be inserted in existing bleb
- Attachable on either right or left side
- Increases surface area of existing implant
- Can be placed over or under the muscle
- Easily sutured onto the sclera

### Model B4 Features:
- Used with existing implants
- Can be inserted in existing bleb
- Attachable on either right or left side
- Increases surface area of existing implant
- Easily sutured onto the sclera

### Human Allograft Tissue Features:
- Biocompatible human tissue for leaking blebs
- Gamma sterilized
- 2.5 years shelf life
- Nominal thickness 0.5mm
- Available Freeze-Dried or Hydrated
- Available full thickness sclera or pericardium
- Can be used as ocular tissue for other cosmetic uses
The implant should be examined and primed prior to implantation. Priming is accomplished by injecting 1cc balanced salt solution or sterile water through the drainage tube and valve, using a blunt 26 gauge cannula.

A fornix-based incision is made through the conjunctiva and Tenon’s capsule. A pocket is formed at the superior quadrant between the medial or lateral rectus muscles by blunt dissection of Tenon’s capsule from the episclera.

The valve body is inserted into the pocket between the rectus muscles and sutured to the episclera. The leading edge of the device should be at least 8-10mm from the limbus.

The drainage tube is trimmed to permit a 2-3mm insertion of the tube into the anterior chamber (AC). The tube should be bevel cut to an anterior angle of 30° to facilitate insertion.

A paracentesis is performed, and the AC is entered at the limbus with a sharp 23 gauge needle, parallel to the iris. Caution: Care must be taken to insure that the drainage tube does not contact the iris or corneal endothelium after insertion.

The drainage tube is inserted into the AC approximately 2-3mm, through the needle track and parallel to the iris. The leading edge of the device should be 8-10mm from the limbus.

The exposed drainage tube is covered with a small piece of preserved, donor sclera or pericardium, which is sutured into place and the conjunctiva is closed.

NOTE: As an alternative to Step 7, a 2/3 thickness limbal-based scleral flap may be made. The tube is inserted into the AC through a 23 gauge needle puncture made under the flap. The flap is sutured closed.

The steps illustrated here are intended as a guideline only, and do not represent recommended treatment for any particular patient. The use of any specific surgical technique or maneuver is at the sole discretion of the surgeon. Surgeons should be familiar with the use of glaucoma drainage devices and post-operative care considerations before implanting any drainage device. Reference papers and surgical video tapes are available upon request.
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**Caution:** (U.S.) Federal Law restricts these devices to sale by or on the order of a physician.
New World Medical, Inc.

10763 Edison Court • Rancho Cucamonga, Ca 91730 USA
Tel: 909.466.4304 • Fax: 909.466.4305
e-mail: info@ahmedvalve.com • Website: www.ahmedvalve.com

Customer Service in USA
800.832.5327