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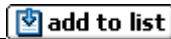
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Pupil size and night vision disturbances after LASIK for myopia[Helgesen, A.](#)^a, [Hjortdal, J.](#)^{a b} , [Ehlers, N.](#)^a ^a Department of Ophthalmology, Århus University Hospital, Århus, Denmark^b Eye Department, Århus Kommunehospital, Nørrebrogade 44, 8000 Århus C, Denmark**Abstract**

Purpose: To examine whether standardized, preoperative evaluation of pupil sizes can predict the risk of night vision visual disturbances after bilateral laser in situ keratomileusis (**LASIK**) for myopia. Methods: A prospective study was carried out involving 46 patients who underwent bilateral **LASIK** for myopia. Pupil sizes were measured before **surgery** using an infrared pupillometer under standardized settings. Pre- and postoperative refraction and best spectacle-corrected visual acuity (BSCV A) were registered. At the 3-month follow-up visit, the patients completed a questionnaire regarding night vision pre- and postoperatively. Results: The mean bilateral, spherical equivalent refraction (SE) was - 8.76 D (range 6.32 to - 12.0 D) preoperatively, and - 1.69 D (range 0 to - 4.38 D) postoperatively. The mean bilateral BSCV A was not changed by the operations. We found a significant correlation between large scotopic pupil sizes and the impression of worsened night vision ($p < 0.01$). A significant correlation between gender (males) and subjectively reduced night vision postoperatively was also found ($p < 0.05$). Conclusion: Large pupil

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size measured preoperatively is correlated with an increased frequency of subjectively experienced post-**LASIK** visual disturbances during scotopic conditions. We recommend preoperative evaluation of pupil size in all patients prior to **LASIK surgery**.
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Author Keywords

Disturbances; **LASIK**; Myopia; Night; Pupil; Scotopic; Size; Vision

References (33)

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 Select: All
1. [Ambrosio Jr., R., Wilson, S.E.](#)
Complications of laser in situ keratomileusis: Aetiology, prevention and treatment
 (2001) *J Refract. Surg.* 17 pp. 350-379 [Cited 59 times](#)
 2. [Brunnette, I., Gresset, J., Boivin, J.F., Boisjoly, H., Makni, H.](#)
Functional outcome and satisfaction after photorefractive keratectomy. Part 1. Development and validation of a survey questionnaire
 (2000) *Ophthalmology* 107 pp. 1783-1789 [Cited 11 times](#)
 3. [Brunnette, I., Gresset, J., Boivin, J.F., Pop, M., Thompson, P., Lafond, G.P., Makni, H.](#)
Functional outcome and satisfaction after photorefractive keratectomy. Part 2. Survey of 690 patients
 (2000) *Ophthalmology* 107 pp. 1790-1796 [Cited 24 times](#)
 4. [Charman, W.N.](#)
Mismatch between flap and stromal areas after laser in situ keratomileusis as source of flap striae
 (2002) *J. Cataract Refract. Surg.* 28 pp. 2146-2152
 5. [Chaynet, A.S., Assil, K.K., Montes, M., Espinosa-Lagana, M., Castellanos, A., Tsioulis, G.](#)
Regression and its mechanisms after laser in situ keratomileusis in moderate and high myopia
 (1998) *Ophthalmology* 105 pp. 1194-1199 [Cited 46](#)

- [times](#)
6. [Colvard, M.](#)
Preoperative measurement of scotopic pupil dilation using an office pupillometer
 (1998) *J. Cataract Refract. Surg.* 24 pp. 1594-1597 [Cited 26 times](#)
7. [Dupps Jr., W.J.](#), [Roberts, C.](#)
Effect of acute biomechanical changes on corneal curvature after photokeratectomy
 (2001) *J. Refract. Surg.* 17 pp. 658-669 [Cited 12 times](#)
8. [Fan-Paul, N.I.](#), [Li, J.](#), [Miller, J.S.](#), [Florakis, G.J.](#)
Night vision disturbances after corneal **refractive surgery**
 (2002) *Surv. Ophthalmol.* 47 pp. 533-546 [Cited 13 times](#)
9. [Haw, W.W.](#), [Manche, E.E.](#)
Effect of preoperative pupil measurements on glare, halos and visual function after photoastigmatic **refractive keratectomy**
 (2001) *J. Cataract Refract. Surg.* 27 pp. 907-916 [Cited 16 times](#)
10. [Hersh, P.S.](#), [Fry, K.](#), [Blaker, J.W.](#)
Spherical aberrations after laser in situ keratomileusis and photorefractive keratectomy
 (2003) *J. Cataract Refract. Surg.* 29 pp. 2096-2104 [Cited 4 times](#)
11. [Holladay, J.T.](#), [Janes, J.A.](#)
Topographic changes in corneal asphericity and effective optical zone after laser in situ keratomileusis
 (2002) *J. Cataract Refract. Surg.* 28 pp. 942-947 [Cited 22 times](#)
12. [Lackner, B.](#), [Pieh, S.](#), [Schmidinger, G.](#), [Hanselmayer, G.](#), [Simader, C.](#), [Reitner, A.](#), [Skorpik, C.](#)
Glare and halo phenomena after laser in situ keratomileusis
 (2003) *J. Cataract Refract. Surg.* 29 pp. 444-450 [Cited 6 times](#)

- [Abstract + Refs](#) [View at Publisher](#)
 [Order Document](#)
13. [Lee, Y.C., Hu, F.R., Wang, I.J.](#)
Quality of vision after laser in situ keratomileusis. Influence of dioptric correction and pupil size on visual function
(2003) *J. Cataract Refract. Surg.* 29 pp. 769-777 [Cited 8 times](#)
 [Abstract + Refs](#) [View at Publisher](#)
 [Order Document](#)
14. [Marcos, S.](#)
Aberrations and visual performance following standard laser correction
(2001) *J. Refract. Surg.* 17 pp. 596-601 [Cited 50 times](#)
 [Abstract + Refs](#) [Order Document](#)
15. [Marcos, S., Barbero, S., Llorente, L., Merayo-Llodes, J.](#)
Optical response to **LASIK surgery for myopia from total and corneal aberration measurements**
(2001) *Invest. Ophthalmol. Vis. Sci.* 42 pp. 3349-3356 [Cited 38 times](#)
 [Abstract + Refs](#) [Order Document](#)
16. [McLellan, J.S., Marcos, S., Burns, S.A.](#)
Age-related changes in monochromatic wave aberrations of the human eye
(2001) *Invest. Ophthalmol. Vis. Sci.* 42 pp. 1390-1395 [Cited 47 times](#)
 [Abstract + Refs](#) [Order Document](#)
17. [Melki, S.A., Azar, D.T.](#)
****LASIK** complications: Aetiology, management and prevention**
(2001) *Surv. Ophthalmol.* 46 pp. 95-116 [Cited 60 times](#)
 [Abstract + Refs](#) [View at Publisher](#)
 [Order Document](#)
18. [Melki, S.A., Proabo, C.E., Azar, D.T.](#)
Optical disturbances and their management after myopic laser in situ keratomileusis
(2000) *Int. Ophthalmol. Clin.* 40 pp. 45-56 [Cited 11 times](#)
 [Abstract + Refs](#) [Order Document](#)
19. [Miller, J.M., Anwaruddin, R., Straub, J., Schwiegerling, J.](#)
Higher order aberrations in normal, dilated, intraocular lens and laser in situ keratomileusis corneas
(2002) *J. Refract. Surg.* 18 pp. 579-583 [Cited 13 times](#)
 [Abstract + Refs](#) [Order Document](#)
20. [Moreno-Barrusio, E., Lloves, J.M., Marcos, S., Navarro, R., Llorente, L., Barbero, S.](#)
Ocular aberrations before and after myopic corneal **refractive surgery: **LASIK**-induced**

- changes measured with laser ray tracing**
(2001) *Invest. Ophthalmol.* 42 pp. 1396-1403 [Cited 74 times](#)
21. [Mrochen, M.](#), [Kaemmerer, M.](#), [Seiler, T.](#)
Clinical results after wavefront-guided laser in situ keratomileusis 3 months after surgery
(2001) *J. Cataract Refract. Surg.* 27 pp. 201-207 [Cited 63 times](#)
22. [Mrochen, M.](#), [Semchishen, V.](#)
From scattering to wavefronts - What's in between?
(2003) *J. Refract. Surg.* 19 pp. 597-601
23. [Oliver, K.M.](#), [Hemenger, R.P.](#), [Corbett, M.C.](#), [O'Brart, D.P.](#), [Verma, S.](#), [Marshall, J.](#), [Tomlinson, A.](#)
Corneal optical aberrations induced by photorefractive keratectomy
(1997) *J. Refract. Surg.* 13 pp. 246-254 [Cited 62 times](#)
24. [Paquin, M.P.](#), [Hamam, H.](#), [Simonet, P.](#)
Objective measurements of optical aberrations in myopic eyes
(2002) *Optom. Vis. Sci.* 79 pp. 285-291 [Cited 11 times](#)
25. [Philipp, W.E.](#), [Speicher, L.](#), [Gottinger, W.](#)
Histological and immunohistochemical findings after laser in situ keratomileusis in human corneas
(2003) *J. Cataract Refract. Surg.* 29 pp. 808-820 [Cited 4 times](#)
26. [Pop, M.](#), [Payette, Y.](#)
Risk factors for night vision complaints after LASIK for myopia
(2004) *Ophthalmology* 111 pp. 3-10 [Cited 8 times](#)
27. [Pop, M.](#), [Payette, Y.](#), [Santoriello, E.](#)
Comparison of the pupil card and pupillometer in measuring pupil size
(2002) *J. Cataract Refract. Surg.* 28 pp. 283-288 [Cited 15 times](#)

28. [Rani, A.](#), [Balassubramanya, R.](#), [Sharma, N.](#)
Outcomes after laser in situ keratomileusis in high myopes
 (2003) *J. Refract. Surg.* 19 pp. 159-164
29. [Roberts, C.](#)
Biomechanics of the cornea and wavefront-guided laser refractive surgery
 (2002) *J. Refract. Surg.* 18 pp. 589-592 [Cited 11 times](#)
30. [Roberts, C.W.](#), [Koester, C.J.](#)
Optical zone diameters for photorefractive corneal surgery
 (1993) *Invest. Ophthalmol. Vis. Sci.* 34 pp. 2275-2281 [Cited 25 times](#)
31. [Schnitzler, E.M.](#), [Baumester, M.](#), [Kohnen, T.](#)
Scotopic measurements of normal pupils: Colvard versus video vision analyser infrared pupillometer
 (2000) *J. Cataract Refract. Surg.* 26 p. 866
32. [Wachler, B.S.](#), [Huynh, V.N.](#), [El-Shiaty, A.F.](#), [Goldberg, D.](#)
Evaluation of corneal functional optical zone after laser in situ keratomileusis
 (2002) *J. Cataract Refract. Surg.* 28 pp. 948-953 [Cited 13 times](#)
33. [Wang, L.](#), [Dai, E.](#), [Koch, D.D.](#), [Nathoo, A.](#)
Optical aberrations of the human anterior cornea
 (2003) *J. Cataract Refract. Surg.* 29 pp. 1512-1521 [Cited 5 times](#)

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