Device Busts Post-Op Pain, SSI

The post-operative period is a crucial time for preventing infection in patients, particularly surgical site infection. Although still thought to be widely unreported, SSIs are the third most frequently reported nosocomial infection with 27 million annual surgical procedures resulting in an SSI rate of approximately 2 percent, according to data provided by I-Flow Corporation. Further, SSIs account for 14 to 16 percent of all hospital-acquired infections. In 2008, Centers for Medicare and Medicaid Services (CMS) implemented new billing procedures that hold hospitals accountable for all costs associated with a hospital-acquired infection, including SSI. As a result, not only are infections harmful to a patient's health, it can have a detrimental effect on a hospital's financials. In recent years, the On-Q® PainBuster with ON-Q SilverSoaker™ Antimicrobial Catheter, a medical device from I-Flow that continuously pumps local anesthetic through a catheter to the surgical site and the surrounding area, has shown to help manage pain for surgical patients post-operatively while reducing the use of narcotics and significantly reducing surgical site infection rates by more than 50 percent. According to the results released in September 2007, the multi-center infection surveillance study compared two types of post-surgical pain relief following colorectal surgery at 14 U.S. surgical sites. The study group received local anesthetic via the ON-Q PainBuster with ON-Q SilverSoaker to help manage pain post-operatively. The control group received systemic narcotics. The study measured surgical site infection rates for 30 days following the procedure and length of hospital stay for 289 patients, including re-admissions or subsequent treatment as a result of an infection. Results showed ON-Q patients to be 55 percent less likely to develop a surgical site infection, reducing incidences from 14.6 percent to 6.6 percent. In addition, patients' average stay dropped from 8.4 days for the control group to 6.1 days for the study group. Dr. Alan Thorson, a colon and rectal surgeon in Omaha, NE, was on the team of co-lead investigators for the study and has been using the device for close to 10 years. "I use it on all my patients unless there is some clear-cut complication like an inter-

abdominal wall infection," Dr. Thorson states. "Otherwise, almost universally, everybody gets it for my abdominal cases, that includes open and laparoscopic." After learning about the technology, Dr. Thorson decided to partake in the clinical studies involving the ON-Q PainBuster to decipher if the device could truly make a difference in the recovery of his surgical patients. He admits he was originally surprised at the findings, but attributes much of the difference the ON-Q PainBuster makes in post-operative recovery to the reduced use of narcotics the device allows. "My experience is when patients use less narcotics, they tend to be more alert," Dr. Thorson says. "They tend to be easier to ambulate. Narcotics have a lot of negative effects. They contribute to post-operative ileus. They can lead to decreased oxygenation of tissues and have a negative impact on immune function. Those are the kinds of things that can certainly increase the risk of surgical site infection." According to Dr. Thorson, there is not direct evidence regarding improved respiratory function using the ON-Q. However, patients who are alert and awake as a result of less narcotic use can take deeper breaths, expand their lungs and ultimately decrease the risk of post-operative pneumonia, which will land them in the hospital for longer. Patients using the ON-Q PainBuster has less of the narcotic-induced post operative ileus," Dr. Thorson says. "They have an earlier return of bowel function, and the result of all of that is a little shorter length of stay." The device is a one-time use, disposable solution for pain management, that, depending on the amount of medicine can last anywhere from 12 hours to 5 days, according to company information. The catheter for the ON-Q can be administered directly into the surgical wound, Dr. Thorson says, as it contains antiseptic. However, after using the device for years, he has found a more efficient way to use the ON-Q PainBuster on his surgical cases. Using his technique, Dr. Thorson places the catheter lateral to the wound on the abdominal wall, since most of his patient's wounds are midline, and catches the intercostal nerves and blocks them. Placing the ON-Q catheter is the last step in Dr. Thorson's surgeries, just immediately prior to closing the incision. As Dr. Thorson explains, it is important for surgeons considering using the device to recognize it should be used as part of a multi-modal therapy. He uses the device in addition to narcotics and non-steroidal anti-inflammatories. "It's meant to rehab a number of different pain pathways," he says. "A patient may have a different predominant pathway than another patient. We're trying to manage pain by the various pathways the patient may be experiencing and if you can block as many of those, you're going to get a better result." In the end, Dr. Thorson says, utilizing the ON-Q pump is about education, preparation and recognition of the device for multi-modal therapy. "You need to be prepared," he recommends. "You need to have your OR team educated on the device and how to place it and how prepare it, so they have the right equipment right there ready to go. It probably takes you 2 minutes to put this in. So preparation and education of the surgical team is important so those things are ready to go. Just try it a couple times to hone your skills. The first time you do it, it's going to be a little more difficult, but just like any procedure we do, you do it a couple times you get good and you can do it quickly."

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