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TEAR OSMOLARITY TESTING

Tear osmolarity is a measure of the salt concentration in a patient's tears.

Dry eye disease (DED) is a disease with symptoms of discomfort or visual disturbance, and tear film instability with potential damage to the ocular surface. The disease is accompanied by **increased tear film osmolarity (hyperosmolarity)** and inflammation of the ocular surface.

Hyperosmolarity, whether due to an increased tear evaporation rate or a reduction of tear secretion, is indicative of reduced tear volume.

Therefore measuring tear film osmolarity is an important diagnostic tool in dry eye diagnosis and management. Normal values are below 310mOsms/L, whilst those with dry eyes have values above 310 mOsms/L.

The I-PEN® is a hand held electronic diagnostic device for the measurement of tear osmolarity. It is used in conjunction with single use sensors to provide a quick and painless measure of tear osmolarity.

The cost of this test is currently not covered by insurance companies and the cost per test is £50.00.