Sponsored Content

Vacuum-Based Technology:

The Benefits of Reaching Beyond Your Comfort Zone

If you're like most eye surgeons in the United States, you were trained to remove cataracts using a flow-based system. And, odds are, that's what you've used throughout your years of practice. You know the system. You understand what it does. And you're comfortable with it. So, why consider changing to a vacuum-based system?

"In training, you're told what equipment to use and what settings to use and some surgeons can be slow to change away from that," said Dr. Dain B. Brooks, founder of Brooks Eye Associates in Plano, TX and a board-certified ophthalmologist specializing in cataract and refractive surgery. "Often people are scared to try something new. But then they won't have the opportunity to learn and expand and grow." When it comes to making the transition from flow-based technology to vacuum-based technology, surgeons' comfort zones are often put to the test. However, according to Dr. Brooks, they shouldn't let this momentary discomfort stand in the way of exploring other options.

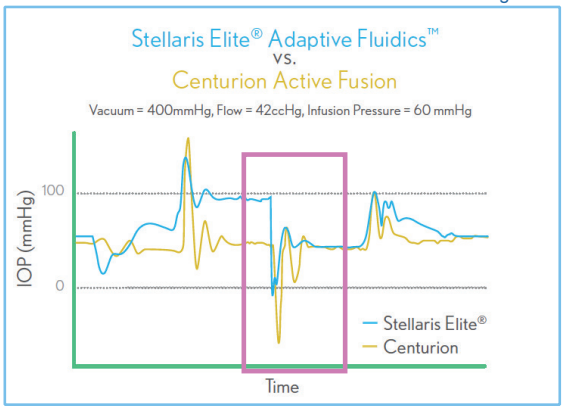
"At the end of the day, vacuum-based is highly efficient[1]—so you spend less time in the eye," explained Dr. Brooks. "When I use a flow-based system, I have to use higher parameters to achieve the same efficacy and efficiency in the eye as I do with a vacuum-based system. That means I'm using more energy, I'm using more fluidics, which creates more turbulence." The increased use of BSS may lead to an increase loss of endothelial cells and consequently may generate corneal edema.[2]

Dr. Rebecca Miller, a licensed Therapeutic Optometrist and a certified Optometric Glaucoma Specialist who works with Dr. Brooks, sees cataract patients at their one-day post-op appointment. "When evaluating patients after surgery they expect to see clearly," said Dr. Miller. "Dr. Books is typically able to deliver a clear cornea within 24 hours of the surgery. The faster the visual recovery, the more successful the surgery is perceived by the patient."

To maximize efficiency in the eye, Dr. Brooks uses Bausch + Lomb's Stellaris Elite. Compared to the Alcon Centurion, this system has been shown to deliver 3x higher chamber stability, reduced post-occlusion surge, and less stress on the capsule, demonstrated by lower variation in pre- and post-occlusion pressure.[3] "With the Stellaris Elite, the fluidics and flowability inside the eye give me increased confidence in performing even the most difficult cataract removal surgeries."

Comparing operation of the Stellaris Elite to driving a high-performance car, Dr. Brooks said, "You have different gears to draw upon with Stellaris that you don't have with other machines and I can do so confidently without even needing a second instrument in the eye. I let the Stellaris Elite do its job." This is the case even with more challenging procedures, such as removal of hard cataracts. "The combination of both an exceptional chamber stability and cutting efficiency of the Stellaris Elite gives me great confidence to treat my difficult cases. Whether your sculpting, chopping or using another technique, you're going to find that, with the Stellaris Elite, [you'll have great cutting efficiency—which gives me high confidence when removing] a difficult, dense cataract." Additionally, Dr. Brooks said that, due to the efficiency of the Stellaris Elite, he doesn't get the milky, turbulent view that often occurs when removing a hard cataract with a flow-based system.

Figure 1[3]



Regarding post-op appointments, Dr. Miller said, "The corneas [of Dr. Brooks' patients] are just incredible. Patients quickly realize the visual improvement and want to tell everyone about their cataract surgery. I think every surgeon wants to know how they can maximize the wow factor on post-op day 1. And, with the Stellaris Elite, there's a powerful wow factor."

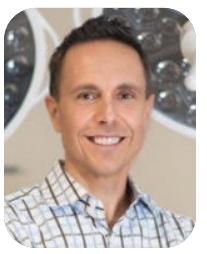
Although he prefers the Stellaris Elite over flow-based systems, Dr. Brooks acknowledged that some surgeons have their doubts about vacuum-based technology. Many of the questions surround the levels of vacuum of Venturi systems. "It's important to realize that not all vacuum-based systems are created equal," he explained. "[The equipment being used] might be a Venturi system, but it doesn't have the same technology aligned in such a synchronous way as you have with the Stellaris Elite [which uses a rotary vane pump]."

STELLARIS ELITE® DELIVERS DIRECT CONTROL OVER FLUIDICS

	STELLARIS ELITE®	FLOW-BASED TECHNOLOGY
Aspiration control	DIRECT until occlusion	DIRECT by the surgeon
Vacuum control	DIRECT no occlusion	INDIRECT requires occlusion
Vacuum build up	LINEAR	IRREGULAR and occlusion dependent
Rise time	CUSTOMIZED	Flow rate and occlusion dependent

Efficiency and efficacy are the qualities that drew Dr. Brooks to the Stellaris Elite. "I feel safe [with the Stellaris Elite] to choose more efficiency inside the eye," he said. "And I'm just as safe as when I use lower efficiency. The Stellaris Elite allows me to remove a lens quickly and with great confidence. The lens pieces come to the tip easily so you don't have to go searching or fishing for them. You're not going down into the capsular bag as much because you can let the pieces come to you. I feel confident that if you stay away from the capsular bag, you reduce the risk of rupture. This helps ensure capsular integrity."

For surgeons considering transition to a vacuum-based system, Dr. Brooks said he doesn't know anyone who has struggled with it. "Going from a flow-based system to a vacuum-based system is seamless," he said. "It's just a matter of being open-minded and willing to try something new."



Dain B. Brooks, MD is a board-certified ophthalmologist specializing in cataract surgery, refractive surgery (including LASIK and PRK), and eyelid surgery. After graduating with honors (Alpha Omega Alpha) from the George Washington University School of Medicine in 2002, Dr. Brooks went on to complete his ophthalmology training at Walter Reed Army Medical Center.

Financial disclosure: consultant to Bausch + Lomb

To learn more about the Stellaris Elite System, please go to **www.bauschsurgical.com**. Connect with a representative today, if you would like to hear more about how to demo the system in your OR.

References

[1] J Cataract Refract Surg 2015; 41:428–432
[2] Clin Exp Optom 2013; 96: 529–535
[3] Data on file based on bench study. Bausch & Lomb Incorporated.

INDICATIONS & IMPORTANT SAFETY INFORMATION

Indications: The Bausch + Lomb Stellaris Elite® vision enhancement system is intended for the emulsification and removal of cataracts, anterior and posterior segment vitrectomy. The system is designed for use in both anterior and posterior segment surgeries. It provides capabilities for phacoemulsification, coaxial and bimanual irrigation/aspiration, bipolar coagulation, vitrectomy, viscous fluid injection/removal and air/fluid exchange operations. The Stellaris Elite® Vision Enhancement System configured with the laser module is a ddtionally intended for retinal photocoagulation and laser trabeculoplasty.

Contraindications: All Systems: Use of accessories not designated by Bausch + Lomb for use with this equipment may result in serious permanent patient injury, adverse surgical outcome, or damage to the equipment; Systems with Laser Module: Photocoagulation is not indicated for patients without pigmentation (albino eyes). In addition, Laser Indirect Ophthalmoscope (LIO) is not indicated for cases involving laser photocoagulation within the arcades.

Warnings: All Systems: Implantable defibrillators present a risk of injury if triggered by a fibrillatory event during intraocular surgery; Electromagnetic interaction between the phacoemulsification (phaco) handpiece and an implanted cardiac pacemaker is unlikely but cannot be ruled out. Systems with Laser Module: All support personnel who are present during laser treatment must wear appropriate laser protective eyewear; DO NOT look directly into the aiming or treatment laser beam; Use of unapproved delivery devices may cause inaccurate laser delivery which could result in serious permanent patient injury. When using the VITESSE® handpiece: Use only the Entry Site Alignment (ESA) devices provided with the VITESSE® Handpiece Pack (yellow trocar caps). Do not use any ESA with metal components to avoid particulate in the eye. When using the FREEFLOW™ infusion line: Do not attempt to administer intraocular gases or viscous fluids using this device; The infusion line loop should be created in the horizontal plane.

General Cautions for Single Use Accessories: Do not re-sterilize or reuse any single use accessories; Do not use if package integrity/sterile barrier has been breached or compromised; Do not use or attempt to repair damaged single use products. This is not all you need to know. Systems with Laser Module: Misuse of the laser system may lead to dangerous situations and severe injuries. All Systems: See the appropriate Operator Manual for detailed directions, proper use, and full risk and safety information. See individual product instructions for use for detailed information on the use of the VITESSE® Handpiece, vitrectomy packs and cutters, and the FREEFLOW™ infusion line.

CAUTION: Federal (U.S.) Law restricts these devices to sale, by or on the order of a physician.

®/™ are trademarks of Bausch & Lomb Incorporated or its affiliates. ©2021 Bausch & Lomb Incorporated or its affiliates. SEA.0038.USA.21