

# Purse String Sutures Alleviate Photophobia After Retinal Detachment Repair

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## ABSTRACT

A 64-year-old patient underwent a 360° peripheral retinal laser treatment combined with an anterior chamber lens implant to treat a case of retinal detachment. This procedure resulted in permanent mydriasis and photophobia. To mitigate the mydriasis, a purse string suture using 10-0 prolene was applied to the edge of the iris. This technique involves tightening a circular suture to reduce the size of the pupil. Postoperatively, the iris displayed a star-like shape due to the suturing. Despite this unusual appearance, the patient experienced a significant reduction in photophobia. This outcome indicates that the purse string suture method is an effective approach for alleviating photophobia in patients suffering from permanent mydriasis, regardless of the remnant pupillary shape. Any reduction of the pupillary area may help but the patients should be informed of possible unusual pupillary shape.

**Keywords:** purse-string suture, photophobia, mydriasis, retinal detachment repair

## INTRODUCTION

Retinal laser photocoagulation has been documented to cause internal ophthalmoplegia and permanent mydriasis in rare instances [1]. One consequence of permanent mydriasis is increased light sensitivity, which can significantly impact patients' lives [2].

Other possible side effects include reduced accommodative power of the crystalline lens and cosmetically disturbing asymmetric pupil size, voiced by patients, particularly at night; reduced or no response of pupil, and headache resulting in halos and glares of headlight, making it difficult to drive at night.

## CASE REPORT

A 64-year-old male patient with permanent mydriasis following retinal detachment repair with 360° peripheral retinal laser and an anterior chamber lens implant presented

with extreme photophobia. A purse string suture (10-0 prolene) was placed on the edge of the iris to reduce the mydriasis. Purse string sutures are used to close round post operative skin defects and result in a reduction in the size of the defect. [3] The postoperative appearance of the pupil is shown in the figure. Despite the pupil shape resembling a star in an unusual fashion, the patient's symptoms were significantly reduced, and he was satisfied with the results, including the shape of the pupil. This particular patient expressed his feelings as, "Now, I have a star pupil, and the light does not bother me. Cool!"

## CONCLUSION

Purse string suturing of the iris seems to be an effective way of reducing photophobia in cases of permanent mydriasis. Despite the resulting pupillary distortion, the reduction in the total pupil area is likely to significantly alleviate the patient's symptoms. However, the patient should be

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**Figure 1.** *Postoperative appearance of the pupil*

notified that the resulting pupil shape might be unusual and not round.

There are other alternatives for alleviating photophobia caused by permanent mydriasis. A simple, non-invasive option like dark tinted glasses reduces the amount of light entering the eyes, which can be helpful to patients suffering from photophobia. These are convenient, accessible, and cost-effective, but may not fully block light from all sides and might cause social awkwardness when worn indoors. Another option is peripherally painted contact lenses, which limits entry of light into the eye, while maintaining central vision clarity. These may be suitable for more activities where glasses are inappropriate and are more aesthetically pleasing, but may be prone to causing eye irritation and require daily maintenance. For those suffering from severe photophobia, a more invasive and permanent option such as iris painted anterior chamber intraocular lenses (IOLs) may be more appropriate. The implanted lenses are painted to mimic the iris, which reduces the amount of light entering the eye. However, painted anterior chamber IOLs are not FDA-approved and are significantly more costly.

One of the positive interventions for reducing photophobia has been placement of purse string sutures in iris near pupil edge. We present a case where purse string sutures resulted in an unusual star shaped pupil appearance, with reduced symptoms due to reduction in area of pupils. Any reduction of the pupillary area may help but the patients should be informed of possible unusual pupillary shape.

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None for all authors

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