

# THE COURSE OF DRY EYE AFTER PHACOEMULSIFICATION

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## Introduction:

- Dry eye syndrome is a multifactorial disease characterized by dryness of the ocular surface due to tear deficiency and overevaporation.
- The symptoms observed in dry eye syndrome include dryness, irritation, burning and ocular pain.
- Some surgical interventions related to anterior segment may cause dry eye and aggravate the symptoms in pre-existing dry eye , like photorefractive keratectomy (PRK), Laser Assisted in Situ Keratomileusis (LASIK), extracapsular cataract extraction (ECCE) and phacoemulsification.
- Postoperative dry eye has been implicated as the most important obstacle to patient's satisfaction despite an excellent visual recovery.

## Aim of the work:

- Evaluate the course of dry eye after phacoemulsification.

## Patients:

- prospective study carried out on one hundred eyes of one hundred patients who underwent an uneventful phacoemulsification surgery and intra ocular lens implantation and their age ranged from 40-65 years old.

## Methods:

All patients included in the study were subjected to the following:

1. Informed consent.
2. Full history taking with complete clinical ophthalmological examination.
3. All patients were examined before the phacoemulsification surgery and at 1st week, 1st month, 3rd month post operatively by Tear break up time (TBUT), Schirmer test II (ST-II) with anesthesia and Ocular surface disease index (OSDI) questionnaire.
4. All patients were undergone phacoemulsification and posterior chamber Intraocular lens (IOL) implantation by the same surgeon using the same technique .
5. Correlations of effective phaco time and microscope light exposure time with TBUT, ST-II with anesthesia, and the OSDI score were studied.

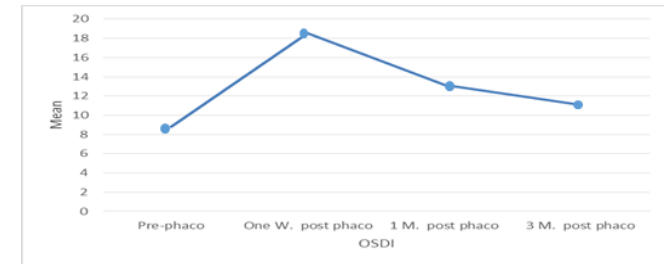
## Results:

Shirmer II (mm) pre operative and at different periods of follow up.

Shirmer II (mm)	Pre-phaco	1 <sup>st</sup> week post phaco	1 <sup>st</sup> Month post phaco	3 <sup>rd</sup> Month post phaco
Range	14-20	6-17	10-18	13-19
Mean	17.13	12.40	14.45	15.9
SD	1.38	2.26	1.61	1.43
P		0.00001*	0.001*	0.012*

TBUT (sec.) preoperative and at different period of follow up.

TBUT sec.	Pre-phaco	1 <sup>st</sup> Week post phaco	1 <sup>st</sup> Month post phaco	3 <sup>rd</sup> Month post phaco
Range	9-15	5-12	7-14	8-14
Mean	12.48	7.81	9.83	11.8
SD	1.38	1.50	1.52	1.83
P		0.001*	0.011*	0.236



OSDI preoperative and at different period of follow up.

- There was a negative correlation between both the effective phaco time and the microscope light exposure time with TBUT and ST-II values at 1st week of follow up, but this association was not statistically significant ( $p > 0.05$ ).
- There was a positive correlation between both the effective phaco time and the microscope light exposure time with OSDI at 1st week of follow up, but this association was not statistically significant ( $p > 0.05$ ).

## Conclusion:

Phacoemulsification surgery is indeed capable of inducing dry eye symptoms and signs. Therefore, prior to surgery, patients must be informed about the possible increase in dry eye symptoms, and if indicated, artificial tears may be prescribed in the postoperative period.