

FOR CATARACT SURGERY

Using The Honan Intraocular Pressure Reducer (Honan Balloon)

Why Ocular Compression?

Application of the Honan Intraocular Pressure Reducer after retrobulbar or peribulbar injection of anesthetic agent serves several purposes. It aids in diffusion of the anesthetic agent to paralyze the extraocular muscles. A separate lid block is not needed. Highly desirable is the resulting soft safe eye for cataract surgery and implantation of an intraocular lens. Ocular compression reduces the intraocular pressure and in addition reduces the volume of the orbital contents. This latter desirable result decreases the normal tissue pressure on the globe itself. Thus there is safety in decreased tendency for expulsion of the ocular contents when the eye is open during intraocular surgery.

When and Where to apply the balloon

Pneumatic Ocular compression can be applied before or after retrobulbar or peribulbar injections of anesthetic agents. When applied after the injection it aids in diffusion of the anesthetic agent to achieve extraocular muscle paralysis and lid akinesia. At the same time the ocular compression softens the eye for safe intraocular surgery.

Ocular compression applied prior to the time the patient enters the operating room conserves O.R. time and allows more time for it to achieve its desired results. A pre-operative preparation room or a hallway is ideal. Operating room time is extended when anesthesia is administered in the O.R. followed by application of pneumatic ocular compression plus time allowed for it to achieve its results.

How much pressure and how long?

The optimum pressure should be well below the central artery pressure. The lowest pressure to achieve results of a safe soft eye is desirable. In the 1970's in the days of intracapsular cataract surgery 30mm Hg pressure was used for up to 60 or more minutes depending on when O.R. was available for surgery. Soft safe surgical eyes resulted. Clinically a pressure of 30mm Hg for 15 to 20 minutes results in soft safe eyes for planned extracapsular surgery or phacoemulsification. If several surgeries are scheduled, the anesthesia for the second case can be administered prior to doing the first surgery of the day. Adequate results can be achieved by using a pressure of 15mm Hg for the second case for 30 to 60 minutes or until time for surgery.

When to remove the balloon?

Ocular compression theoretically achieves its globe softening effect by reducing intraocular volume plus reducing orbital volume. Practically the softening effect lasts long enough to complete the surgery. The start of the return to the normal state begins as soon as the compression device is removed. For optimum effect the balloon should be removed only shortly before surgery is started.

When a surgeon is using two operating rooms the nursing personnel like to be ready for the surgeon in the next room. There may be a tendency to remove the balloon, do the prep and drape the patient too

soon to be certain to be ready for the surgeon. A communication from the surgeon doing surgery in the other room indicating near completion of the surgery is desirable. Thus in the next room the balloon can be removed only a few minutes prior to the start of surgery.

Application Technique

- 1. After retrobulbar or peribulbar injection of anesthesia, tape the lids closed to avoid gauze touching the cornea.**
- 2. Place a cotton eye pad or a 4"x 4" gauze over the eye.**
- 3. Position the soft pneumatic bellows over the pad and the eye.**
- 4. Secure the bellows loosely in place with the adjustable head band. Apply loosely enough to prevent putting pressure on the eye before inflating the bellows.**
- 5. Inflate to the desired pressure level.**

Disposable or reusable reducer?

Either model produces the same results. The disposable balloon is for a single use. It is clean and ready for use. After inflating, the air tubing is removed while the bellows remains inflated. Thus there is no bothersome tubing attached to the bellows.

The headband, bellows and tubing of the reusable model can be disinfected by wiping with a recognized disinfecting solution. It should not be immersed. It shouldn't be autoclaved or gas sterilized.

The pressure gauge or bulb air pump should not be sterilized. They could be destroyed in the process.

Why a relief valve?

With normal use the pressure gauge records accurately. Unintentional damage by dropping it on the floor or striking it against a wall might alter its accuracy. Damage to a gauge may be unknown to the surgeon. The relief valve is merely an added precautionary device to limit to approximately 60mm Hg. the pressure that can be applied to the bellows.

The balloon in general anesthesia

Many surgeons prefer also to use retrobulbar or peribulbar anesthesia when general anesthesia is to be used. There is added safety in case of retching during recovery from general anesthesia. It also aids in controlling post operative pain. Induction of anesthesia and intubation usually can be accomplished while the balloon is in position. Thus ocular compression can be maintained until shortly before the surgery is begun.

The Honan Intraocular Pressure Reducer
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