



## Recent Advances in the Treatment of Glaucoma – The Need to Maintain Intraocular Pressure Over 24 Hours

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**ABSTRACT:** In the treatment of glaucoma, maintenance of intraocular pressure (IOP) over a 24-hour period is of considerable importance. Some glaucoma medications do not sustain low IOP, allowing it to fluctuate with the potential to damage the optic nerve, leading to blindness. Several topically applied prostaglandins have become available, which have the advantage of maintaining 24-hour control. With these developments, it is timely to consider the relative merits of glaucoma surgery compared with medical treatments including eye drops and systemic medications, and which of the medications provides the most benefit to patients. Medications that control IOP over 24-hour periods require monitoring methods to assess their efficacy. Most determination procedures are carried out in a clinician or ophthalmologist's office and provide only a single measure at one point in time. These require fixed equipment and cannot provide an overview of IOP variation over time or indicate whether treatments are providing continuous control. A development to address this monitoring need is the Sensimed Triggerfish<sup>®</sup>. This system uses a soft contact lens with an embedded pressure-sensing chip and associated monitoring equipment to provide multiple readings over a 24-hour period. The initial clinical experience with this device led to an immediate treatment change in two-thirds of patients. A clinical trial evaluating the efficacy of a new prostaglandin treatment, tafluprost, over 24 hours using the contact lens IOP monitoring system is currently underway. Based on the initial data, tafluprost effectively reduces IOP during the full 24-hour period, further supporting its use in the treatment of glaucoma.

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