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# New modified equation of contact lens method in determining post myopic laser refractive surgery corneal power

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**Introduction:** The purpose of this study was to derive a modified equation for contact lens method (CLM) in calculating post myopic laser refractive surgery corneal power. **Methods:** A total of 93 subjects who underwent myopic laser refractive surgery at IIUM Eye Specialist Clinic were recruited. The accuracy of postoperative corneal power using the standard CLM and newly-derived contact lens modified method (CLM<sub>mod</sub>) were compared to the standard comparison method; the historical method (HM). The CLM<sub>mod</sub> equation was derived by adjusting postoperative corneal power of CLM according to amount of refractive change. **Results:** The mean postoperative corneal power using standard CLM was significantly higher than HM (mean difference: -0.24 D,  $p < 0.001$ ). Fifty seven percent ( $n = 53$  eyes) of the standard CLM results were within  $\pm 0.50$  D of HM results. The difference between postoperative corneal power using standard CLM and HM increased significantly with the amount of refractive change ( $r = 0.835$ ;  $p < 0.001$ ). The mean postoperative corneal power of CLM<sub>mod</sub> showed that there was no statistical significant difference compared to the HM results (mean

**Cited by 3 documents**

Mesopic pupillometry in pre-LASIK patients by a placido-disc topographer and hartmann-shack aberrometer

Md-Muziman-Syah, M.M. ,  
Suhaimi, M.A. , Sulaiman, U.H.  
(2021) *Malaysian Journal of  
Medicine and Health Sciences*

Refractive surprise in post-cataract surgery in post Epi-LASIK patient: A lesson learnt

Md-Muziman-Syah, M.M. ,  
Mutalib, H.A. , Khairidzan, M.K.  
(2020) *IIUM Medical Journal  
Malaysia*

Accuracy of contact lens method by spherical and aspheric rigid gas permeable lenses on corneal power determination in normal eyes | Ketepatan kaedah kanta sentuh dengan kanta sfera dan asferik gas tegar boleh telap ke atas penentuan daya kornea pada mata normal

Md Mustafa, M.M.S. , Mutalib, H.A. , Halim, N.A.B.  
(2020) *Sains Malaysiana*

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New Scheimpflug camera device in measuring corneal power changes after myopic laser refractive surgery

Lanza, M. , Iaccarino, S. ,  
Cennamo, M.  
(2015) *Contact Lens and Anterior  
Eye*

Intraocular lens power calculation following laser refractive surgery

Hodge, C. , McAlinden, C. ,  
Lawless, M.  
(2015) *Eye and Vision*

Clinical Validation of Adjusted Corneal Power in Patients with Previous Myopic Lasik Surgery

Camps, V.J. , Piñero, D.P. , Mateo, V.  
(2015) *Journal of Ophthalmology*

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difference: 0.00 D,  $p=0.964$ ). Eighty eight percent ( $n=82$  eyes) of the CLM<sub>mod</sub> results were within  $\pm 0.50$  D of HM results with improvement of 31% from the standard CLM results. Conclusion: The CLM<sub>mod</sub> equation provides more accurate calculation in determining post myopic laser refractive surgery corneal power. In near future, this modified equation can be used as an alternative equation to calculate postoperative corneal power when the preoperative data is unavailable.

## Author keywords

Biometry post LASIK; Contact lens method; Contact lens modified method; Equation; Myopic laser refractive surgery

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## References (21)

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- ☐

1 Savini, G., Hoffer, K.J., Carbonelli, M., Barboni, P.

**Intraocular lens power calculation after myopic excimer laser surgery: Clinical comparison of published methods**

(2010) *Journal of Cataract and Refractive Surgery*, 36 (9), pp. 1455-1465. Cited 42 times.  
doi: 10.1016/j.jcrs.2010.02.029

[View at Publisher](#)
- ☐

2 Buratto, L., Slade, S., Tavalato, M.

(2012) *LASIK the evolution of refractive surgery*. Cited 4 times.  
2nd ed. USA: SLACK Incorporation
- ☐

3 Tang, M., Chen, A., Li, Y., Huang, D.

**Corneal power measurement with Fourier-domain optical coherence tomography**

(2010) *Journal of Cataract and Refractive Surgery*, 36 (12), pp. 2115-2122. Cited 86 times.  
doi: 10.1016/j.jcrs.2010.07.018

[View at Publisher](#)
- ☐

4 Aramberri, J.

**Intraocular lens power calculation after corneal refractive surgery: Double-K method**

(2003) *Journal of Cataract and Refractive Surgery*, 29 (11), pp. 2063-2068. Cited 266 times.  
[www.elsevier.com/locate/jcrs](http://www.elsevier.com/locate/jcrs)  
doi: 10.1016/S0886-3350(03)00957-X

[View at Publisher](#)
- ☐

5 Mesa-Gutierrez, J.C., Rouras-Lopez, A., Cabiro-Badimon, I.

**Intraocular lens power calculation after myopic excimer laser surgery with no previous data**

(2011) *J Emmetropia*, 2, pp. 97-102. Cited 2 times.

- 
- ☐ 6 Jin, H., Auffarth, G.U., Guo, H., Zhao, P.  
Corneal power estimation for intraocular lens power calculation after corneal laser refractive surgery in Chinese eyes  
(2012) *Journal of Cataract and Refractive Surgery*, 38 (10), pp. 1749-1757. Cited 23 times.  
doi: 10.1016/j.jcrs.2012.06.048  
[View at Publisher](#)
- 
- ☐ 7 Yang, R., Yeh, A., George, M.R., Rahman, M., Boerman, H., Wang, M.  
Comparison of intraocular lens power calculation methods after myopic laser refractive surgery without previous refractive surgery data  
(2013) *Journal of Cataract and Refractive Surgery*, 39 (9), pp. 1327-1335. Cited 41 times.  
doi: 10.1016/j.jcrs.2013.03.032  
[View at Publisher](#)
- 
- ☐ 8 Potvin, R., Hill, W.  
New algorithm for intraocular lens power calculations after myopic laser in situ keratomileusis based on rotating Scheimpflug camera data  
(2015) *Journal of Cataract and Refractive Surgery*, 41 (2), pp. 339-347. Cited 48 times.  
<https://journals.lww.com/jcrs/pages/default.aspx>  
doi: 10.1016/j.jcrs.2014.05.040  
[View at Publisher](#)
- 
- ☐ 9 Haigis, W.  
Intraocular lens calculation after refractive surgery for myopia: Haigis-L formula  
(2008) *Journal of Cataract and Refractive Surgery*, 34 (10), pp. 1658-1663. Cited 175 times.  
doi: 10.1016/j.jcrs.2008.06.029  
[View at Publisher](#)
- 
- ☐ 10 Arce, C.G., Soriano, E.S., Weisenthal, R.W., Hamilton, S.M., Rocha, K.M., Alzamora, J.B., Maidana, E.J., (...), Campos, M.  
Calculation of intraocular lens power using Orbscan II quantitative area topography after corneal refractive surgery  
(2009) *Journal of Refractive Surgery*, 25 (12), pp. 1061-1074. Cited 18 times.  
<http://www.journalofrefrativesurgery.com/showPdf.asp?thing=51438>  
doi: 10.3928/1081597X-20091117-05  
[View at Publisher](#)
- 
- ☐ 11 Joslin, C.E., Koster, J., Tu, E.Y.  
Contact lens overrefraction variability in corneal power estimation after refractive surgery  
(2005) *Journal of Cataract and Refractive Surgery*, 31 (12), pp. 2287-2292. Cited 9 times.  
doi: 10.1016/j.jcrs.2005.06.049  
[View at Publisher](#)
-

- 
- ☐ 12 Zeh, W.G., Koch, D.D.  
Comparison of contact lens overrefraction and standard keratometry for measuring corneal curvature in eyes with lenticular opacity  
(1999) *Journal of Cataract and Refractive Surgery*, 25 (7), pp. 898-903. Cited 72 times.  
doi: 10.1016/S0886-3350(99)00088-7  
[View at Publisher](#)
- 
- ☐ 13 Kim, J.-H., Lee, D.-H., Joo, C.-K.  
Measuring corneal power for intraocular lens power calculation after refractive surgery: Comparison of methods  
(2002) *Journal of Cataract and Refractive Surgery*, 28 (11), pp. 1932-1938. Cited 44 times.  
doi: 10.1016/S0886-3350(02)01438-4  
[View at Publisher](#)
- 
- ☐ 14 Taheri, S.M.R., Kheiltash, A., Hashemi, H.  
Comparison of corneal power and intraocular lens power calculation methods after LASIK for myopia  
(2009) *Iranian Journal of Ophthalmology*, 21 (4), pp. 45-54. Cited 3 times.  
[http://www.irjo.org/browse.php?a\\_code=A-10-11-112&slc\\_lang=en&sid=1&ftxt=1](http://www.irjo.org/browse.php?a_code=A-10-11-112&slc_lang=en&sid=1&ftxt=1)
- 
- ☐ 15 Haigis, W.  
Corneal power after refractive surgery for myopia: Contact lens method  
(2003) *Journal of Cataract and Refractive Surgery*, 29 (7), pp. 1397-1411. Cited 66 times.  
[www.elsevier.com/locate/jcrs](http://www.elsevier.com/locate/jcrs)  
doi: 10.1016/S0886-3350(02)02044-8  
[View at Publisher](#)
- 
- ☐ 16 Qazi, M.A., Cua, I.Y., Roberts, C.J., Pepose, J.S.  
Determining corneal power using Orbscan II videokeratography for intraocular lens calculation after excimer laser surgery for myopia ([Open Access](#))  
(2007) *Journal of Cataract and Refractive Surgery*, 33 (1), pp. 21-30. Cited 56 times.  
doi: 10.1016/j.jcrs.2006.08.026  
[View at Publisher](#)
- 
- ☐ 17 Hamed, A.M., Wang, L., Misra, M., Koch, D.D.  
A comparative analysis of five methods of determining corneal refractive power in eyes that have undergone myopic laser in situ keratomileusis  
(2002) *Ophthalmology*, 109 (4), pp. 651-658. Cited 141 times.  
doi: 10.1016/S0161-6420(01)01001-6  
[View at Publisher](#)
-

- 18 Shammass, H.J., Shammass, M.C., Garabet, A., Kim, J.H., Shammass, A., Labree, L.  
Correcting the corneal power measurements for intraocular lens power calculations after myopic laser in situ keratomileusis  
(2003) *American Journal of Ophthalmology*, 136 (3), pp. 426-432. Cited 135 times.  
[www.elsevier.com/locate/ajo](http://www.elsevier.com/locate/ajo)  
doi: 10.1016/S0002-9394(03)00275-7  
View at Publisher
- 

- 19 Wang, L., Booth, M.A., Koch, D.D., Rapuano, C.J., Koch, D.  
Comparison of intraocular lens power calculation methods in eyes that have undergone laser-assisted in-situ keratomileusis  
(2004) *Transactions of the American Ophthalmological Society*, 102, pp. 189-197. Cited 27 times.  
[http://www.aosonline.org/xactions/2004/1545-6110\\_v102\\_p189.pdf](http://www.aosonline.org/xactions/2004/1545-6110_v102_p189.pdf)
- 

- 20 Awwad, S.T., Manasseh, C., Bowman, R.W., Cavanagh, H.D., Verity, S., Mootha, V., McCulley, J.P.  
Intraocular lens power calculation after myopic laser in situ keratomileusis: Estimating the corneal refractive power  
(2008) *Journal of Cataract and Refractive Surgery*, 34 (7), pp. 1070-1076. Cited 41 times.  
doi: 10.1016/j.jcrs.2008.03.020  
View at Publisher
- 

- 21 Razmju, H., Rezaei, L., Nasrollahi, K., Fesharaki, H., Attarzadeh, H., Footami, F.J.  
IOLMaster versus manual keratometry after photorefractive keratectomy  
(2011) *Journal of Ophthalmic and Vision Research*, 6 (3), pp. 160-165. Cited 8 times.  
<http://www.jovr.ir/index.php/jovr/article/view/317/337>
- 

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