

# THE USE OF SODIUM HYALURONATE GEL 0.3% IN THE MANAGEMENT OF POST-KERATOPLASTY PATIENTS, AND PATIENTS WITH CHRONIC REFRACTORY DRY EYE AND OTHER OCULAR SURFACE PROBLEMS.

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## Introduction

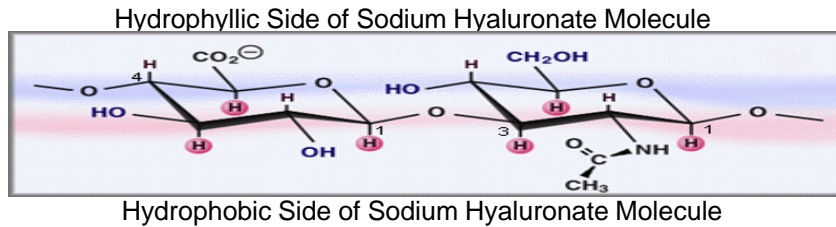
Sodium Hyaluronate Drops, for the management of dry eyes and corneal surface problems, have been available in the UK since 1999 (0.18% or 0.1%)

Moderate to severe dry eye cases often require hourly or half hourly treatment with ocular lubricants and despite this may remain symptomatic. In 2004 a 0.3% non-preserved Sodium Hyaluronate Gel became available for the management of severe dry eyes.

20 patients, with severe dry eyes, were changed from 0.18 drops to 0.3% gel to assess if a more stable pre-corneal tear-film could be achieved with a further relief of symptoms.

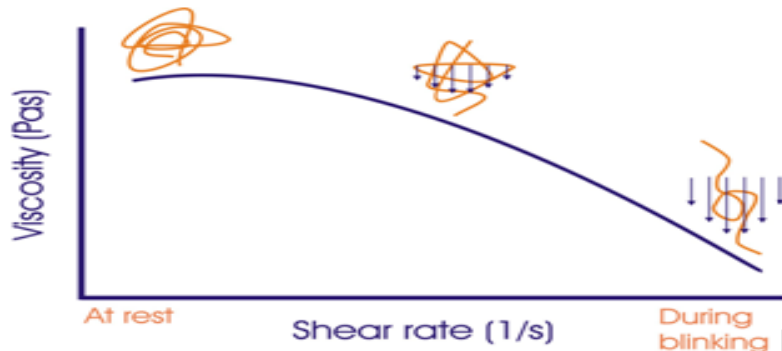
## Properties of Topical Sodium Hyaluronate

Amphiphilic structure: (traps & retains large volumes of water)



1. Muco-adhesive (stabilises the tear film and promotes epithelial healing)
2. Water retentive
3. Viscoelastic
4. Preservative-free (Prevents worsening of condition due to preservative toxic effect)

## Pseudoplasticity of hyaluronan



## Patients and Methods

Location: Warrington Hospital and Spire Cheshire Hospital, Warrington UK.

Patients attending between May 2004 and January 2008

Patients with severe kerato-conjunctivitis sicca, who remained symptomatic following puncto-canalicular occlusion with intra-canalicular implants (SmartPlugs™) and regular instillation Sodium Hyaluronate 0.18% drops (Vismed™), were changed to Sodium Hyaluronate 0.3% (Vismed Gel™).

▪ Severe 'Dry Eye Syndrome'	6 Patients
▪ Sjogren's Syndrome	3 Patients
▪ Post Penetrating Keratoplasty, with	
▪ Post Surgical Corneal Flattening	2 Patients
▪ Bullous Corneal Endothelial Failure	3 Patients
▪ Longstanding Herpes Simplex Keratitis	2 Patients
▪ Rheumatoid Corneal Melt	1 Patient
▪ Longstanding Facial Palsy	2 Patients
▪ Anterior Basement Membrane Dystrophy (15 Year Old Patient)	1 Patient

## Results

All 20 patients achieved considerable improvement in ocular comfort and tear film stability using Sodium Hyaluronate 0.3% Gel compared to 0.18% drops.

[One patient, with bullous keratopathy and a decompensated cornea, has subsequently required a bandage contact lens, for ocular comfort, and reverted to 0.18% drops].

## Conclusion

Sodium Hyaluronate 0.3% Gel (Vismed Gel™) has an increased therapeutic effect compared with Sodium Hyaluronate 0.18% drops. This is presumably due to its higher viscosity & increased water retention compared with 0.18% drops.

Sodium Hyaluronate 0.3% Gel (Vismed Gel™) is a valuable addition to our armamentarium for the management of patients with moderate or severe 'dry eye syndromes'.