

# IOPstim

## DETERMINATION OF RETINAL VENOUS PRESSURE AND STATE-OF-THE-ART FUNCTIONAL DIAGNOSTICS



### Retinal Venous Pressure - Both scientifically & clinically important

Retinal venous pressure (RVP) is an important retinal blood flow parameter. It describes the blood pressure in the retinal veins as they leave the eyeball in the area of the optic disc.

An elevated RVP is considered a risk factor for glaucoma and is also associated with various other eye diseases, such as retinal vascular occlusion or diabetic retinopathy. Previously, the determination of an increased RVP was carried out via direct contact with the cornea of the patient by using a contact lens dynamometer (Löw). Here, the innovative IOPstim from Imedos provides a better and safer alternative.



"One third of all glaucoma patients have a RVP that is higher than the intraocular pressure. As a result, the blood flow to the retina and the optic nerve fibres is more impaired than previously thought."

2017, PROF. DR. MED. R. STODTMEISTER, EYE CLINIC OF THE UNIVERSITY HOSPITAL CARL GUSTAV CARUS IN DRESDEN

**The essential feature of an increased RVP is the absence of the spontaneous venous pulse at the optic disc. In this case, the RVP should be measured.**

### IOPstim - An innovative device to determine an increased RVP



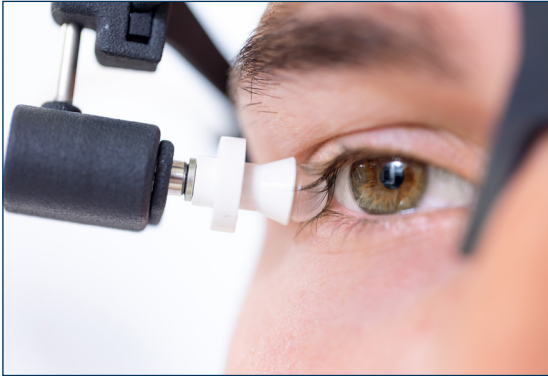
Developed in cooperation with leading ophthalmologists, the IOPstim enables a simple and painless increase of the intraocular pressure (IOP) as a prerequisite for RVP measurement. By applying a gentle lateral pressure to the eye at the temporal lid angle, there is no direct contact with the patient's cornea.

First, the spontaneous venous pulse is searched for on the papilla. If it is visible, the RVP corresponds to the IOP. In this case, the IOP determines the perfusion pressure and the blood circulation of the retina.



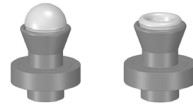
If no spontaneous venous pulse is visible, it is recommended to measure the RVP. In this case, the RVP is higher than the IOP and determines the blood circulation of the eye (instead of the IOP). To determine the increased RVP, the IOPstim is used to augment the intraocular pressure until the spontaneous venous pulse becomes visible.

Subsequently, this increased intraocular pressure can be measured with any commercially available tonometer. The measured value corresponds to the increased RVP.



### Small balloon but great effect

For the modification of the IOP, a soft stimulation balloon made of medically approved silicone is used. By changing the pressure inside this balloon, a deformation or relief of the eyeball is brought about.



### Functional diagnostics of autoregulation

In combination with the DVA 3.0 (Dynamic Vessel Analyzer) from Imedos, the IOPstim can also be used to study the function of retinal autoregulation, which is particularly interesting for scientific questions and research projects.

An intact autoregulation keeps microcirculation healthy. However, if the autoregulation is overstrained or disturbed, a so-called dysregulation may occur.



### Features & Benefits

- Simple and intuitive control of the device
- No direct contact with the cornea of the patient
- High user flexibility:  
Free optical access to the retina
- Minimal maintenance and service effort:  
No calibration (scaling) required
- Very good patient tolerability
- Improved hygiene due to the use of disposable balloons

Please contact us for further information!

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