Moria



One Use-Plus by numbers



+2 million patients operated



+300,000 patients treated / year since last 3 years



+120,000 eyes followed in peer-reviewed protocols



+45 peer-reviewed published studies

Made in France

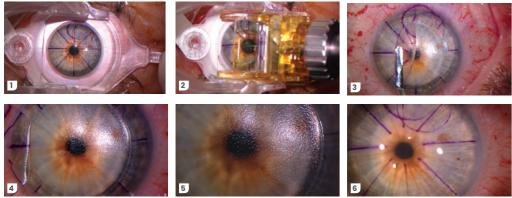
SBK WITHOUT COMPROMISE TO REACH ...

... HIGHLY-EXPECTED PATIENT SATISFACTION



Flap creation in less than 4 seconds for a minimal suction time, potentially preserving goblet cells¹

• with a full intraoperative visibility during the whole flap creation

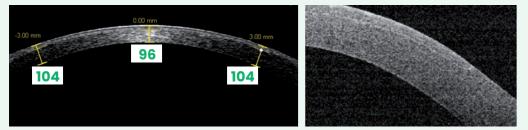


Sequence showing flap creation and lifting on a patient's right eye using Moria One Use-Plus SBK Courtesy of James S. Lewis, MD (Elkins Park, PA, USA)



Predictible thin sub-Bowman flaps centrally²⁻¹²

- ▶ with a high reproducibility between OD then OS^{2-4,8,12}
- ▶ with a planar profile/architecture throughout the whole flap surface⁵⁻⁷



Anterior segment OCT pictures of a nasal-hinged corneal flap profile created using Moria One Use-Plus SBK. Courtesy of James S. Lewis, MD (Elkins Park, PA, USA)

When using the SBK 90-µm calibrated head, mean central flap thickness is:

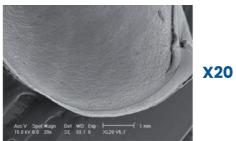
> at Speed 2 (fast motion): 100 ± 10 [80 - 120] microns ▶ at Speed 1 (slow motion): 110 ± 10 [90 - 130] microns

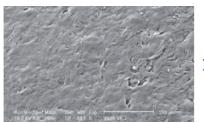


Excellent stromal surface smoothness for an accurate photoablation

▶ confirmed by Scanning Electron Microscopy¹³ > no « velcro-type » surface for a crystal clear anatomical flap apposition^{6,13-14}

Scanning Electron Microscopy pictures at different magnifications after cutting a flap with Moria One Use-Plus SBK with an intended flap thickness of 100 microns Courtesy of Richard J. Duffey, MD (Mobile, AL, USA)13







Excellent safety profile

intraoperatively

- no buttonhole, no incomplete flap, no epithelial erosion, no irregular stromal bed reported in a large-scale retrospective study on flat corneas (2883 eyes)¹⁴
- with very large flaps (>9.5 mm) required for high hyperopia and presbyopia corrections¹⁵

postoperatively

- no single flap displacement¹⁴, no haze nor energy-related DLK¹⁶
- one of the lowest incidence rate of epithelial ingrowth (0.49%) in a large-scale cohort study¹⁷
- one of the lowest myopic & hyperopic LASIK retreatment rates in large-scale cohort studies: < 0.5% & 4.6% respectively¹⁸⁻¹⁹



In terms of in-vivo confocal microscopy research comparing SBK to Femto-LASIK and other microkeratome⁶

- higher density of stromal keratocytes at 3 months postoperatively
- faster regenerative velocity of subbasal nerve fibers due to the nasal hinge which preserves more anatomically-placed corneal nerve branches.

X160

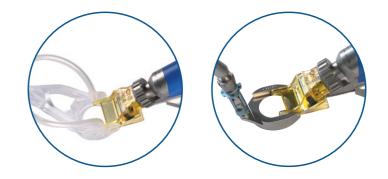
WHAT MAKES ONE USE-PLUS MICROKERATOME

the state-of-the-art in today's automated microkeratomes



Very fast visual recovery

- ▶ equivalent to Femto-LASIK^{1,11}
- providing a real « WoW » effect far awaited by every patient



Excellent ergonomics for a user-friendly automated microkeratome



Excellent quality of vision

- Imited changes of higher order aberrations (HOAs)^{9,20-22}
- and evenly less induction of total HOAs and spherical aberrations than during Femto-LASIK²³
- intraocular straylight measurements equivalent to Femto-LASIK²⁴
- negligible changes of higher order Point Spread Function (PSF) Strehl ratio, preserving an optimal retinal image quality²¹



Slit-lamp picture of a SBK flap at Day 1 postoperative: edges are almost invisible. Courtesy of Ahmed El-Massry (Alexandria, Egypt)



✓ Automated linear motion to benefit from nasal hinge^{3,7,10,12,17,19}

- Pre-assembled and one-handed usage possible
- Safety and reliability of two independent motors: one for head advancement, one for blade oscillation



- Wide range of suction rings to individualize flap geometry based on photoablative patterns: from oval-shaped to extra-large hyperopic treatments¹⁵ Adjustable stops for customized hinge length
- ✓ Design of suction ring makes the use of a speculum unnecessary on small fissures
- Translucent single-use plastic ring enables visual confirmation of suction



Unique choice of single-use calibrated cutting heads & suction rings & aspiration tubings Single-use means simplicity, safety, convenience, and ease-of-use:

- Protected blade to avoid potential damage
- ✓ Limits complications and risks linked to damaged or improperly maintained reusable heads
- ✓ Unique solution to limit infection and contamination from prions, virus, bacteria, germs and other microorganisms²⁵⁻²⁷



And as a bonus:

- Single-use heads and rings facilitate compliance with ASCRS guidelines which recommend not using flash sterilization
- ✓ Eliminates sterilization and maintenance
- ✓ Lower initial investment costs
- ✓ More rapid patient turnover, leading to greater efficiency

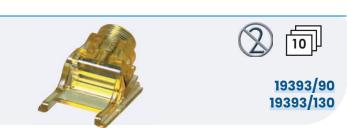
The most economical platform for SBK:

- Limited capital investment and cost per surgery
- Make your own comparisons between the One Use-Plus and a femtosecond laser in terms of capital investment, disposables per patient, and annual maintenance

PRODUCT REFERENCES

One Use-Plus handpiece

One Use-Plus - heads 90/130



19345

 One Use-Plus: metallic reusable suction rings
 19391/-1

 19391/-1
 19391/0

 19391/2
 19391/2

 19391/3
 19519/-1



	#19345	#22519514	#22519513	#19391/0	#19391/1	#19391/2	#19391/3
SETM	 ✓ 	1	1	-	-	-	-
SETM9	✓	✓	1	✓	1	1	1

#19345

SETM: ONE USE-PLUS Set

Set containing the One Use-*Plus* microkeratome for LASIK surgery:

• One Use-*Plus* handpiece:

storage box for One Use-Plus microkeratome: #22519514

sterilization box for One Use-Plus suction rings : #22519513

SETM9: ONE USE-PLUS Set (Metal Rings)

Set containing the One Use-*Plus* microkeratome for LASIK surgery with 4 reusable metallic suction rings:

#19345

- One Use-*Plus* handpiece:
- storage box for One Use-Plus microkeratome: #22519514
- sterilization box for One Use-Plus suction rings: #22519513
- One Use-Plus reusable suction ring, size 0: #19391/0
- One Use-Plus reusable suction ring, size +1: #19391/1
- One Use-Plus reusable suction ring, size +2: #19391/2
 - One Use-Plus reusable suction ring, size +3: #19391/3

BIBLIOGRAPHY

- Xu et al. Dry eye after Small Incision Lenticule Extraction and LASIK for myopia. J Refract Surg. 2014;30(3):186-190.
- Chen et al. Anterior segment optical coherence tomography measurement of flap thickness after myopic LASIK using the Moria One Use-*Plus* microkeratome. J Refract Surg. 2010;26(6):403-410.
- Lian et al. Correlation analysis and corneal flap thickness changes among Moria SBK, 90 and 110 microkeratome in LASIK. Chin Ophthalmic Res. 2010;28(12):1158–1161.
- Du et al. Flap thickness variation with 3 types of microkeratome heads. J Cataract Refract Surg. 2011;37(1):144–148.
- 5. Sun et al. Comparisons of morphologic characteristics between thin-flap LASIK and SBK. Int J Ophthalmol. **2012**;5(2):338-342.
- 6. Zhang et al. Confocal comparison of corneal nerve regeneration and keratocyte reaction between FS-LASIK, OUP-SBK, and conventional LASIK. Invest Ophthalmol Vis Sci. 2012;53:5536-5544.
- Zhai et al. Comparison of the flaps made by femtosecond laser and automated keratomes for Sub-Bowman Keratomileusis. Chin Med J. 2013;126(13):2440-2444.
- 8. Zhang et al. Comparison of corneal flap thickness using a FS200 femtosecond laser and a Moria SBK microkeratome. Int J Ophthalmol. 2014;7(2):273-277.
- 9. Al-Thomali TA. Reproducibility of flap thickness in Sub-Bowman Keratomileusis using a mechanical microkeratome.

J Cataract Refract Surg. 2014;40(11):1828-1833.

- Mimouni et al. Factors affecting laser in situ keratomileusis flap thickness: comparison of 2 microkeratome heads. J Cataract Refract Surg. 2015; 41(2):348-353.
- Xu et al. The impact of flap creation methods for Sub-Bowman's Keratomileusis (SBK) on the central thickness of Bowman's layer. PLoS ONE 2015;10(5):e0124996.
- Katz et al. Flap-induced astigmatism in eyes with sphere myopia correction: superior hinge using a rotating microkeratome versus nasal hinge using a linear microkeratome.
 L Cataract Petract Surg. 2015:41(6):1160-1167
 - J Cataract Refract Surg. 2015;41(6):1160-1167.
- 13. Duffey RJ. Moria One Use-Plus SBK microkeratome: predictably thin, smooth, planar flaps for faster visual recovery. Paper presented during the 26th annual meeting of European Society of Cataract and Refractive Surgery; Sept 13-17, 2008; Berlin, Germany.

- Falcon et al. Safety of the automated microkeratome for Sub-Bowman's Keratomileusis on the flat cornea. French J Ophthalmol. 2016;39(2):202-209.
- **15. Gauthier-Fournet et al.** Six-month outcomes after high hyperopia correction using Laser-Assisted In Situ Keratomileusis with a large ablation zone. Cornea **2019**;38(9):1147-1153.
- 16. Kasetsuwan et al. Comparison of performances of femtosecond laser and microkeratome for thin-flap Laser In Situ Keratomileusis. Lasers Surg Med. 2016;48(6):596-601.
- Friehmann et al. Risk factors for epithelial ingrowth following microkeratome-assisted LASIK. J Refract Surg. 2018;34(2):100-105.
- Pokroy et al. Myopic laser in situ keratomileusis retreatment: incidence and associations. J Cataract Refract Surg. 2016;42(10):1408-1414.
- Mimouni et al. Risk factors for re-treatment following hyperopic LASIK. J Refract Surg. 2018;34(5):316-320.
- 20. Hassanin et al. Changes in corneal wavefront aberrations and asphericity following optimized LASIK ablation in moderate to highly myopic eyes. J Applied Sci Res. 2013;9(3):2404-2410.
- McAlinden et al. Comparison of Higher Order Aberrations after LASIK and LASEK for myopia. J Refract Surg. 2010;26(1):45-51.
- 22. McAlinden et al. The change in internal aberrations following myopic corneal laser refractive surgery. Graefes Arch Clin Exp Ophthalmol. 2011;249(5):775-781.
- Malhotra et al. Higher Order Aberrations and visual outcomes in Wavefront-Optimized Sub-Bowman Keratomileusis: flap creation using femtosecond laser versus mechanical microkeratome. Asia Pac J Ophthalmol. 2015;4(4):197-203.
- Wang et al. Intraocular straylight after thin-flap LASIK with a femtosecond laser versus a mechanical microkeratome. J Refract Surg. 2013;29(8):534–539.
- Orrù et al. Prion seeds distribute throughout the eyes of sporadic Creutzfeldt-Jakob disease patients. mBio 2018;9:e02095-18.
- 26. Chen et al. Ocular manifestations of a hospitalised patient with confirmed 2019 novel coronavirus disease. Br J Ophthalmol. 2020;104(6):748-751.
- **27. Kumar et al.** Presence of viral RNA of SARS-CoV-2 in conjunctival swab specimens of COVID-19 patients. Indian J Ophthalmol. **2020**;68(6):1015-1017.



27, rue du Pied de Fourche 03160 Bourbon L'Archambault FRANCE Phone: +33 (0)1 46 74 46 74 Fax: +33 (0)1 46 74 46 00 moria@moria-int.com www.moria-surgical.com MORIA Inc 1050 Cross Keys Drive

Doylestown, PA 18902 USA Phone: (800) 441 1314

Fax: +1 (215) 230 7670 orders@moriausa.com www.moria-surgical.com



Moria Japan K.K. Arcadia Building 6F 1-12-3 Kanda SudachoChiyoda-Ku Tokyo 101-0041 JAPAN Phone: 81-3-6260-8309 Fax: 81-3-6260-8310 moria@moriajapan.com www.moriajapan.com

Moria COMMERCIAL (CHINA) CO., LTD.

上海目利亚贸易有限公司 Room H & Koili Building NO.432 West Huai Hai Road, Changning district, Shanghai, 200052, P.R.C 中国上海市长宁区淮海西路432号 凯利大厦6楼08室 Phone/Fax:+86 021 52586095 moriaching@moria-int.com