



VESSEL SEALERS IN PRACTICE

THIS TOOL IS READY FOR ITS SURGICAL SPOTLIGHT

BY DEBORAH CAMERON, PATTERSON VETERINARY

While sutures have historically been a surgeon's primary way to hold tissue together while it heals, in the last two decades technological advances have brought another option: vessel sealers. Some in the industry believe that since they've become more available, it's possible as many as 95% of veterinary practices are using them. Patients, clients and care teams see the benefits and even the newest surgeons are impressed by the efficiency vessel sealers bring to procedures.

Veterinarians who are considering adding technology to their surgical trays may wonder why it's an improvement over traditional sutures, but many users have experienced the answer firsthand. They see that, when employed in both open surgeries and minimally invasive laparoscopic or endoscopic procedures, there's an elevated standard of care with reduced bleeding, reduced tissue disruption, more efficient surgeries and faster, easier patient recoveries.

VESSEL SEALING TECHNOLOGY: IMPROVING OVER TIME

Early vessel sealers required manual operation to determine where and how to place the seal, but technology automated the process. Now the tool's jaws gather information about tissue and impart the right amount of energy needed to do the job. Blood loss is minimized or stopped when the seal is formed, internal parts of the tissue are more closed to pathogen exposure, and there's no need to further introduce foreign objects, including sutures, that could cause a reaction.

Today's vessel sealers are relatively easy to learn. When new users work with the tool, it inspires confidence as it's easy to manipulate, there's less bleeding, and a cleaner vision of their surgical field allows them to apply the tool as they need it.

John Schaaf, DVM, of North Mecklenburg Animal Hospital in Cornelius, North Carolina near Charlotte, has nearly four decades in practice. He's been conducting minimally



invasive surgeries since the mid-1990s with early-generation vessel sealers. "They were like driving a car with a manual transmission; you had to judge for yourself where the vessels were sealed," he said.

Almost as soon as they were available, Schaaf used the technology-based units that take thousands of readings per second to judge when tissues had been fused. The difference was clear to him, and he called the newer tools a game changer in terms of safety and the skill required to perform procedures.

Schaaf believes the instruments have only gotten better as algorithms behind the readings improved in the last two decades. He now works with the **Voyant Vessel Sealer from VetOvation**. He said, "When you're viewing the surgery through an endoscope, for example, you have a very up-close view of what the instrument is doing. Literally we would transect very large blood vessels with zero blood loss."

Schaaf also described how the instrument allows surgeons to hold and examine a tissue prior to cutting it.

"If I'm looking at cutting a piece of anatomy, say a blood vessel going to an ovary or a blood vessel going into the spleen that needs to be cut, things were different in the old days. I'd have to delicately dissect the fat, isolate the blood vessel, bring a piece of suture around the blood vessel, tie a secure knot, and pray that the knot really is secure. Then I would delicately cut on the correct side of the knot, so the patient doesn't bleed."

Using vessel sealers, Schaaf described that he doesn't have to manipulate tissues, just clamp them, with assurances of where he needs to cut, and then activate the energy. The tool provides an audible signal when the precise amount of energy has been delivered. At that point, he pulls the trigger, and it cuts. Then quickly, both sides of a tiny wound are perfectly sealed and blood free.

IN-PRACTICE EXPERIENCES

Vessel sealers can be used in a wide array of situations including spay and neuter procedures, tumor and mass removals, splenectomies, amputations and soft palate resection on short-snouted dogs.

Justin Kerr, DVM, of Burnt Store Animal Hospital in Punta Gorda, Florida, is enthusiastic about what vessel sealers have brought to his work, saying, "That little vessel sealer: it's one of the smaller, less expensive pieces

of equipment that I have, but I would never live without it again. I can even do a pyometra spay in less than 10 minutes."

Kerr pointed to some broader benefits for his practice. "I'm getting referrals from other clinics, other emergency rooms, because I've got the tools and the technology to offer better service."

Schaaf shared his own vessel sealer success stories, pointing to its use with emergency patients that present with hemorrhaging spleen tumors. What was once a major, more manual operation that would require significant time under anesthesia and likely an overnight hospital stay, is now different. It's regularly finished in under an hour and the patient is able to return home the same day.

Schaaf has seen that when surgeries using vessel sealers are more efficient, they're less intrusive on office schedules, and emergencies don't automatically mean that staff must work through lunch or miss dinner at the end of the day. He said that clients are also thrilled. "They're amazed that their animal went in for such a major procedure and we're calling them in 45 minutes to tell them everything is done."

He also remarked that when they include using the tool as a specific line item on a surgery bill, staff has never had a client push back on it.

LEARNING MAY MEAN MORE PRACTICES WILL ADOPT VESSEL SEALERS IN THE FUTURE

Schaaf is not only an advocate for vessel sealers, but he also trains others on them and talks about how easy it is to become comfortable with using it. "The learning curve is basically your first grasp. Then you're an expert. The minute they see the work they've done with one of these instruments, their confidence just soars. They're giddy."

Despite the benefits, Schaaf shared his observation that practices aren't using the tool as often as expected and continue to rely on traditional sutures instead. He knows that decisions about which option to use are up to each surgeon's skill and preference, and many who have come to rely on sutures will continue to use them.

But Schaaf hopes this might change as new students emerge from veterinary schools familiar with how to use the tool and its benefits. As those former students become more experienced and start to develop their own practice, they may take for granted that vessel sealers are as reliable as the manual tools that have long held their place in operating rooms. In the long run, vessel sealers may never replace sutures completely, but it's likely they'll have an increasing place in general surgery. ■



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