

# Suprachoroidal Delivery with the SCS Microinjector<sup>®</sup>: Characterization of Operational Forces

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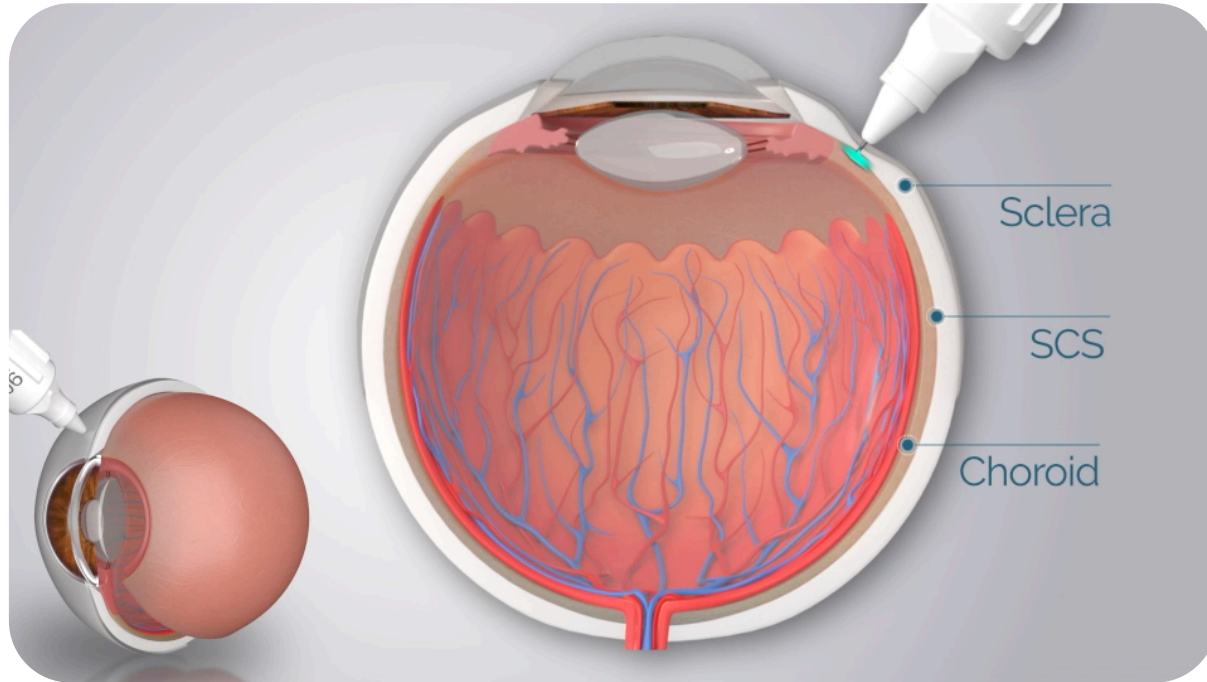
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# Financial Disclosures

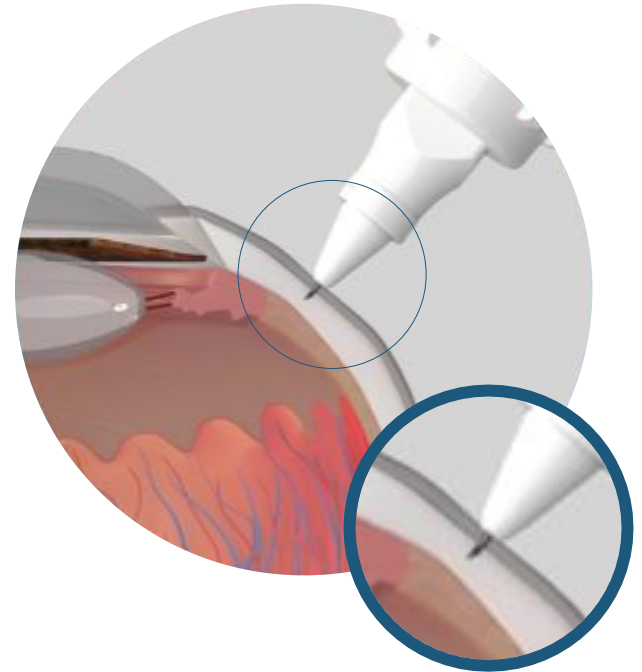
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# Suprachoroidal Injection with the SCS Microinjector<sup>®</sup>



# Background

- Tactile feedback of **Loss of Resistance (LOR)** is **critical for the procedure success**.
- **Any resistance** from operation of the device **increases the difficulty for the user** to distinguish between resistance due to anatomical location of the needle and resistance from internal friction forces of the device.
- The purpose of this research was to quantify the force required to operate the **SCS Microinjector** in a controlled laboratory setting **versus the international standard force requirements** to operate a syringe.



**Resistance is felt when needle opening is still in the sclera**

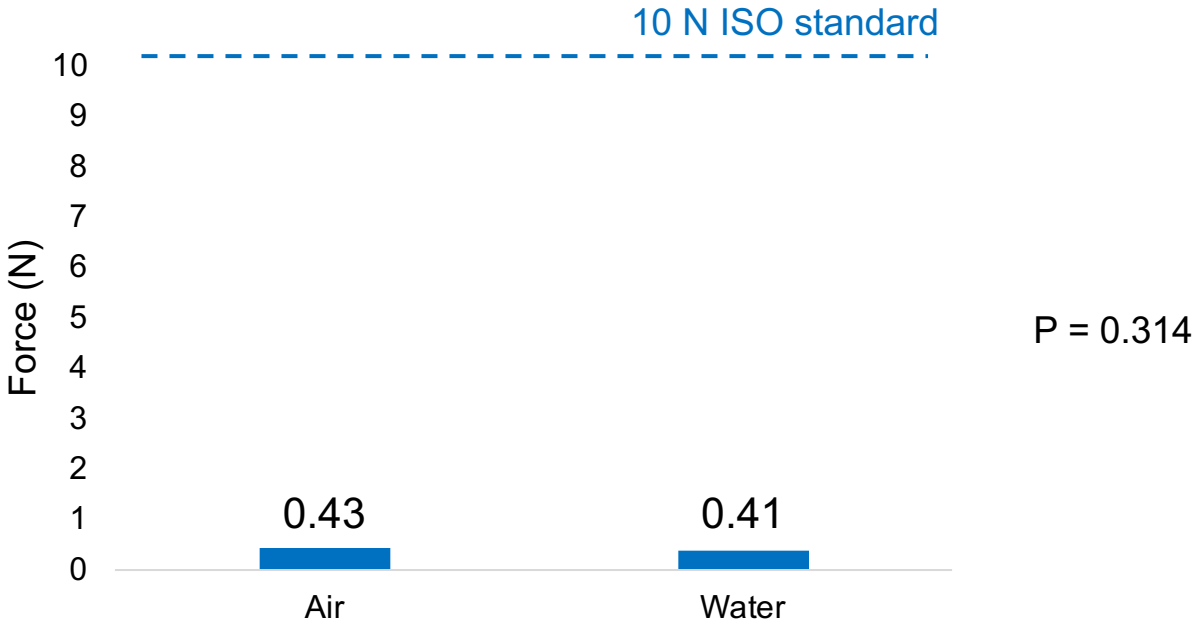
# Methods

- SCS Microinjector loaded with various injectates
- Force to initiate movement (break force) and complete injection (glide force) measured via force gauge
  - All injections were performed at a clinically relevant, constant speed
- Values compared to ISO 7886-1:2017, Sterile Hypodermic Syringes for Single Use

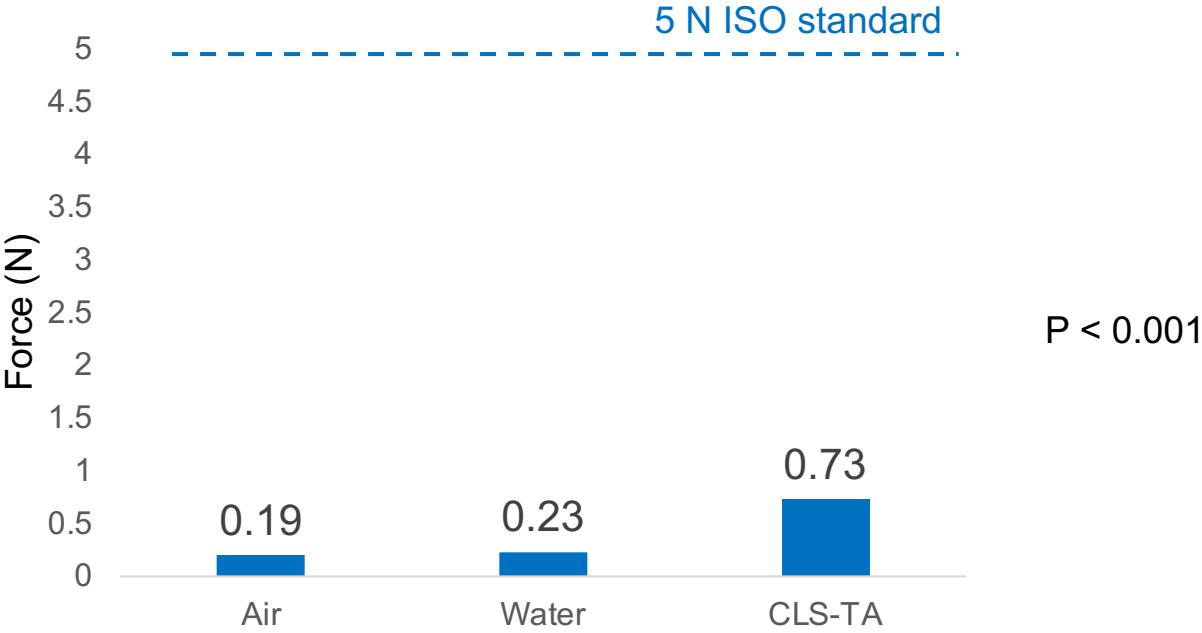


**Test Set-Up:  
Syringe Glide and Break Force**

# Break Force for SCS Microinjector >24X Lower than ISO Standard



# Glide Force for SCS Microinjector > 20X lower than ISO Standard



# Conclusion

- **Forces to operate the SCS Microinjector are far below the international standard** recommendations for low-volume hypodermic syringe operation
- The usability of the SCS Microinjector is improved with the minimization of the resistance forces inherent to the device, giving the user a **more accurate tactile feedback** with LOR when the suprachoroidal space is reached.