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VERSAJET◊ HYDROSURGERY SYSTEM

For More Precise and Controlled Wound Excision and Debridement

The FDA-cleared **VERSAJET◊ Hydrosurgery System** by **Smith & Nephew (St. Petersburg, FL)**, is an innovative fluid jet instrument system designed to enable surgeons to easily excise or debride a wide spectrum of wounds, damaged tissue and contaminants with a high degree of precision and a tissue-sparing approach. The VERSAJET system includes the **VERSAJET◊ EXACT** and **VERSAJET◊ PLUS** handpieces and incorporates a proprietary hydrosurgery technology, whereby a highly pressurized stream of sterile fluid travels over the wound, creating a localized vacuum that draws in surrounding non-viable tissue and contaminants which are then excised and evacuated from the wound. The versatility of the VERSAJET system allows surgeons to perform fine or gross debridement, simply by choosing the appropriate handpiece configuration and power setting. Procedures can be completed in a minimal amount of time while reducing the number of procedures that each wound would typically require when compared to traditional treatment modalities.[1]

The high-pressure stream of sterile fluid produced by the VERSAJET system creates a Venturi effect at the distal tip of the handpiece. As the distal tip of the handpiece travels tangentially over the wound surface, surgeons can effectively excise and excavate unwanted tissue while carefully sparing the surrounding viable tissue.[2] Mayer Tenenhaus, MD, an Associate Clinical Professor, Department of General Surgery, Division of Plastic and Reconstructive Surgery, at the University of California Medical Center (San Diego, CA), finds waterjet debridement a novel concept for burn reconstructive surgeons for complex wound bed preparation. “It allows me to be more selective in my excision and debridement where I can try to preserve some of the critical structures that may still be viable.” Dr. Tenenhaus continues, “The VERSAJET is an all-in-one tool that brings us many advances. It gives me a degree of control and variability that might not otherwise be available. I can alter—to a significant degree—how aggressive, how salvageable, or how cautious I want to be in my debridement. Surgical precision and control of excisional depth are important,

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as different types of wounds are not uniform in depth or thickness: there are complex contours and tissue planes and there are areas that are more or less severely injured, often right next to each other. If you just have a single, fixed blade, it's very difficult to adjust for the contours of these different quality structures." Dr. Tenenhaus also comments on the safety of the VERSAJET. "The vacuum created by the Venturi effect draws material into the tubing so you have a clearer field to see through. This is helpful because what we do depends on our clinical acumen as well as what we can see in the wound."

Surgical excision of necrotic tissue is a critical element of wound management and is essential prior to the performance of any reconstructive procedure.[3] Other techniques commonly used for this purpose have included mechanical debridement, pulsed lavage and irrigation, and numerous blade techniques.[3] William L. Hickerson, MD, FACS, Professor of Surgery, Department of Surgery, University of Arkansas for Medical Sciences, and Medical Director of ACH Burn Center (Little Rock, AK), notes, however, that one of the advantages of the VERSAJET system is that "it excises and removes necrotic debris along with any bacteria. With pulsed irrigation, there is the potential to drive bacteria back into the wound. The VERSAJET is another instrument in our armamentarium of excision. While there is a short learning curve, it allows surgeons to accomplish their goals with less blood loss than with standard excision, the depth of excision is easier to control, and the potential for injury to staff is reduced in that there is no sharp blade to change as there is with the standard forms of sharp excision."

Charles K. Lee, MD, FACS, Professor of Surgery, University of California, San Francisco, and Director of Microsurgery at St. Mary's Medical Center, San Francisco, comments that he has a very busy reconstructive surgery practice for limb salvage and complex wounds and it is his goal to do as few debridements as possible. "In the past, I've done multiple-stage debridements. With VERSAJET, I usually perform a one-step debridement and closure process, no matter how complex, chronic or difficult the wound is. I can be confident enough that with just a single debridement, I can close a wound successfully in preparation for a skin graft, local flap, or free flap. I get good outcomes with the VERSAJET and I think the quality of the debridement leads to quantitatively fewer debridements." Dr. Lee further comments, "The VERSAJET is a very efficient tool for soft tissue debridement and my operative time for debridement has been cut by 60 to 70 percent. There is no available tool that is really equivalent, as the VERSAJET can tangentially debride and remove tissue away in a single pass of the handpiece."

The VERSAJET EXACT handset provides enhanced precision and control to create a smooth wound bed while optimizing dermal preservation, resulting in improved patient cosmesis, particularly in facial applications, cartilaginous areas and superficial debridements. EXACT can be used on pediatric patients. The VERSAJET PLUS handset provides maximum power, while maintaining improved tissue selectivity over conventional debridement and excision, with applications in adult patients for deep debridement of large areas, open trauma and removal of eschar.

To Learn More

For more information about the VERSAJET Hydrosurgery System or other Smith & Nephew products and technologies, please call 1-800-876-1261; or visit the Web sites at www.smith-nephew.com and www.versajet.info.

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