

PhysIOL

ADVANCED OPTICAL SOLUTIONS

G·FREE TECHNOLOGY
by PhysIOL

Glistening-free
hydrophobic
material

When
purity
becomes
reality

What do studies say ?

"The new-generation hydrophobic acrylic material reached a low water content at equilibrium, making it glistening free. The hydrophobicity and bioadhesiveness of the new raw material were comparable to those of state-of-the-art reference materials." ⁽¹⁾

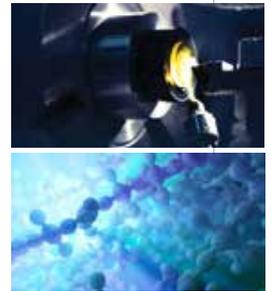
"The main side effect of using Ethylene Oxide (EO) as a sterilization agent (A/N: common sterilization process) is that it can leave a residue on the devices being processed." ⁽²⁾

G-free®: the glistening-free hydrophobic material by PhysiOL

G-free® is guaranteed 100% glistening-free thanks to:

- lathe-cutting process instead of the cast-molding process;
- packaging in water for steam sterilization which prevents major conditioning changes during implantation and avoids any toxicity;
- equilibrium of water content in the material.

The PhysiOL G-free® material was patented in 2010 (patent number: 1830898).



Do glistenings impact on the quality of vision?

Glistenings or commonly called fluid-filled microvacuoles form within certain IOL materials and can develop in various shapes, sizes, and density.

Some IOLs on the market develop glistenings after implantation which can impact on the quality of vision.

Simulation demonstrated that an increase in density of glistenings can lead to a significant drop in the MTF of the IOL and the pseudophakic eye.



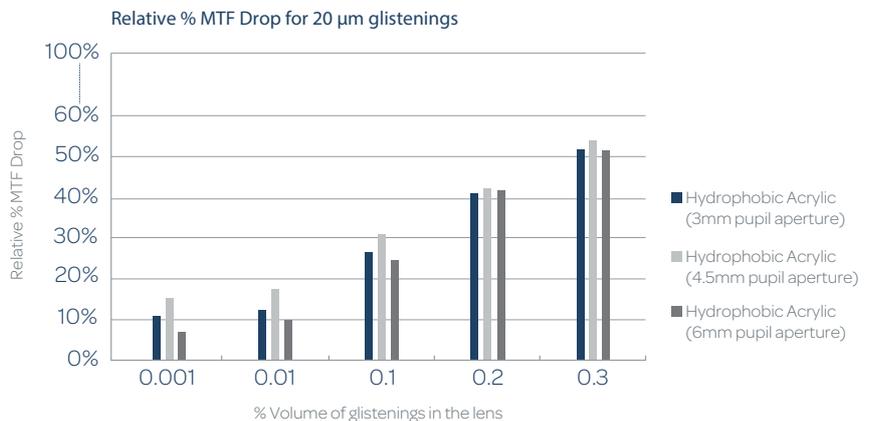
PhysiOL G-free® material



Hydrophobic IOL with glistenings

What do studies say ?

"Mathematical modeling demonstrated that glistenings in IOLs will lead to reduction in MTF of the IOL and the pseudophakic eye. The loss in MTF is more pronounced at high densities and small cavitation sizes across all biomaterials." ⁽³⁾

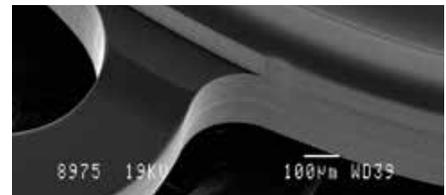
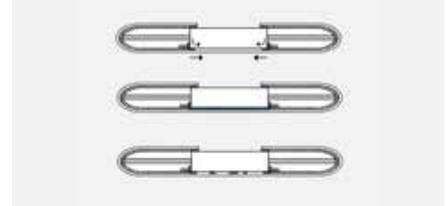


Glistening-free hydrophobic material

Why low PCO with G-free®?

The G-free® material matches the **"No space, no cells" concept**.⁽⁴⁾ This confirms that the perfect bio-adhesiveness of the G-free® offers hard tackiness and bond to the capsular bag.

The design of the PhysiOL G-free® material integrates the **2-Step Technology** which features a **360° square edge** barrier and a posterior **haptic angulation**. This technology offers a continuous barrier against PCO.



G-free® benefits for the patient

What do studies say ?

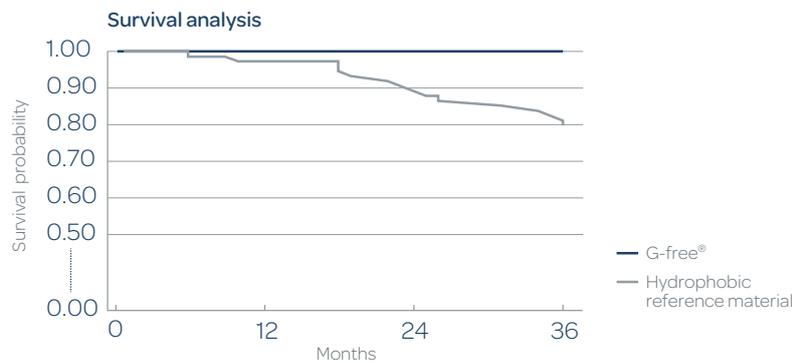
"The G-free® material showed its effectiveness in the absence of glistening. This survival analysis shows no glistening event during 36 months follow-up."⁽⁵⁾



"One YAG has been made in the G-free® IOL cohort after the third year (n = 43 eyes)."⁽⁶⁾

After three years, the G-free® IOL showed no glistening.

A two sample test demonstrated a significant difference in the occurrence of vacuoles between the G-free® material and the hydrophobic reference material.



n = 66 eyes

References:

- (1) C. Pagnouille, PhD, D. Bozukova, PhD, L. Gobin, PhD, V. Bertrand, MSc, M-C. Gillet-De Pauw, PhD : Assessment of new-generation glistening-free hydrophobic acrylic intraocular lens material, J Cataract Refract Surg 2012; 38:1271-1277.
- (2) ANSI/AAMI/ISO 10993-7:2008/(R) 2012, Biological evaluation of medical devices – Part 7: Ethylene oxide sterilization residuals.
- (3) E. DeHoog, PhD, A. Doraiswamy, PhD: Evaluation of the impact of light scatter from glistenings in pseudophakic eyes, J Cataract Refract Surg 2014; 40:95-103.
- (4) Linolla R.J. Sandwich theory: Bioactivity-based explanation for PCO. JCRS 1997;23:1539-42.
- (5) & (6) C. Chassain, MD: Clinical outcomes after 3 years. Data on file with PhysiOL.

PhysIOL G-free® solutions

 <p>FINEVISION HP TRIFOCAL OPTIC</p> <p>G-FREE</p>	 <p>PODEYE MONOFOCAL OPTIC</p> <p>G-FREE</p>
<p>G-free® trifocal diffractive optic Double C-loop platform & RidgeTech Non-preloaded injection system 10D to 35D power Additional power : +1.75D for intermediate vision and +3.50D for near vision</p> 	<p>G-free® monofocal IOL Double C-loop platform & RidgeTech Non-preloaded injection system 0D to 35D power</p> 
 <p>MICROPURE MONOFOCAL OPTIC</p> <p>1.2.3</p> <p>G-FREE</p>	 <p>MICROPURE MONOFOCAL OPTIC</p> <p>G-FREE</p>
<p>G-free® monofocal IOL Preloaded with PhysIOL 1.2.3 injection system & PRS® 0D to 30D power</p> 	<p>G-free® monofocal IOL Non-preloaded injection system -10D to 35D power</p> 

Other PhysIOL advanced optical solutions

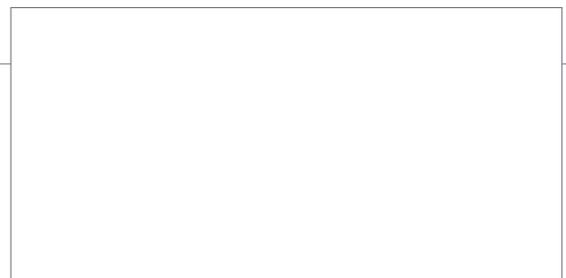
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