

# Laser Suture Lysis Through Thick Blebs Using the Blumenthal Lens

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**L**aser suture lysis is commonly performed after trabeculectomy and is titrated to control postoperative flow through the filter to a target intraocular pressure.<sup>1</sup> Originally, the flat edge of a Zeiss 4-mirror lens was used to compress the conjunctiva and Tenon capsule to view the sutures. The Hoskins lens designed for suture lysis improved the view and allowed eyelid elevation for better exposure. The Ritch suture lysis lens was designed to provide good compression and a reasonably wide field of view that helps in locating sutures.<sup>2</sup> Recently, the Blumenthal lens was introduced for suture lysis.

The Blumenthal lens (Volk Optical Inc, Mentor, Ohio) has a smaller, rounded-tip design that allows localized compression of tissues (**Figure 1**). We found that advantageous in improving suture visualization through thickened conjunctiva and Tenon layers. The Blumenthal lens was particularly useful in patients with encapsulated blebs and in black patients where a thick Tenon capsule limits suture visualization (**Figure 2**). The improved visibility with this lens allowed suture lysis in encapsulated blebs when treatment was not possible with other lenses (**Figure 3** and **Figure 4**).

The Blumenthal lens provides a reported image magnification of 2 to 3 times. It has an elevated rounded tip that allows excellent compression even in thick encapsulated blebs. Other suture lysis lenses have a less pointed surface and lower reported magnification (Hoskins, Mendelkorn, and Ritch lenses provide  $\times 1.2$ ,  $\times 1.32$ , and  $\times 1.0$ , respectively). The added magnification and rounded tip, however, provide a smaller field of view, making it more challenging to locate some sutures. Other lenses, such as the Ritch lens, provide a flatter contact surface and lower

magnification and thus a larger field of view.

In our experience, we have found the Blumenthal lens most effective for suture lysis through a thick Tenon capsule and in encapsulated blebs. This lens may be particularly useful in black patients where early encapsulation makes timely suture lysis more difficult to perform.

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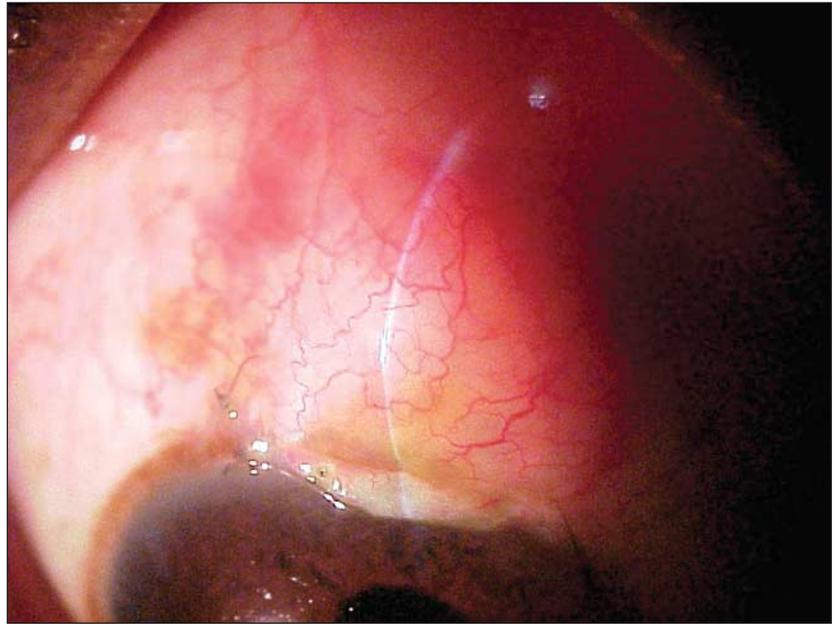
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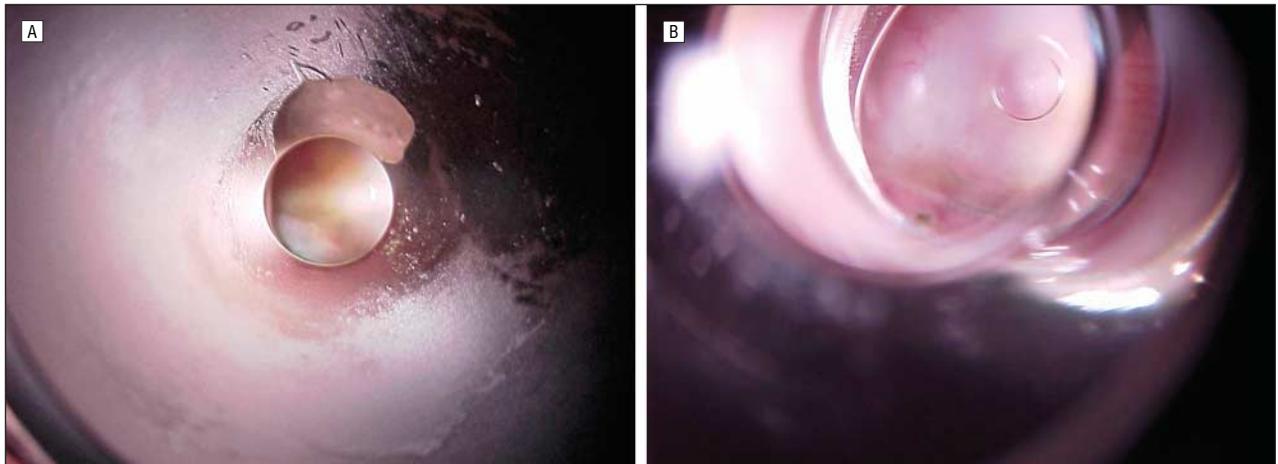
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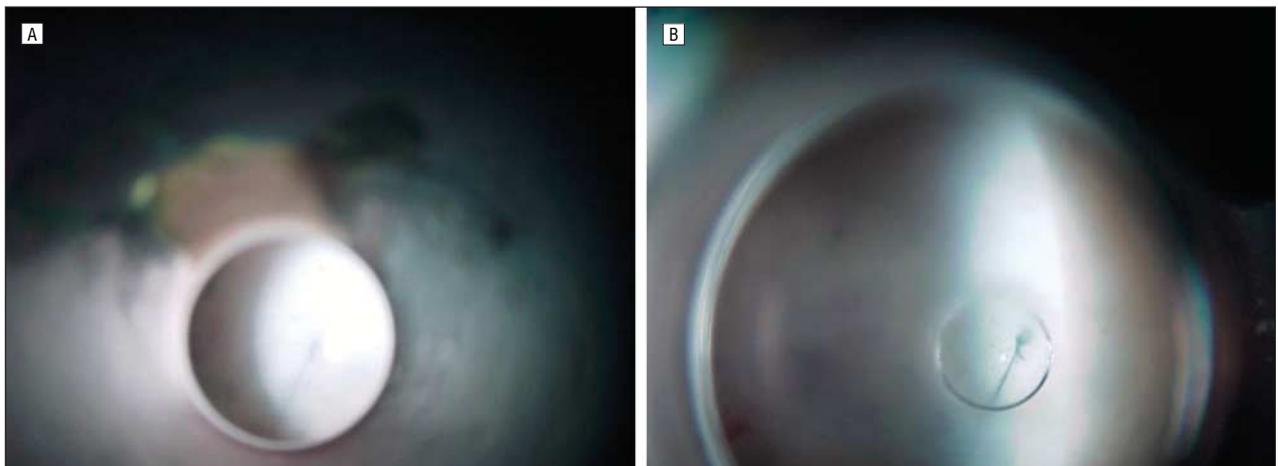
**Figure 1.** Blumenthal suture lysis lens with tip showing.



**Figure 2.** Encapsulated bleb with poor suture visibility.



**Figure 3.** View through a Ritch lens (A) and a Blumenthal lens (B). Suture is not visible (A) and barely apparent (B), allowing suture lysis through an encapsulated bleb.



**Figure 4.** Suture visibility through a Ritch lens (A) and a Blumenthal lens (B).