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Measuring and quantifying the complications and lean of laser vision correction techniques

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Introduction: Laser vision correction techniques include: Laser assisted in situ keratomelieusis (LASIK), Femtosecond laserassisted LASIK and photo refractive Keratectomy (PRK). Such techniques have different complications, many of them are reported in literature. Those complications are not measured, not quantified and not analysed to know the most and the less serious, to know the root causes and use this in the management plans. Also, it is noticed that no lean analyses and assessment of waste steps inherent in such techniques.

Methods: Review articles and randomised controlled trials are being searched. Reported complications are summarised and analysed. For each technique, number of complications and their severity scores will be calculated. For each complication, further search about its root causes is done and reported. Safety and risk definitions are redefined or reconsidered. Technical steps, equipments, consumables and materials used and time consumed in these techniques are being analysed.

Findings: 22 types of complications related to the LASIK technique , 17 types of complications related to femto-LASIK and 3 types of complications related to PRK were found. Most complications related to the first two techniques were related to flaplifting. Free caps, button holes, striae, epithelial downgrowths and post lasik ectasia were the most sever types of complications (scores 3-5). Steps of techniques were as follow: LASIK: 8 steps. PRK: 3 steps. Femtolasik: 7 steps.

Conclusion: Photorefractive keratectomy (PRK) is proved to be the least complications, the safest and the best lean technique. In the second order comes the femtolasik, being the second safe but the lowest lean. Conventional microkeratome LASIK is the most risky techniques but has an intermediate lean level.

Biography

Osama Mohiey El Deen Mohamed Al-Nahrawy, Presently working as a Professor of Ophthalmology, Faculty of Medicine, Suez Canal University and its hospital, Ismailia, Egypt. He is the CEO of Al-Nahrawy Eye and lasik Centers, Sharer founder of Private eye centers in Cairo:Al Hayat Eye center, 17 Mekka Street, Dokki, Giza, Cairo & Egyptian Eye Academy, 17 Beirut Street, Heliopolis, Cairo.

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