What is osmolarity?
Osmolarity is a measure of the osmotic pressure exerted by a solution across a semi-permeable membrane e.g. in cellular walls of the corneal epithelium defined as the concentration of solutes (Osm/l). The osmolarity of normal tear film is about 300 mOsm/l (isoosmolarity), but it can rise to around 340 mOsm/l (hyperosmolarity) in patients with Dry Eye.

How does the tear film become hyperosmolar?
The main cause of tear film hyperosmolarity is an imbalance due to a reduced tear production and/or increased tear evaporation. As a consequence, the concentration of solutes increases leading to hyperosmolarity of the tear film.

What are the consequences of tear film hyperosmolarity in Dry Eye?
Recently, tear film hyperosmolarity has been regarded as the central mechanism causing ocular surface inflammation, damage, and symptoms, triggering the initiation of compensatory events in Dry Eye.1

What are the benefits of a hypotonic eye drop formulation?
The excess of solutes and the lack of fluid of altered tears can be rapidly and effectively balanced with the use of hypotonic eye drops which restore physiological tear film isoosmolarity.
A hypotonic hyaluronic acid (HA) formulation (150 mOsm/l) is significantly superior to an isotonic HA solution in the treatment of symptoms and signs of ocular dryness.\(^2\)

The VISMED\textsuperscript{®} range of hypotonic HA-based lubricant eye drops counteracts tear film hyperosmolarity in patients with sensations of ocular dryness

Hypotonic hyaluronic acid for all your needs

REFERENCES: