









Offering an adaptable range of concentrations to meet the patient's specific needs

	0.3% HA	Single-dose containers of 0.45 ml		Reclosable single-dose containers to be used within 12 hours after opening ^a
		Multidose dispenser of 10 ml		Sterile up to 3 months after first use ^a
	0.18% HA	Single-dose containers of 0.30 ml		Single-use containers
		Multidose dispenser of 10 ml		Sterile up to 3 months after first use ^a
	0.1% HA	Multidose dispenser of 15 ml		Sterile up to 3 months after first use ^a

PRESERVATIVE-FREE

^a Data on file.

The Vismed® concept

Hypo-osmolar sodium hyaluronate solutions for the treatment of dry eye

- ✓ Proven efficacy and safety
- ✓ Available in preservative-free single- and multidose containers
- ✓ Compatible with any kind of contact lenses



1. Jones L, Downie LE, Korb D, Benitez-Del-Castillo JM, Dana R, Deng SX, et al. TFOS DEWS II management and therapy report. *Ocul Surf.* 2017;15:575-628.
2. Baeyens V, Bron A, Baudouin C. Efficacy of 0.18% hypotonic sodium hyaluronate ophthalmic solution in the treatment of signs and symptoms of dry eye disease. *J Fr Ophthalmol.* 2012;35(6):412-9.
3. Brignole F, Pisella PJ, Dupas B, Baeyens V, Baudouin C. Efficacy and safety of 0.18% sodium hyaluronate in patients with moderate dry eye syndrome and superficial keratitis. *Graefes Arch Clin Exp Ophthalmol.* 2005;243:531-8.
4. Frescura M, Berry M, Corfield A, Carrington S, Easty DL. Evidence of hyaluronan in human tears and secretions of conjunctival cultures. *Biochem Soc Trans.* 1994;22(2):228S.
5. Tiffany JM. Composition and biophysical properties of the tear film: knowledge and uncertainty. *Adv Exp Med Biol.* 1994;350:231-8.
6. Tiffany JM. Viscoelastic properties of human tears and polymer solutions. *Adv Exp Med Biol.* 1994;350:267-70.
7. Bron AJ. Duke-Elder lecture. Prospects for the dry eye. *Trans Ophthalmol Soc.* 1985;104:801-26.
8. Snibson GR, Greaves JL, Soper ND, Tiffany JM, Wilson CG, Bron AJ. Ocular surface residence times of artificial tear solutions. *Cornea.* 1992;11(4):288-93.
9. Nakamura M, Hikida M, Nakano T, Ito S, Hamano T, Kinoshita S. Characterization of water retentive properties of hyaluronan. *Cornea.* 1993;12(5):433-6.
10. Balazs EA, Band P. Hyaluronic acid: its structure and use. *Cosmet Toiletries.* 1984;99:65-72.
11. Nakamura M, Nakano T, Mibu H, Hikida M. Hyaluronan stimulates epithelial wound healing in the rabbit cornea. *Folia Ophthalmol Jap.* 1995;46:1256-60.
12. Gomes JA, Amankwah R, Powell-Richards A, Dua HS. Sodium hyaluronate (hyaluronic acid) promotes migration of human corneal epithelial cells in vitro. *Br J Ophthalmol.* 2004;88(6):821-5.
13. Saettone MF, Chetoni P, Torracca MT, Burgalassi S, Giannaccini B. Evaluation of muco-adhesive properties and in vivo activity of ophthalmic vehicles based on hyaluronic acid. *Int J Pharm.* 1989;51:203-12.
14. Mochizuki H, Yamada M, Hato S, Nishida T. Fluorophotometric measurement of the precorneal residence time of topically applied hyaluronic acid. *Br J Ophthalmol.* 2008;92(1):108-11.
15. Bron AJ, de Paiva CS, Chauhan SK, Bonini S, Gabison EE, Jain S, et al. TFOS DEWS II pathophysiology report. *Ocul Surf.* 2017;15:438-510.
16. Willcox MDP, Argüeso P, Georgiev GA, Holopainen JM, Laurie GW, Millar TJ, et al. TFOS DEWS II Tear Film Report. *Ocul Surf.* 2017;15:366-403.
17. Aleo D, Bossy L. Considerations on the risk of precipitation of calcium phosphate salts following the use of Vismed (0.18% sodium hyaluronate) formulation. 7th International Symposium on Ocular Pharmacology and Therapeutics (ISOPT); 2008 Feb 28-Mar 2; Budapest, Hungary.
18. Rimmer S. An open, non-comparative, exploratory trial on the performance profile of a contact lens lubricant (SVS20) after single instillation in symptomatic contact lens wearers. [Study report]. Cardiff, United Kingdom: Cardiff University; 2000 Jul 26. Report No.: SVS20-98-01.
19. Mager D. Cytotoxicity Assay in vitro: Evaluation of cytotoxicity by XTT dye with Vismed light (TCHY 104). [Study report]. Planegg, Germany: BSL Bioservice Scientific Laboratories GmbH; 2004 Feb 23. Report No.: 040290.
20. Albrecht A. Acute eye irritation/corrosion with Vismed light (TCHY 104). [Study report]. Planegg, Germany: BSL Bioservice Scientific Laboratories GmbH; 2004 Mar 9. Report No.: 040291.
21. Mager D. Test for delayed-type hypersensitivity (Guinea Pig Maximisation Test) with Vismed light (TCHY 104). [Study report]. Planegg, Germany: BSL Bioservice Scientific Laboratories GmbH; 2004 Apr 1. Report No.: 040292.
22. Vogel R, Crockett RS, Oden N, Laliberte TW, Molina L. Demonstration of efficacy in the treatment of dry eye disease with 0.18% sodium hyaluronate ophthalmic solution (Vismed, Rejena). *Am J Ophthalmol.* 2010;149(4):594-601.
23. Baeyens V, Baudouin C, Dorsey F, and the French Vismed Study Group. Efficacy and safety of sodium hyaluronate 0.18% vs. sodium chloride 0.9% in patients with bilateral moderate dry eye. *Invest Ophthalmol Vis Sci.* 2004;45(13):3906.
24. Rapisarda A, Battaglia F, Mauceri F. Valutazione della tollerabilità oculare e degli effetti di un sostituto lacrimale viscoelastico in monodose, ipotonico (SVS20) in confronto ad una lacrima artificiale del commercio a base di idrossipropilmetilcellulosa e Destrano 70 (HPMC) in pazienti affetti da cheratocongiuntivite secca o da sindrome di Sjogren (studio della osmolarità del film lacrimale). [Study report]. Syracuse, Italy: Ospedale Civile Umberto I; 1994 Oct 24. Report No.: SVS20-01-02.
25. Rolando M, Zingirian M. Valutazione della tollerabilità oculare e degli effetti di un sostituto lacrimale viscoelastico in monodose, ipotonico (SVS20) in confronto ad una lacrima artificiale del commercio a base di idrossipropilmetilcellulosa e Destrano 70 (HPMC) in pazienti affetti da cheratocongiuntivite secca o sindrome di Sjogren. [Clinical study report]. Genova, Italy: Clinica oculista dell'università di Genova; 1994 Sep 3. Report No.: SVS20-01-01.
26. Johnson ME, Murphy PJ, Boulton M. Carbomer and sodium hyaluronate eyedrops for moderate dry eye treatment. *Optom Vis Sci.* 2008;85(8):750-7.
27. Johnson ME, Murphy PJ, Boulton M. Effectiveness of sodium hyaluronate eyedrops in the treatment of dry eye. *Graefes Arch Clin Exp Ophthalmol.* 2006;244:109-12.
28. Kasetsuwan N, Reinprayoon U. A sodium hyaluronate ophthalmic solution for reducing dry eye and enhancing corneal wound healing after photorefractive keratectomy. *Asian J Pharm Clin Res.* 2015;8(2):1-6.



TRB CHEMEDICA AG
Otto-Lilienthal-Ring 26
85622 Feldkirchen/Munich
Germany

TRB Chemedica International SA
Rue Michel-Servet 12
1206 Geneva
Switzerland
+41 22 703 49 00
www.trbchemedica.com



TRB

Your experience
Your expertise
Your expectations



VISMED RANGE

FORMULATED TO BREAK THE VICIOUS
CYCLE OF DRY EYE DISEASE



Hyaluronic acid: a recommended molecule for eye lubrication¹

Hyaluronic acid (HA) is a natural biopolymer that performs many important roles in the body, including the eyes. It is not only a component of the vitreous body of the eye and the aqueous humour, but is also present at the surface of both conjunctival and corneal endothelia.⁴

In ophthalmology, HA solutions are particularly appreciated for the following properties:

Viscoelasticity

In water, HA forms viscoelastic solutions similar to natural tears.⁵ Thanks to this property, HA solutions spread over the ocular surface and form a protective coat that stabilises the precorneal tear film.^{6,7} As a result, the residence time of the solution on the ocular surface is prolonged.^{2,7,8}

Water retention

HA is able to maintain eye hydration by slowing water evaporation.⁹ Indeed, HA has a coiled structure with large hydrophilic domains that form hydrogen bonds with water molecules.¹⁰

Wound healing

The protective coat formed by HA solutions indirectly promotes wound healing. It prevents further damage of the cornea and allows natural healing to take place more rapidly.^{11,12}

Mucoadhesivity

HA solutions are mucoadhesive.¹³ The fact that they adhere well to the mucin layer of the precorneal tear film contributes to their increased residency on the ocular surface, prolonging the beneficial effects in the treatment of dry eye (DE).¹⁴



The Vismed range

Consisting of sodium hyaluronate (SH) solutions, the products of the Vismed range comprise differing presentations of lubricant eye drops indicated for the treatment of the signs and symptoms of DE and/or ocular surface damage, due to diseases such as superficial keratitis, Sjögren syndrome or primary dry eye disease (DED).

Hypo-osmolar solutions

For breaking the vicious cycle of DED¹⁵

Free from animal proteins

Sodium hyaluronate obtained by biofermentation

Essential electrolytes

Contain calcium, magnesium, and potassium, ions that are present in the natural tear film^{1,16}

Citrate-containing buffer

For minimising the risk of corneal calcification¹⁷

Preservative-free^b

Can be frequently used for an extended time period without harming the ocular surface

Compatible with contact lenses

For improved ocular comfort in contact lens wearers¹⁸

High compliance and patient satisfaction

Free from preservatives

→ Excellent tolerability

Sterile up to 3 months after first use

→ Safety for patients

Squeezable container

→ Intuitive handling

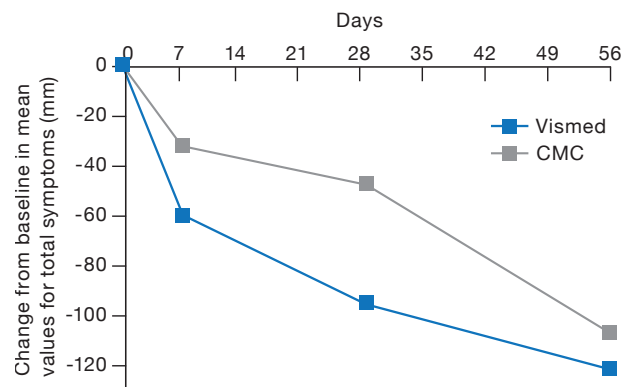
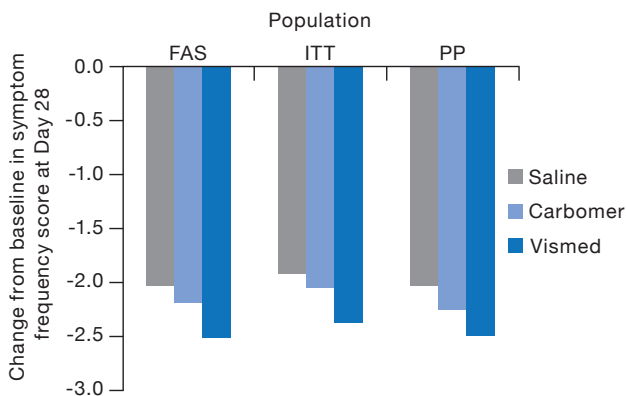


Unique lubricant eye drops: effective, safe and easy to use

^b Except Vismed Light, which contains 0.01% disodium edetate and 0.00076% polyhexanide. Pre-clinical studies have shown that Vismed Light did not display any cytotoxic,¹⁹ irritating,²⁰ nor sensitising²¹ effects. Furthermore, no side effects related to the presence of these preservatives have been reported in post-marketing surveillance.

Clinical experience

Clinical studies have demonstrated that Vismed **efficaciously treats the signs and symptoms of DE**,^{2,3,22-25} **protects the corneal surface**,³ and **improves the integrity of corneal and conjunctival epithelia**.²⁶



At Day 28, Vismed significantly reduced DE symptom frequency compared with saline ($p < 0.05$ in all study datasets).² At both Days 28 and 56, Vismed was non-inferior to 0.3% carbomer and superior to saline for the change from baseline in DE symptom frequency. Finally, Vismed was more comfortable than carbomer and required a lower number of instillations.²

Compared with carboxymethyl cellulose (CMC), Vismed tended to show a faster efficacy in reducing DE symptoms.³

Vismed Light and Vismed Gel were proven to reduce symptoms of ocular irritation and prolong the non-invasive break-up time in patients with moderate DED.²⁷ Vismed Gel proved to be efficacious in relieving DE symptoms after photorefractive keratectomy surgery.²⁸

All the Vismed range products were rated as **comfortable** by patients^{2,3,23,28} and displayed an **excellent safety profile**.^{2,3,22,23,28}

