



THE BEST OF EYETUBE 2018



The authors share their top 10 surgical retina videos and explain why each one is worthy of a look.

BY DAVID XU, MD; AND MICHAEL A. KLUFAS, MD

Eyetube.net is the place to go for high-quality, narrated ophthalmic surgical videos, and there's a channel especially for those in the retina subspecialty. Some videos show surgical successes, others document complications, and still others offer close looks at new techniques. No matter what the content, there's something to be learned from each video.

For retina specialists, time is a valuable and limited commodity, and we don't always have enough of it to keep current with all the journals, trade publications, and other resources. To relieve you of one more thing to catch up on, we have chosen our 10 favorite surgical retina Eyetube videos from 2018. Note that we did not use an official system to rate or choose these videos. We simply picked those we felt would be of the most value or the greatest interest to the largest number of our retina colleagues. We also included our own comments on some of the techniques demonstrated. You can do the same, if you wish, in the comments sections on Eyetube under each video.

Before we get into our video selections, we take a moment to acknowledge all of the surgeons who have submitted videos to Eyetube this year. Your contributions are much appreciated, and they serve as valuable resources for other retina specialists.



27- Gauge Dissection of Tractional Retinal Detachment Membranes

Diabetic tractional retinal detachments (RDs) can be some of the most difficult cases for vitreoretinal surgeons in training and experienced attending surgeons alike.

Maria H. Berrocal, MD, is one of the best diabetic vitrectomy surgeons, and she always makes the procedure look easy.



bit.ly/Berrocal1118

Although 27-gauge vitrectomy may not be the right option for every patient with diabetes, and preoperative anti-VEGF therapy has minimized the risk of intraoperative bleeding during diabetic vitrectomy, gauge selection can be critical. A surgical technique that reduces iatrogenic breaks is an important pillar of efficient diabetic RD repair.

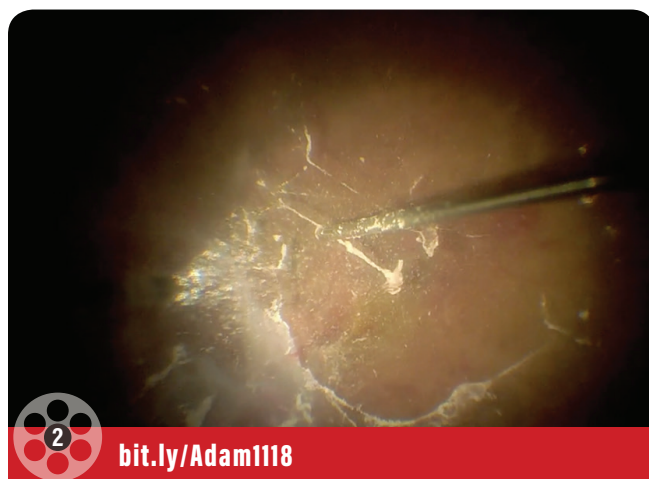
Dr. Berrocal's video highlights how the size of the 27-gauge cutter enables access to tightly adherent membranes and how the fluidics of today's systems allow the cutter to remain close to the retina while potentially decreasing the risk of new retinal breaks. If you always use a lighted pick or curved scissors, put them down and try a 27-gauge cutter next time. We think you'll be pleasantly surprised.



Hybrid Vitrectomy

Continuing with the theme of diabetic surgery, a good way to introduce the 27-gauge cutter into a procedure in a patient with diabetes is to start with 23- or 25-gauge vitrectomy; 25-gauge is used in this video by

Murtaza Adam, MD. Once you have performed the initial vitrectomy and hyaloid separation, a standalone 27-gauge cutter



can be used to segment and delaminate membranes. This is known as hybrid vitrectomy. Dr. Adam's use of the 27-gauge cutter enabled near complete dissection of an extensive diabetic tractional detachment over a mobile retina in some areas, without the creation of iatrogenic retinal breaks. It looks like Dr. Adam took some hints from Dr. Berrocal that led to his success in this case. Additionally, his use of triamcinolone helps to confirm that the hyaloid has been removed and that his dissection proceeded in the correct plane.



Secondary Three-Piece IOL Fixation

At retina conferences it's not uncommon to hear great debate among surgeons regarding the best approach to secondary IOL placement. Increasingly there has been a focus on scleral fixation of IOLs. Although there

is nothing wrong with placement of an anterior chamber lens, retina and anterior segment surgeons often need techniques to help them fixate an IOL posteriorly when clinically indicated.

This video by Aris Thanos, MD, highlights a modified Yamane technique in which 25-gauge vitrectomy cannulas



are used to create sclerotomies for externalization of a scleral-fixated IOL. In this case, Dr. Thanos uses the CT Lucia 602 IOL (Zeiss), pointing out that its haptics, made of polyvinylidene fluoride, are stronger and tolerate externalization better than some more widely used three-piece lenses.



Gore-Tex Suturing

Another popular approach to fixation of a posterior chamber IOL involves the use of nonabsorbable PTFE monofilament sutures (Gore-Tex, W.L. Gore). Although use of this technique with the Akreos AO60 IOL (Bausch + Lomb) is popular, that lens can become opacified due to use of intraocular air/gas or inflammation. This opacification can be mitigated with the use instead of the hydrophobic MX60 IOL (Bausch + Lomb), as implanted in this video by Ferhina Ali, MD, and Dr. Klufas.

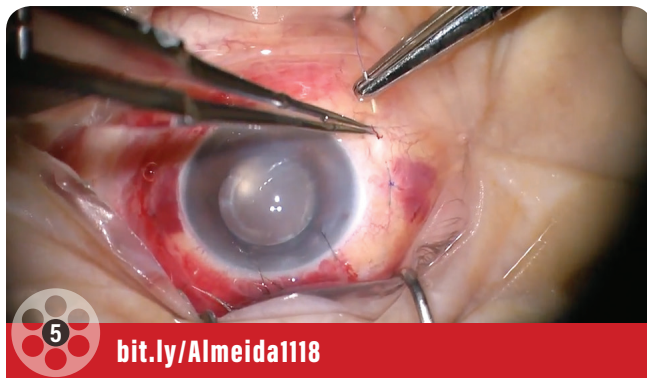


At first Dr. Klufas was skeptical about the stability of the MX60, given its different design, but he reports that he has had great results with it. In fact, this is now his go-to technique for posterior fixation of an IOL. If a patient develops a macular hole or RD after MX60 placement, gas tamponade can be placed without worry regarding opacification of the IOL.



Surgical Management of Endophthalmitis

In this video, David Almeida, MD, MBA, PhD, presents a case of vitrectomy for infectious endophthalmitis. Typically, the goal of vitrectomy in endophthalmitis is to debride the inflammatory material, perform a limited vitrectomy, and administer intravitreal anti-infective agents. The elegant technique he shows here includes placing a cannula through clear cornea for infusion into the anterior chamber. There is almost always an inflammatory hypopyon and fibrin membrane over the IOL in these cases. Typically, we remove the anterior membrane with MaxGrip forceps (Alcon), but Dr. Almeida shows that this can be accomplished just as well using the vitreous cutter, which is a more cost-effective

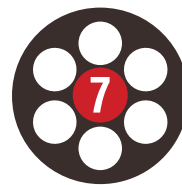
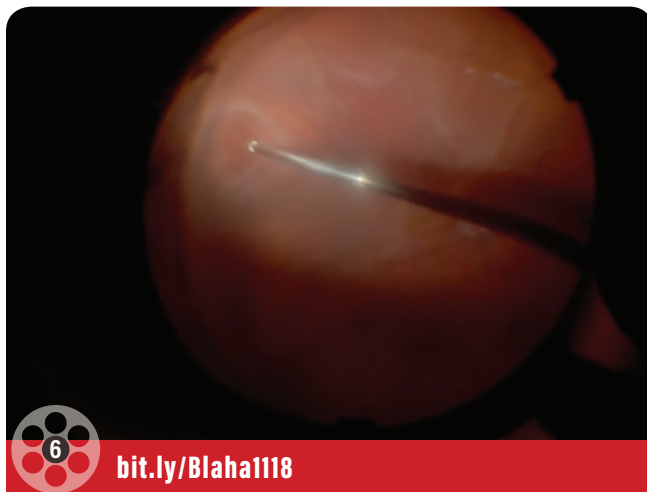


approach. Removing the anterior segment hypopyon and fibrin membrane also allows safer posterior vitrectomy, as the view to the back is improved after the anterior segment is cleared.



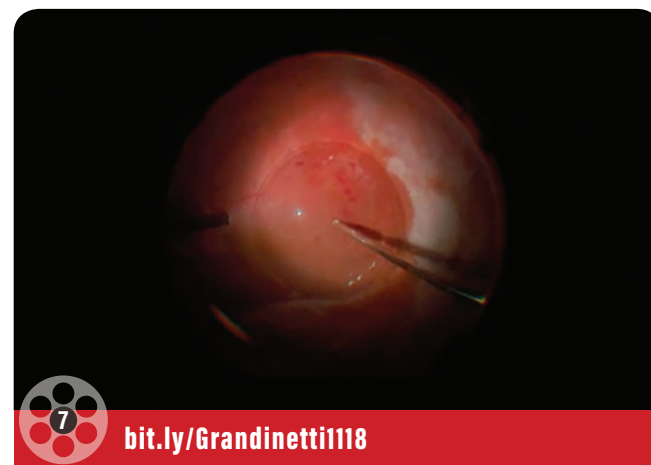
Vitrectomy Repair of Schisis-Related RD With PVR and Bimanual Forceps

Retinoschisis-related RDs are notoriously difficult and do not fit exactly into traditional vitrectomy or buckling techniques. In this video, Gregory Blaha, MD, PhD, performs a vitrectomy in such a case using the Ngenuity 3D Visualization System (Alcon). He points out that, although the hyaloid is down, it is relatively easily elevated with the vitreous cutter. Dr. Blaha observes that there are remaining inferior epiretinal membranes, versus vitreoschisis, which he removes using a bimanual technique with chandelier illumination. Removing these membranes over detached retina can be tricky, given that there is no countertraction; removal is aided by use of a bimanual technique. Another option would be to place perfluorocarbon liquid to tamponade the posterior retina and provide countertraction. The need for the chandelier could also be avoided with use of a functional lighted instrument.



Acute Retinal Necrosis RD

What's worse than a schisis-related RD? Might we suggest an RD secondary to acute retinal necrosis? Extensive retinal necrosis with posterior involvement or infiltration of the nerve will end with a poor visual outcome, even with surgery. These detachments can also occur late, after the acute infection has been treated, if retinal breaks occur at the junction of healthy and unhealthy retina. It can be useful to send a vitreous sample for herpes simplex virus/varicella zoster virus polymerase chain reaction to determine whether the infection has been adequately treated at the time of pars plana vitrectomy.



In this video, Alexandre Grandinetti, MD, PhD, performs barricade laser to the areas of necrosis around nearly 360° with silicone oil tamponade. We advocate resection of the necrotic retina at the time of vitrectomy to prevent this tissue from contracting and resulting in anterior proliferative vitreoretinopathy. Placement of a scleral buckle is controversial in these types of cases. If the retinal necrosis spans 360°, the benefit may be uncertain; however, if there is only 2 to 3 clock hours of necrosis, then a scleral buckle may help support the vitreous base in these inflamed eyes, which are prone to proliferative vitreoretinopathy.



Heads-Up Suprachoroidal Buckle

A primary scleral buckle should be in every retina surgeon's armamentarium, even those with access to excellent vitrectomy systems and wide-angle viewing systems. Christopher D. Riemann, MD, admits in this video that scleral buckling has its limitations, as shown in this case of significant staphyloma of the sclera. Dr. Riemann performs a chandelier-assisted suprachoroidal scleral buckle, with sodium hyaluronate (Healon GV, Johnson & Johnson) delivered via an

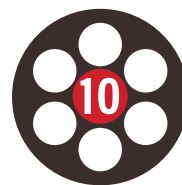


El Rayes Olive Tip Suprachoroidal Cannula (MedOne Surgical) under the area of the retinal break. Although some will say the Ngenuity Visualization System is not ideal for anterior segment procedures, the technique here is performed with excellent visualization. If you encounter significant scleromalacia during your next case scheduled for primary scleral buckle, will you try suprachoroidal buckling instead?



IOFB Removal in 3D

In this video, John Miller, MD, and Patrick Oellers, MD, show that the Ngenuity 3D Visualization System allows not only anterior segment work, but also lensectomy and complex RD repair. The surgeons remove an intraocular foreign body (IOFB) via a pars plana sclerotomy. Another option in this case would be to remove the IOFB through a corneal incision, given the initial laceration, but this could compromise the view needed to complete the RD repair; therefore, a pars plana incision was preferred. The shape and size of the IOFB can influence the type of instrument (eg, intraocular magnet, large forceps, retractable kidney stone basket) used to remove it from the posterior segment.

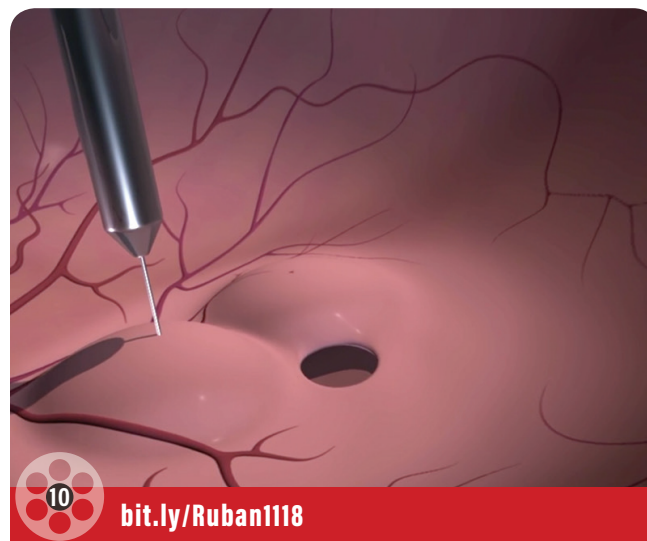


Hydraulic Centripetal Macular Displacement Technique

Patients and vitreoretinal surgeons typically feel better when a macular hole is surgically closed. The rate of successful hole closures approaches or exceeds 90% in

standard cases involving microincisional vitrectomy surgery, internal limiting membrane removal, and gas tamponade.

Andrii Ruban, MD, PhD, presents a series of traumatic macular holes with posterior pole chorioretinal scarring treated with subretinal injection of balanced salt solution to create a macular detachment and encourage closure of the macular hole. This technique can also be useful in nontraumatic cases in which closure was not achieved on the initial surgery with traditional techniques.



That concludes our roundup of the top 10 Eyetube videos of 2018. Submit your own video today—on Eyetube or Eyetube3D—and share your tips, tricks, and interesting cases with colleagues around the world. It's easy! Find out how at eyetube.net/other/submit.asp. ■

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