

## Keiki Mehta “BP Valve” Glaucoma Shunt

### Introduction

Keiki Mehta “BP Valve” Glaucoma Shunt has been developed by SURGIWEAR in association with Dr. Keiki R. Mehta world renowned ophthalmic surgeon. It is a very simple & effective device with no high sounding mechanics or valves. It has just three parts a tube, a membrane valve and a button, all made of medical grade silicone. It has following important features.

a. “BP Valve” or body pressure valve. The valve regulating the flow does not have any opening pressure of its own. It is being pressed by body’s own tissues. When the pressure of fluid in eye is more than pressure of body tissues, the valve will open and allow flow of fluid. Thus the fluid pressure inside the eye is maintained at the level of body pressure.

b. “Peaks on button” there are multiple peaks on the button. These peaks keep conjunctiva and Tenon’s capsule away from button to facilitate distribution of fluid around. The fluid can pass beyond the button also, because there is no limiting ridge around. Thus effectively it has large absorption area for the fluid to get absorbed back.

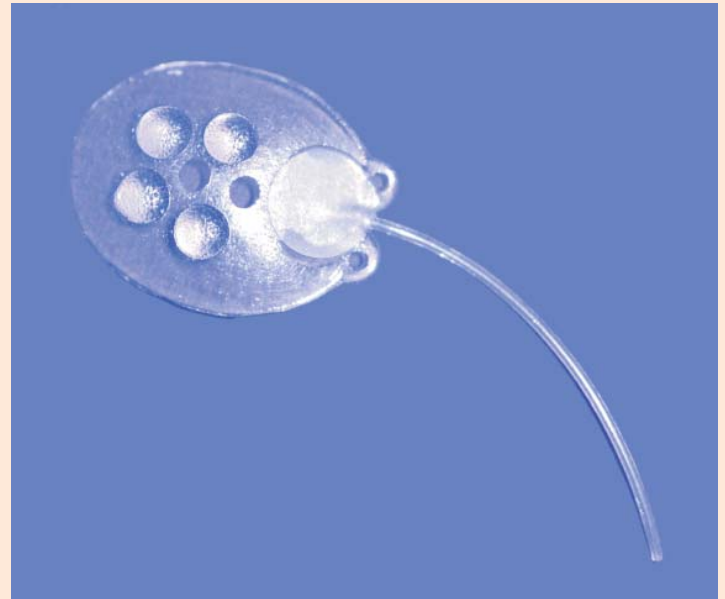
c. Soft and flexible button with rough upper surface. The button body is soft so easy to implant. The rough top surface creates large surface area and prevents sticking of valve with button body.

### Presentation

The Glaucoma shunt is available sterilized ready to use in three sizes:

1. Regular size
2. Small size
3. Large size.

Depending upon size of the eye ball and severity of problem the size is selected.



### Indications

Glaucoma shunt is considered as tertiary option. When routine operative measures fail, it should be considered as an option. In some complicated glaucoma cases, it may be taken as first option. It is indicated in almost all types of glaucoma such as neovascular, congenital and uveitic glaucoma.

### Operative steps

Following are the steps of operative procedure. These steps are being narrated for guidance only. A surgeon should use operative steps dictated by his training and knowledge. It is presumed here that the surgeon is familiar with glaucoma shunts, its use and complications.

Drapes used during surgery should be lint free. First of all take out the tag inserted into the valve then flush the shunt with normal saline using 27 gauge needle. No air bubble should be left inside the tubing and patency of shunt is also checked by flushing the tube.

The procedure is illustrated on following pages as done by Dr. Keiki Mehta.. A video CD may be obtained from SURGIWEAR.

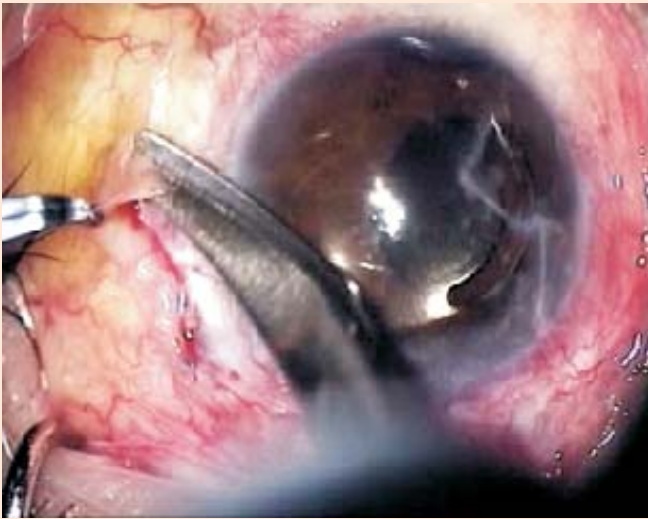
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1. It is a case of uncontrolled glaucoma with multiple trabeculectomies with anterior chamber IOL



2. An incision is given in either upper outer or upper inner quadrant.



3. Conjunctiva in and Upper inner quadrant is being cut and opened up.



4. A pocket is created under conjunctiva & Tenon's capsule with curved corneal scissors.



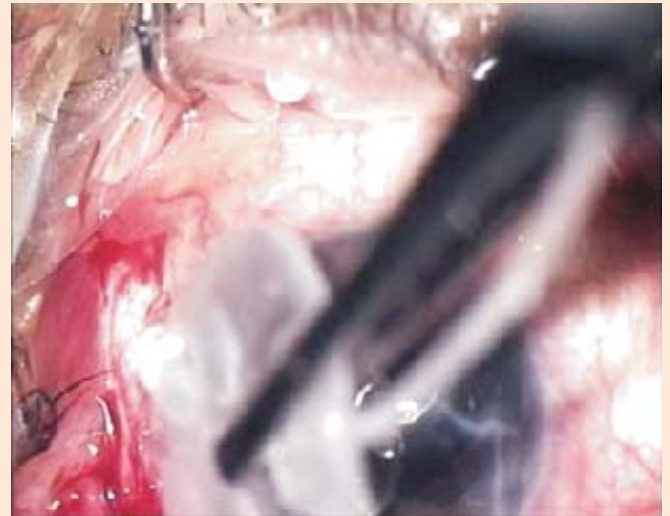
5. Curved blunt spatula is used to further clear the pocket.



6. Keiki Mehta Glaucoma Shunt is flushed with saline using 27 gauge cannula.



7. Patency of system is checked. Fluid should flow out freely from the valve



8. Glaucoma shunt is inserted into the pocket created under conjunctiva & Tenon's capsule.



9. The valve is sutured in place using 6/0 non absorbable suture. The position of valve should be 10 mm behind limbus.



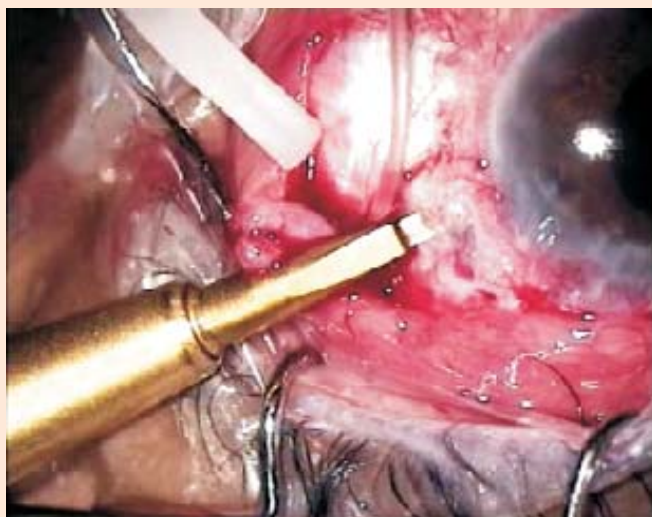
10. The needle is passed through the eyelets present in the shunt (not shown in the picture)



11. Bleeding points are secured using light cautery.



12. Graded micrometer knife is used to make two cuts 35 micron deep into sclera to bury the tube under it



13. 1.2 mm diamond knife is used to create a passage through the sclera through the cuts. same knife is used to enter into ant. chamber



14. Length of tube is cut in an oblique fashion Length should be just sufficient to enter into the anterior chamber.



15. The tube end is pushed through the passage created. The end of tube should be visible in the anterior chamber.



16. The conjunctiva is closed using absorbable suture.

### Complications

Complications can be classified into following categories:

- a. Complications due to the disease
- b. Complications due to the operation
- c. Complications due to the Implant

An implant procedure has some of its own complications. You are inserting a foreign body in to the body. It is prone to infection, expulsions and rejections. Complications associated with shunt are infection and blockage of shunt tube. over a 12 month period 10-15% of shunt tubes may be blocked. These can be opened by laser burning debris present on the tip or by flushing it. Other possible complications are migration of tube, migration of button body and swelling around button body. These are to be dealt accordingly.

### Product Information Disclaimer

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