

San Diego's AseptiScope is on the verge of releasing a transformative stethoscope product to reduce the spread of infection in the pandemic era

“Clinician’s third hand.” This is how medical literature has often referred to stethoscopes, according to Scott Mader, founder and CEO of San Diego-based AseptiScope.

These valuable pieces of equipment need to be immediately accessible – meaning on a medical professional’s person – at every active moment of a medical shift, whether you work in a hospital, doctor’s office,

20 years later, the stethoscope design remained relatively unchanged for more than 100 years. In the 1960s, Dr. David Littmann, a Harvard Medical School professor and noted cardiologist, developed the current design and 3M bought the rights not long after. Now millions of medical professionals worldwide use the 3M Littmann Stethoscopes and they are con-



The AseptiScope Braintrust: (L to R) Kelly Powers – Chief Operations Officer; Alan Maisel, MD – Chief Clinical Officer; Frank Peacock, MD – Chief Medical Officer; Scott Mader – Chief Executive Officer

care facility or clinic.

Yet there is a grave problem with stethoscopes that hasn’t been properly solved – they cannot be sanitized quickly and easily to levels necessary for clinician and patient safety.

Until now.

AseptiScope is releasing its patented DiskCover™ dispenser system as its flagship product at the end of August 2020 that will solve an issue that has been plaguing the medical community for two centuries.

Originally invented in 1816, and modified

considered the gold standard for auditory quality.

Despite all the strides in developing personal protective equipment (PPE) that creates a sterile barrier between medical personnel and their patients – and in the era of COVID-19, we’ve learned this is more crucial than ever – one area that hasn’t been solved is the stethoscope.

“It’s a problem that’s been going on for 200 years and a solution is just about to be ready,” Mader says. “The ideas that have been brought to market in the past – such as cleaning with alcohol – are untenable in

practical use. By CDC guidelines, they must be cleaned for at least 60 seconds after every use, which would seriously disrupt workflow. And cleaning them in that manner can damage the diaphragm or hearing piece because it's a harsh chemical."

Mader has been working on a solution since 2016 with his AseptiScope partners and co-founders, Alan Maisel, M.D., chief clinical officer; Frank Peacock, M.D., chief medical officer and Kelly Powers, chief operating officer. Powers is a com-

mercial manufacturing and supply-chain expert with experience in multiple industries. Mader's team calls this "acoustically invisible." And because cross-contamination can happen so easily, it had to be touch free.

What is the AseptiScope innovation and how does it work? The DiskCover System delivers an aseptic disk cover directly to the end of a stethoscope, covering the base that comes in contact with the patient. It is delivered through a wall-mounted dispenser about the size of a hand gel dispenser and should co-exist in every hand-



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Mader, who has a background in evidence-based marketing for clinically applied products such as pharmaceuticals and medical devices, knew the other founders and the depth of their expertise, and they all set to work on the problem together.

"We develop through 'market-driven innovation,'" he says. "We talked to experts in the market and worked with them to define the attributes they needed to solve the problem and the clear need was an aseptic barrier."

It wasn't enough to have an effective barrier to prevent transmission of disease or

wash station in every medical setting.

"If you're in a 300-bed hospital, that is 300 handwash stations," Mader says.

"Clinicians must wash their hands before touching a patient, so the 'third-hand' hygiene station will go right along with the cleansing of the other hands. Immediately after washing their hands an aseptic barrier can be applied touch-free simply by pressing their stethoscope against the dispenser to get a new cover before going to their next patient."

In the United States alone, stethoscopes come in contact with patients about 5.5 billion times a year and the potential risk of any transmission during those interactions can be eradicated with this product. Powers

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attributes the ultimate success of the design to the development team's diligent focus on the end-user's needs.

"There have been many attempts over the years to bring a product to solve this," she says. "Those products were not successful because they didn't really understand the challenges from a clinician standpoint and we never wanted to lose sight of this. We knew it needed to be quick, easy, cost efficient and fit seamlessly in the user's workflow."

The value of timing for this solution cannot be minimized. The rise of COVID-19 has made the efficacy and availability of PPE a household topic of conversation. "The silver lining of this traumatic global event is that our vigilance is raised," Mader says. "Look at 9/11. Our vigilance around international terrorism was elevated dramatically and remained. COVID-19 has brought the standards for infection control to a level that didn't exist before and they will need to stay there."

When asked if they will be able to fulfill what might be massive demand out of the gate, Powers says the company's clinical and manufacturing suppliers were carefully vetted and they have the capacity to scale up quickly. The manufacturing and distribution is based in San Diego.

"Though the development process was very complex and challenging, we created a product that is easy to assemble and use," Powers says. "We have been very focused on ensuring off-the-shelf technology wherever possible to minimize any risk of unknown quality issues we may unnecessarily encounter otherwise."

The system comes with a sensor-based, touch-free, mounted dispenser, a clean cassette that houses 420 aseptic disk covers that are manufactured in a clean room. The cassette snaps right into the dispenser "like a VHS tape," Mader says. "It is factory calibrated. The wall-mounted dispenser interacts with the stethoscope like an electronic handshake."

The company launched in 2016 was financed by the founders' money. In 2018, it opened a convertible note program where investors were invited to join. Many of those investors were CMOs and heads of critical care units and heads of emergency medicine.

"Healthcare professionals and associates who have seen us launch clinical products in the past immediately understood the dynamics, so it wasn't long before they were in," Mader says.

Earlier this year, the company opened its first equity Series A financing round and it is currently active. The company forecast is about \$100 million in sales in the first four years and leadership expects very good reception in the U.S. In year two, the product will be launched in Europe and Asia.

The tagline, "Infection protection for clinician and patient," underscores a need we may have not fully appreciated seven months ago. "Now," Powers says, "the world recognizes that any gaps in PPE efficiency can have devastating results." —
By Susan Belknap, California Business Journal.

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