

# 9<sup>th</sup> Global Ophthalmology Summit

March 15-16, 2017 London, UK



## *Rolando Toyos*

Medical Director and Founder of Toyos Clinic, USA

### **Osmolarity in dry eye disease**

**Purpose:** In this prospective study, we show the influence of intense pulsed light therapy (IPL) on tear osmolarity, an increasingly important metric of dry eye disease. Previous studies have measured the effectiveness IPL has had on other metrics including tear break up time (TBUT), lipid layer grade (LLG), tear evaporation rate (TER), tear meniscus height (TMH), and subjective responses from patients.

**Methods:** Single center prospective study included 30 patients and 60 eyes. Patient's ages ranged from 18 to 90 years old with 75% of participants being female. All patients had dry eye disease with a TBUT of 10 seconds or less. Tear osmolarity was measured bilaterally before a single IPL treatment followed by one drop of topical NSAID. Bilateral tear osmolarity was then measured again one month later.

**Results:** Average tear osmolarity pre-treatment OD was 303 mOsm/L and OS was 302 mOsm/L. Average tear osmolarity post-treatment was OD 295 mOsm/L and OS 295 mOsm/L. Paired t-test was performed showing the change in tear osmolarity to be statistically significant in each eye, OD  $p=0.002$  and OS  $p=0.001$ .

**Conclusions:** A statistically significant decrease in tear osmolarity from abnormal to normal range demonstrates an improvement in tear film quality after one treatment with IPL, thus suggesting IPL's effectiveness in treating dry eye disease.

### **Biography**

Rolando Toyos is the Medical Director and Founder of Toyos Clinic. He received his Bachelor's degree and Master's degree from the University of California, Berkeley and Stanford University, respectively. He completed his Medical degree from the University of Illinois. He is Board Certified in Ophthalmology and specialized in Cataract Surgery, LASIK, Glaucoma, and Dry Eye. He is one of the most experienced surgeons in the country, completing over 35,000 cataract surgeries, 20,000 glaucoma laser treatments and 25,000 LASIK surgeries. He was the first surgeon to combine Laser Cataract Surgery with Aqualase creating a new Laser for Cataract Surgery L4C procedure. He holds various patents including one for a light based technology used for the treatment of dry eye. He is the inventor of the procedure Intense Pulse Light (IPL) for dry eye disease.

rostar80@gmail.com

### **Notes:**