

# A Novel Technique for the Removal of Anteriorly Migrated Dexamethasone Intravitreal Implant



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## Abstract

The migration of a dexamethasone intravitreal implant (Ozurdex) into the anterior chamber can cause corneal decompensation which may necessitate removal. The implant often fragments when forceps are used and standard vitrectomy instrumentation is suboptimal due to the small opening of the port relative to the size of the implant. We propose the use of a phacoemulsification hand piece for removal of the implant, which has a lumen large enough to assume the implant, infusion to maintain the depth of the anterior chamber, and the ability to emulsify the implant.

**Keywords:** Phacoemulsification; Dexamethasone; Implant; Migration

## Introduction

The Dexamethazone intravitreal implant [1] has been approved by the United States Food and Drug Administration for the treatment of macular edema associated with retinal vein occlusion, noninfectious uveitis involving the posterior segment, and diabetic macular edema. The implant is contraindicated in patients whose posterior lens capsule is torn or ruptured because of the risk of migration into the anterior chamber. However, laser capsulotomy in pseudophakic patients is not a contraindication [1]. The migration of the implant into the anterior chamber, especially if soon after its implantation, can cause corneal decompensation which may necessitate its removal [2,3]. Reported techniques for removal include the use of a vitrector, forceps, viscoelastic, or a Sheets glide [4,5]. However, the implant often fragments when forceps are used and standard vitrectomy instrumentation is often ineffective due to the small opening of the port relative to the size of the implant [3]. Others have reported successful relocation of the implant into the posterior segment with mydriatics and head positioning, external digital force, or manipulation with a needle in the clinic [6-8]. Nevertheless, the implant may still migrate into the anterior chamber yet again [9].

## Technique

The experimental surgical video provided demonstrates a beveled, clear corneal incision created with a 2.5 millimeter keratome blade in a porcine eye after inflation of the

chamber with viscoelastic. A phacoemulsification hand piece (CENTURION® Vision System, Alcon Laboratories, Inc. Fort Worth, TX) was then introduced into the anterior chamber and used on a high-vacuum setting to engage the implant on its long axis, allowing for efficient emulsification and aspiration.

## Discussion

We propose the use of a phacoemulsification handpiece for removal of the implant, which has a lumen large enough to assume the implant, infusion to maintain the depth of the anterior chamber, and the ability to emulsify the implant. The diameter of the Ozurdex implant is 0.46 millimeters, while the diameter of the opening of many phacoemulsification probes is 0.5-0.9 millimeters. This technique utilizes the procedures and instrumentation of cataract phacoemulsification that are familiar to all ophthalmologists.

## Declarations

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## Competing Interests

TA is a consultant for Allergan. AM has no relevant interests.

## Authors' contributions

Conception of project and preparation of manuscript - AM and TA.

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