

Evaluating the Benefits of Single-Use Ophthalmic Instrumentation


WATCH IT NOW

Practical considerations for transitioning to disposable instruments and surgical packs.


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INTRODUCTION

Over the past 2 decades, there has been growing debate over the choice between single-use/disposable and reusable ophthalmic instrumentation. Although reusable instruments were preferred for many years, evolving sterilization requirements and maintenance protocols to protect from infection and cross contamination have prompted a shift toward single-use instrumentation.

The use of single-use instruments for cataract surgery has several advantages, including the elimination of time-consuming cleaning and sterilization and time savings in the OR. Surgeons who use single-use instruments often express that these devices are sharper and more precise than their reusable counterparts. This can lead to a reduced risk of complications and enhanced surgical outcomes—something that is increasingly more important in the era of customized patient care. Single-use instruments can also present cost transparency benefits relative to the unknown sunk costs of repeated repair, sterilization, misplacement, and storage of reusable instruments.

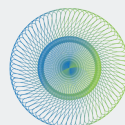
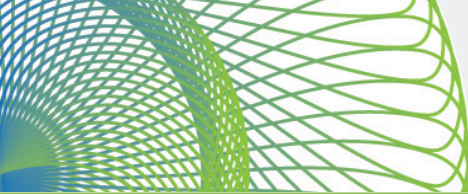
In the following roundtable, four surgeons share their early experience with HASA OPTIX's premium recyclable single-use ophthalmic instruments and discuss practical considerations for onboarding disposable instruments. The company's comprehensive portfolio of presterilized instruments meets

high-quality stainless steel material standards and can be recycled for a second life. This sustainable solution can contribute to a better cost-controlled environment while increasing quality of patient care (see the sidebar A Sustainable Solution).

What was your experience with single-use instruments before using those manufactured by HASA OPTIX? When you hear disposable instruments, what are your initial thoughts?

Brett McKnight, MD: I've used some disposables in the past. The first word that comes to my mind when I think about them is *low quality*. They simply didn't feel well-made. The second word that comes to my mind is *expensive*. In the past, I have considered single-use instruments to be cost prohibitive. I felt like disposable instruments seemed like a sacrifice or a downgrade in quality. My perception has changed since using some of HASA's devices.

Dustin McKnight, MD: I think there's a lot of appeal in single-use instruments, but that's not to say they don't come with hurdles, including the cost and environmental concerns. My initial thought is that the disposal of products in the OR is significant, and single-use instruments add to the amount of waste we produce. On the flip side, I also think about the benefit of sterility



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with single-use instrumentation. It brings a decreased risk of toxic anterior segment syndrome and endophthalmitis outbreaks at the surgery center. We use a lot of disposable instruments at the Veterans Affairs hospital, but we tend to favor reusable instruments at our private practice.

Scott J. McKnight, MD: That's right. Before using HASA's instrumentation, I had no real experience with single-use technology other than the rare disposable I/A cannula. Now with my experience with HASA, I can tell you that there is no real difference between the single-use and reusable devices in terms of feel or efficiency.

Stephen B. Wiles, MD: I also hadn't used many disposable items previously, except for OVDs that come pre-packaged.

What are some of the challenges with reusable instruments? Do you think single-use products can help remedy these issues?

Dr. Wiles: Reusable instruments have a lifespan. At some point, they are of a lesser quality than when they were new. Unless

you mandate reusable instrument use to a certain number of times—say 10 for example—and then throw it away no matter what, you are at risk of the instrument not working as well as it should at some point during a surgical case. In my experience, the quality of reusable instruments varies widely. Sometimes you might get 20 uses, and other times you might get two uses.

Dr. B. McKnight: I think this is what makes single-use instruments appealing. It's a totally new ballgame for me to use a single-use Utrata forceps, for example, but I have been impressed with its performance. I like that the forceps is long and easy to manage. It precisely gripped the capsule, which is sometimes the biggest, most important part of the maneuver.

Dr. Wiles: I agree. I liked the single-use capsulorhexis forceps, too (Figure). There can be some variability on instrument preferences between doctors, so single-use devices can also help simplify implementation of doctor-specific choices.

Dr. B. McKnight: Some capsulorhexis forceps might bend the wrong way and, if you squeeze it too tight, it'll actually let go. It doesn't happen often, but it can. If every single-use forceps was like HASA's, it would simplify things.

Dr. S. McKnight: Reusable instruments rust, and like has been said, they can get damaged. Certain tools, like a capsulorhexis forceps, are delicate. If the reusable models are not taken care of, the ends won't meet and therefore can't grab the capsule.

Dr. D. McKnight: I also think that efficiency is a consideration. More than several times a week, I find myself waiting for instruments to be sterilized. There's an obvious advantage, from an efficiency standpoint, when you incorporate single-use instruments. Now, I'm not the one opening all the packs and dropping instrumentation on the tray, but I would like to not have to wait on instruments.

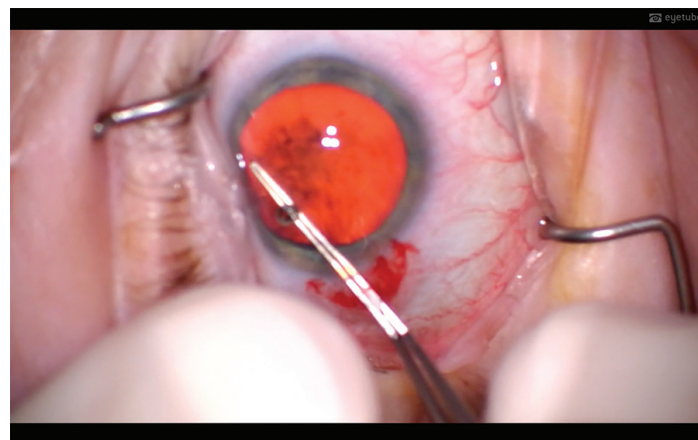
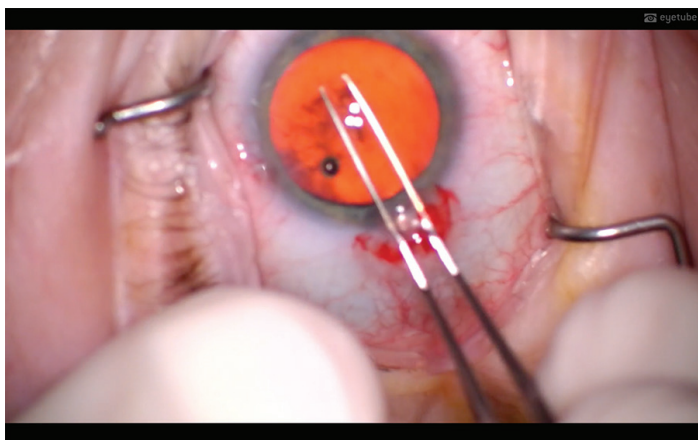
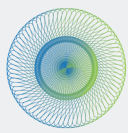


Figure. Single-use Utrata forceps from HASA OPTIX are used for the capsulorhexis.



What is the quality of HASA's instrumentation?

Dr. B. McKnight: The quality is comparable to reusable instruments. In most cases, the only way I can tell I am using a single-use device is because the weight is slightly different.

Dr. Wiles: I have used HASA's lid speculum, Bechert nucleus rotator, and Utrata forceps. The lid speculum is very similar to a reusable speculum. The Utrata forceps, however, is a significant step up from a reusable model, in my opinion. I love the feel and design of HASA's device. The length of the arms is terrific, and they are noticeably thinner, which makes a big difference on chamber maintenance when you're trying to perform a capsulorhexis in tight eyes. Also, the ergonomics of the round handle improved the comfort and control of the instrument during capsulotomy.

Dr. S. McKnight: I agree, the Utrata forceps is great, mainly because of the arm design. The length and thinness mean that I don't have to distort the wound and lose the viscoelastic. The quality is equivalent to a brand new reusable instrument.

Dr. Wiles: I also enjoyed the design of the Bechert rotator to stretch the pupil. It does, however, require a change in my

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A SUSTAINABLE SOLUTION

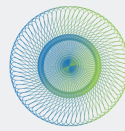
The number of cataract surgery procedures is predicted to at least double in the next 30 years. HASA Optix has a three-dimensional approach to enhance the pharmacoeconomic value of cataract surgery, including increasing the quality of care, allowing a better cost-controlled work environment, and lowering the CO₂ impact of ophthalmic surgery. The company is the first to create recyclable single-use instruments entirely made of stainless steel. HASA Optix also offers a Sustainable OR Excellence Program (SOREP) consisting of local recycling testing projects in partnership with client hospitals, local waste management companies, and distributors. A pilot program launched in Holland and will soon begin in Sweden and Belgium. Centers participating in SOREP place green bins inside the ORs to collect HASA's recyclable single-use devices and have them recycled. The program is supported by Greencycl, the only European company accredited to decontaminate medical devices. This eliminates any workload by the hospitals to clean the instruments.

normal hand position for a routine case because the prongs are orientated vertically compared to the horizontal orientation of the reusable Bechert nucleus rotator that I am comfortable with. I think the single-use rotator is great for IOL implantation and for stretching the iris.

Dr. B. McKnight: The beauty of single-use devices is that you only open the instrument pack when you need it.

Dr. D. McKnight: The Utrata forceps are nice not only because they're well designed but also because they are not as delicate at the tips compared to reusable models. It's not infrequent for me to have to pause during surgery and get a replacement instrument because the delicate tip is damaged. So single-use instruments would presumably reduce or avoid a lot of the issues we have with Utrata forceps because you use a new pair every time.

The Bechert nucleus rotator can be a great tool for a divide-and-conquer phaco technique. The chopper on the other end of the instrument is more for a vertical chop technique, wherein the chopper can be used to slice posteriorly through the nucleus at the proper depth and then divide the nucleus. Most surgeons are more familiar with a horizontal chop approach, so it would be interesting to see an alternative design of the chopper intended for a horizontal chop technique as well.



Is there a benefit of consistency when new instruments are used every time?

Dr. B. McKnight: There is a benefit from the instrument processing perspective because fewer tools have to be autoclaved, and there is less room for error. On average, it takes an instrument technician 3 to 6 minutes to process a tray and have it ready for the autoclave.

Dr. Wiles: It adds a little work for the individuals who unpack the single-use devices when normally reusable instruments come in on a tray, but it's not a big deal.

Dr. S. McKnight: That's true, but the packages are labeled so that the correct instrumentation can be found quickly.

Dr. D. McKnight: Using a new instrument each time standardizes performance by eliminating damaged or worn instruments in some packs versus others.

One of HASA's goals is to reduce its carbon footprint by developing sustainable products. How important to you is being environmentally responsible in surgery?

Dr. Wiles: It's an honorable goal. It might not drive my reasoning to select single-use devices, but it is an added benefit.

Dr. B. McKnight: I tend to agree. It's not a motivating factor, but if the instruments are similarly priced to reusable ones, I might enjoy that about it.

Dr. S. McKnight: I love the fact that the instruments are recyclable.

Based on Medevise's 2023 online survey of European cataract surgeons and ASCRS members from 200 hospitals, the top reason surgeons listed for switching to single-use instruments is the available supply of suitable high-quality instruments that are sharp, precise, and increase the quality of care. Would you care to share your thoughts?

Dr. S. McKnight: I would agree with the survey results. The fear I've always had with single-use devices is the associated cost. If it's cost neutral, then I would prefer to use single-use devices routinely over reusable.

Dr. Wiles: I feel the same. I believe that single-use instruments can improve the quality of life the doctor enjoys. It probably won't influence the level of surgery that I can perform, but it can help me feel better about the surgery I do.

Dr. D. McKnight: I'm also in agreement. Having sharp, precise instruments that can help me increase the quality of care I provide would be a top reason for me to switch to single-use instruments for routine cataract surgery. ■