



## Case Report

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# Novel Anterior Chamber Paracentesis Technique: Increasing the Yield and Decreasing the Risk

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## Introduction

Anterior chamber (AC) paracenteses are an extremely common procedure performed by ophthalmologists for numerous reasons but not limited to: Diagnostic yield for infectious studies for intraocular inflammation, acute therapeutic intraocular pressure management, volume control for pneumatic retinopexy or injection of multiple intravitreal medications [1,2]. While the procedure routinely performed without complication, one of the challenges of a successful paracentesis or 'tap' is maximizing volume to increase the likelihood of a positive result on diagnostic studies. This is especially important when multiple tests rely on the one sample collected. This challenge can be exacerbated by patient's phakic lens status, shallow anterior chambers, patient cooperation, patient positioning, and special consideration to avoid iatrogenic injury to intraocular structures as the anterior chamber shallows.

While an AC tap in a cooperative pseudophakic patient is relatively straightforward, in cases where a patient is younger and phakic, the ability to obtain maximal volume of aqueous in a sample can better aid in a diagnosis. The authors suggest a novel technique with readily available clinic supplies such as an Angiocath (Becton, Dickinson and Company; Franklin Lakes, New Jersey) IV catheter commonly used for intravenous blood retrieval to improve the safety profile of anterior chamber paracentesis.

## Technique

After a sterile standard povidone-iodine prep, a 26- or 24- gauge Angiocath type needle is used to create a beveled tunnel into the peripheral cornea, assisted with counter traction from 0.12 forceps at the limbus near the site of entry.

Once the needle tip and catheter are identified within the anterior chamber, it is held securely to prevent premature retraction, and the needle is retracted leaving the Angiocath in place. A 1 cc syringe can then be attached to the luer lock on the Angiocath, which is used for active aspiration of aqueous.

Once the AC has shallowed and sample collection is sufficiently complete, the catheter is removed from the self-sealing wound (Figure 1 and Figure 2).

## Discussion

Needle touch to the cornea and iris can cause complications such as Descemet detachment or hyphema, while lens touch can cause a traumatic cataract [1,2]. Using the polymer comprised Angiocath type catheter allows for sample collection in a controlled method, while avoiding the presence of a sharp needle in a shallowing anterior chamber.

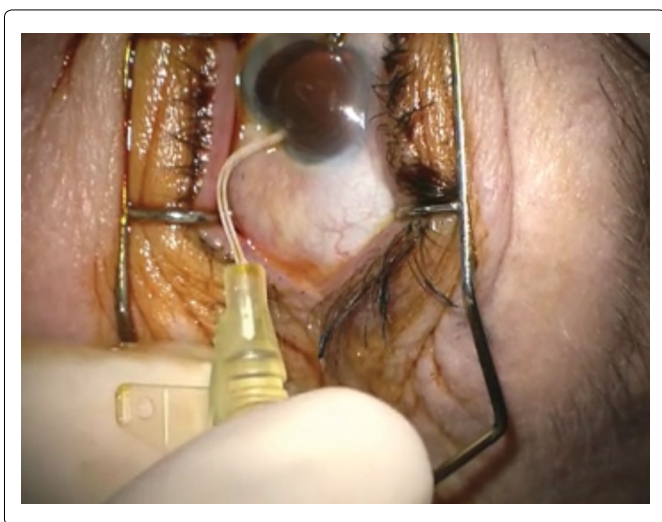
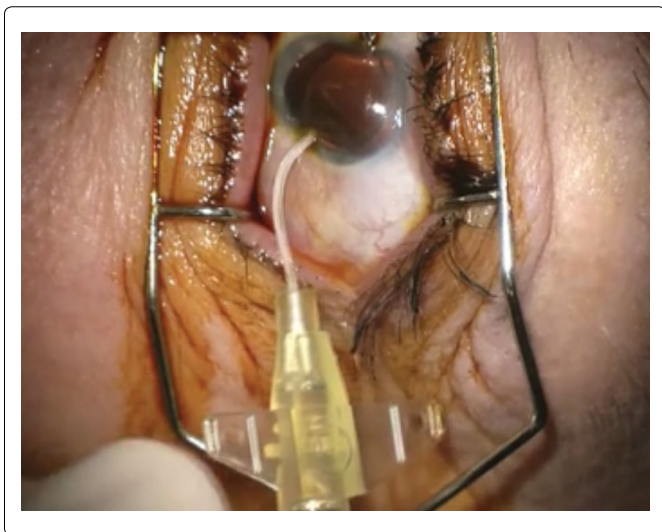
While not a replacement for all anterior chamber paracenteses, this novel technique is one to consider in patient-specific instances, especially unique cases that may be particularly challenging. We hope this is a valuable addition to the wide repertoire of techniques that an ophthalmologist keeps in their continually expanding toolbox.

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