Negative Pressure Systems Improve Wound Healing After Breast Surgery

According to Breast Reconstruction Specialist Dr. Constance M Chen, negative-pressure therapy takes the tension off of the wound to prevent incisions from coming apart.

NEW YORK (PRWEB) June 12, 2019 -- Closed-incision negative-pressure wound therapy enhances recovery of patients following surgery, including mastectomy and breast reconstruction, says Constance Chen MD, a New York City-based, board-certified plastic surgeon. “Negative-pressure therapy takes the tension off of the wound to prevent incisions from coming apart. In addition, since the wound is hermetically sealed, it reduces the risk of wound infection since bacteria are unable to reach the wound,” says Dr. Chen, who uses a wound management system called PREVENA™ Therapy for her patients.

A negative-pressure system consists of a sponge dressing on a surgical wound site that is connected by tubing to a canister that suctions out all the fluid and bacteria from the wound to protect the area from external infection. Negative-pressure wound therapy was first used on open wounds like diabetic wounds and pressure ulcers, traumatic injuries and burns, with significant improvement in wound healing. Encouraged by results in difficult open wounds, the PREVENA™ incision management system was developed to place the dressing on closed sutured wounds after surgery to promote and speed up wound healing. Patients on PREVENA™ stay on negative pressure therapy for a week or more at home following hospital discharge. Recently, the United States Food and Drug Administration (FDA) recognized that PREVENA™ reduces the incidence of seroma and surgical site infections, and PREVENA™ is now the only medical device indicated by the FDA to reduce surgical site infections in Class I and II wounds.

The latest research has determined that the use of negative pressure therapy for closed incisions following postmastectomy breast reconstruction results in removal of patient drains in a shorter amount of time with significantly lower rates of infection, fluid buildup in the wound, recurring bleeding and dehiscence (healing failure) when compared to standard care methods. In August 2018, a study published in Plastic and Reconstructive Surgery (PRS) analyzed over 350 patients who had undergone mastectomy with immediate or delayed expander-implant reconstruction. About half the patients studied were given negative-pressure therapy via the PREVENA™ system, and patients using PREVENA were found to have significantly improved wound-healing rates and reductions in complications compared to patients receiving standard wound care for their surgical incisions. A June 2018 PRS study found that closed-incision negative-pressure therapy in oncological breast surgery was a “well-tolerated, adaptable, and reliable dressing capable of reducing postsurgical complications and improving scar outcomes in patients presenting with high risk factors.”. Another 2018 study determined that negative pressure systems significantly reduce wound infections and complications in patients undergoing reduction mammoplasty (breast reduction).

In 2016, a study in the British Journal of Surgery examined cases of 229 breast-reconstruction patients, about 23 percent of whom developed wound complications and 19 percent, wound infections. The study suggested that the risk of breast cancer recurrence was 4.6 times higher in women who develop wound complications following breast reconstruction and more than six times greater in women whose wound becomes infected. “Today, negative-pressure therapy is improving wound care for a growing number of patients, including mastectomy patients who opt for breast reconstruction,” states Dr. Chen. Experts like Dr. Chen note that using PREVENA™ can cut the rehospitalization rates for wound infection and other complications in order to lower overall health care costs. Indeed, postoperative wound infection can add as much as $10,000 to a patient’s costs.
Based on 2016 statistics, the American Society of Plastic Surgeons (ASPS) reports that some 110,000 breast reconstruction procedures are performed each year in the United States, with patient demand for them growing at an approximate rate of 3 percent annually. In fact, many of the nation’s three-plus million breast cancer survivors may be candidates for breast reconstruction, according to the ASPS. “All the more reason why patients should determine what processes and procedures a practice has in place to enhance recovery and prevent postoperative complications before undergoing surgery,” says Dr. Chen.

Constance M. Chen, MD, is a board-certified plastic surgeon with special expertise in the use of innovative natural techniques to optimize medical and cosmetic outcomes for women undergoing breast reconstruction. She is Clinical Assistant Professor of Surgery (Plastic Surgery) at Weill Cornell Medical College and Clinical Assistant Professor of Surgery (Plastic Surgery) at Tulane University School of Medicine.

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