

(Titanium Macular Buckle)

MYOPIA SUPPORT DEVICE (TITANIUM MACULAR BUCKLE) FOR POSTERIOR

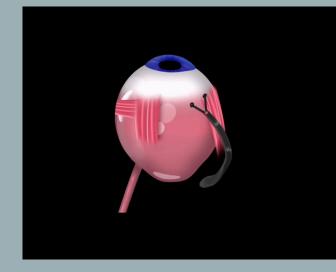
POLE RETINAL DETACHMENT WITH OR WITHOUT MYOPIC MACULOSCHISIS



Levent Akduman, MD, FASRS akduman@macularbuckle.com

Akduman L^{1,2,3}, Ozdek S⁴, Ermis S⁵, Ozdemir-Zeydanli E⁶ Artunay O⁷

¹EyeCare Partners, St. Louis, MO, USA, ²The Retina Center, St. Louis, MO, USA, ³Saint Louis University, St. Louis, MO, USA, ⁴Gazi University department of Ophthalmology, Ankara, Turkey ⁵University of Health sciences, Department of Ophthalmology, Basaksehir City Hospital, Istanbul, Turkey, ⁶Ankara Retina Clinic, Ankara, Turkey, ⁷University of Health sciences, Department of Ophthalmology Beyoglu Eye Research Hospital, Istanbul, Turkey



Financial Disclosure

Akduman L: AbbVie: Speaker Bureau Member; LA Eye, LLC: CEO and Founder, holds the intellectual property rights, patented product. Ozdek S: Novartis: Consultant and Speaker Bureau Member; Bayer: Consultant and Speaker Bureau Member; Allergan: Consultant and Speaker Bureau Member; Roche: Consultant and Speaker Bureau Member Ermis S: None Artunay O: None

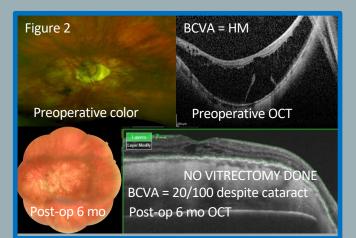
Human Research Disclosure:

This study did not require an IRB. Informed consent was obtained from the patients **Objective:** This study aims to present two cases of posterior pole retinal detachment in patients with pathologic myopia who underwent myopia support device-assisted repair (see Figure 1).

Methods: We present two cases of posterior pole retinal detachment, one of which also had myopic maculoschisis, in patients with pathologic myopia (see Figure 2). We recorded preoperative and postoperative best corrected visual acuity, OCT findings, and axial lengths. The surgical procedure involved pars plana vitrectomy with the placement of the myopia support device in one patient, while the other patient underwent placement of the myopia support device without vitrectomy.

Results: Successful repair of posterior retinal detachment was achieved in both cases, with complete resolution of maculoschisis in the case with additional pathology. The myopia support device effectively provided the desired indentation, assisting in or completely repairing the posterior retinal detachment. Follow-up periods were 8 months for one case and 6 months for the case with additional maculoschisis pathology. The surgical procedure was found to be easy and predictable.

Conclusion: The myopia support device is a valuable addition to the surgical procedure involving vitrectomy, as well as a standalone procedure, for repairing posterior pole retinal detachments with or without myopic maculoschisis in patients with pathologic myopia.





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his device was the winner of 2022 Winning Pitch Challenge by ASRS.

This study was submitted to JVRD for publication

References:

Akduman L. A Titanium Macular Buckle Implant Designed for an Easy Placement in Myopic Macular Holes. Retin Cases Brief Rep 2022 Aug 25 doi: 10.1097/IC5.00000000001349. Online abord of priot."

SURGERY INSTRUCITONS

BASIC SURGICAL TECHNIQUE

Scan the QR code or visit macularbuckle.com/re/tmb-placement.html for a surgical technique video













1.Titanium Scleral Buckle (TSB) and schematic placement of the implant on the eye.

- .Place 5/0 Mersilene in the superotemporal (ST) quadrant 15-20 mm from the limbus.
 - Perform a peritomy at the limbus, centering the superotemporal quadrant for 180 degrees.
 - Bluntly and thoroughly dissect the Tenon's in the superotemporal quadrant to create a relaxed space extending all the way to the retrobulbar area.
 - Place a 5/0 mersilene double-arm mattress suture at a 90-degree angle to the limbus, precisely in the middle of the superotemporal quadrant. The anterior bite should be 15-20 mm away from the limbus, with 5 mm apart bites, deep enough in the sclera (about 2/3 of the scleral thickness). Aim for a bite length of approximately 3-4 mm.
 - Insert a trocar (a valved trocar is recommended) into the pars plana of an easily accessible quadrant of choice, preferably superonasal or inferonasal.

3.Reduce IOP. Perform a paracentesis with a side-port blade to empty the anterior chamber almost completely, ensuring sufficient hypotony. 4.Tightly suture implant. Insert the implant through the preplaced Mersilene and gently push it as posteriorly as possible until you encounter some resistance. At that point, securely tie the Mersilene to fixate the body of the implant.

5. Adjust placement of TSB. Insert a light pipe (a chandelier light source is recommended) into the preplaced nasal valved trocar. Use a wide-angle operating microscope (e.g., BIOM, Resight, or EIBOS) to visualize whether the implant indents the desired area. If necessary, make fine adjustments by manipulating it through the anterior horns.

6.Fixate arm to the adjusted position. Finally, fixate the implant in the adjusted position by placing additional suture(s) in one or more of the three holes in its anterior section.

SUGGESTED ADJUSTMENTS FOR APPROXIMATING TO THE DESIRED POSTOPERATIVE RESULTANT AXIAL LENGTH (STRETCH THE IMPLANT BODY TO ADJUST – DO NOT BEND THE HORNS WITH THE HOLES)

The postoperative axial length may vary depending on the tightness of the surgical suture and the individual technique employed by the surgeon.

The implant in the original packaging has an End-to-End distance of 21.5 mm, which is estimated to provide a target post-operative axial length of 25 ± 1 mm, regardless of the pre-operative axial length (refer to the image on the left).

In cases where the desired final axial length differs from this target, especially when a significant reduction in axial length may adversely affect postoperative refraction (e.g., pseudophakic eyes), a lesser indentation, such as shortening the axial length by 2 mm with the implant, is likely to achieve the desired improvement in macular pathology. To determine the recommended modification for the End-to-End distance in such situations, please refer to the table below (see below), irrespective of the pre-operative axial length.

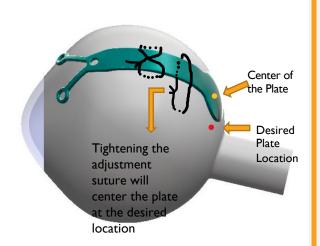


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End-to-End Distance = 25.0 mm

TABLE:	
Desired	Recommended
Postoperative Axial	End-to-End
Length (mm)	Distance (mm)
Regardless of the	
preoperative axial	
length.	
25 ± 1	22.00
26 ± 1	22.50
27 ± 1	22.75
28 ± 1	23.25
29 ± 1	23.75
30 ± 1	24.25
31 ± 1	24.50
32 ± 1	25.00
33 ± 1	25.25
34 ± 1	25.50
35 ± 1	25.75
36 ± 1	26.00
37 ± 1	26.25
38 ± 1	26.50

SUGGESTED TECHNIQUE FOR FURTHER ADJUSTING THE PLATE LOCATION IF DESIRED





Scan the QR code or visit <u>macularbuckle.com/re/tmb-placement</u> for a 40-second surgical technique video MYOPIA SUPPORT DEVICE (TITANIUM MACULAR BUCKLE) FOR POSTERIOR POLE RETINAL DETACHMENT WITH OR WITHOUT MYOPIC MACULOSCHISIS



Myopia Support Device (Titanium Macular Buckle) Conclusion: The myopia support device is a valuable addition to the surgical procedure involving vitrectomy, as well as a standalone procedure, for repairing posterior pole retinal detachments with or without myopic maculoschisis in patients with pathologic myopia.