

2007 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED): Review the Scientific section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract  
**RE**

3. PRESENTATION PREFERENCE (REQUIRED) Check one (1)  
 (a) Paper  
**(b) Poster**

4. The signature of the First (Presenting) Author, (REQUIRED) acting as the authorized agent for all authors, hereby certifies.  
 That any research reported was conducted in compliance with the Declaration of Helsinki and the UNIFESP Ethical Committee\*

\_\_\_\_\_  
 Signature of First

Scientific Section Descriptions  
 (OR) ORBIT  
 (PL) OCULAR PLASTIC SURGERY  
**(RE) RETINA AND VITREOUS**  
 (RX) REFRACTION-CONTACT LENSES  
 (NO) NEURO-OPHTHALMOLOGY  
 (TU) TUMORS AND PATHOLOGY  
 (ST) STRABISMUS  
 (UV) UVEITIS  
 (LS) LACRIMAL SYSTEM  
 (LV) LOW VISION  
 (CO) CORNEA AND EXTERNAL DISEASE  
 (GL) GLAUCOMA  
 (RS) REFRACTIVE SURGERY  
 (CA) CATARACT  
 (US) OCULAR ULTRASOUND  
 (TR) TRAUMA  
 (LA) LABORATORY  
 (BE) OCULAR BIENGINEERING  
 (EP) EPIDEMIOLOGY  
 (EF) ELECTROPHYSIOLOGY

Deadline: 29/10/2007

FORMAT:  
 Abstract should contain:  
**Title, Name of Authors, Name of other authors (maximum 6), Purpose, Methods, Results, Conclusions.**  
 Example: ARVO (1.10 x 1.70) Abstract Book

1. FIRST (PRESENTING) AUTHOR (REQUIRED)  
 Must be author listed first in body of abstract  
 ( ) R1 ( **x** ) R2 ( ) R3  
 ( ) PG0 ( ) PG1 ( ) Estagiário ( ) Tecnólogo ( ) PIBIC

Lavinsky Daniel  
 Last Name First Name Middle

RETINA 0855/07  
 Service (sector) Nº CEP  
 (Comitê de Ética em  
 Pesquisa da Universidade  
 Federal de São Paulo-  
 UNIFESP)

**Comparison of the single and double density macular grid laser photocoagulation for diabetic macular edema using micropulse 810nm diode laser**  
 Lavinsky D, Cardillo JA, Hilarião P, Castro L, Salomão SR, Berezovsky A, Farah ME

**Purpose:** To compare single versus double density laser photocoagulation techniques for treatment of diabetic macular edema with a micropulse 810nm diode laser. The single density is based on the Early Treatment Diabetic Retinopathy Study (ETDRS) grid photocoagulation technique and the double density increases the number of spots to potentially enhance the area of retinal pigment epithelium activation. The selectivity of the micropulse laser treatment was studied using autofluorescence and mfERG (multifocal electroretinogram).

**Methods:** Patients with diabetic macular edema were assigned to receive laser photocoagulation by either single or double density technique. Visual acuity, fundus photographs and fluorescein angiography, and optical coherence tomography measurements were obtained at baseline and at 1, 3 and 6 months. Treatment was repeated if diabetic macular edema persisted. Autofluorescence imaging and mfERG were obtain for selected patients. Change in optical coherence tomography measurements at 6-month follow-up and visual acuity were the main outcome.

**Results:** Sixty patients were divided into single density group (n=30) and double density (n=30). There were no differences in age, gender or systemic diabetes status (measured by HbA1c). There was no difference in best corrected visual acuity for either group at 6 months follow up. OCT central macula thickness was decreased in both groups, although it was thinner in the double density group. Fundus photographs failed to identify most of the laser spots, although fluorescein angiography could identify partially the marks. MfERG and autofluorescence studies are ongoing.

**Conclusions:** At 6 months after treatment, the double density technique was more effective at reducing optical coherence tomography-measured retinal thickening than the single density approach. However, the visual acuity outcome with both approaches was not different for this population. Selectivity studies appear to confirm the hypothesis that micropulse laser is more selective to the RPE and it may also induce less damage to the retina, although these studies are still being concluded.