Updated standards aim to improve wound repair

FAYETTEVILLE, GA, UNITED STATES, June 16, 2026 /EINPresswire.com/ -- Negative pressure wound therapy (NPWT) has become a central tool in modern wound care, helping clinicians manage complex wounds, support graft survival, and reduce postoperative infection risk. Yet its success depends on more than simply applying suction. Treatment decisions must account for wound type, infection status, drainage needs, dressing material, pressure level, and patient-specific risks. A newly updated expert consensus brings these factors into a clearer clinical framework. By reviewing recent evidence and translating it into scenario-based recommendations, the guidance aims to make NPWT use more standardized, safer, and more effective across wound repair, reconstructive surgery, burn care, and surgical site infection prevention.

Complex and chronic wounds remain difficult to treat because healing can be slowed by tissue edema, infection, poor blood supply, excessive exudate, and repeated dressing disruption. Since negative pressure wound therapy (NPWT) was first systematically applied to open fractures in the 1990s, its use has expanded from drainage support to wound bed preparation, skin graft fixation, flap protection, and closed-incision management. However, clinical practice still varies widely, especially in pressure settings, dressing selection, irrigation use, treatment duration, and complication prevention. Due to these problems, in-depth research and standardized clinical guidance on the rational application of NPWT in wound repair are needed.

A multidisciplinary expert group from the Greater Bay Area Chronic Wound Care Standardization Alliance, the Chinese Journal of Science and Technology-Editorial Board of Dermatologic Surgery, and the Department of Burn and Plastic Surgery, The First Affiliated Hospital of Shenzhen University, published (DOI: 10.1016/j.rerere.2026.01.002) the updated consensus online on January 24, 2026, in Regenesis Repair Rehabilitation. The article updates earlier Chinese guidance by integrating domestic and international evidence with clinical experience, focusing on NPWT classification, indications, pressure parameters, and evidence-based recommendations for wound repair.

The consensus classifies NPWT by core material, irrigation function, and clinical purpose. Polyvinyl alcohol (PVA)-based systems are described as hydrophilic and biocompatible, while polyurethane-based systems provide elasticity, gas permeability, and strong exudate absorption. Non-irrigable NPWT is recommended for low-exudate, low-risk wounds, whereas irrigable NPWT may help contaminated or infected wounds through controlled lavage and drainage. The guidance then outlines three major uses: promoting wound healing, improving graft and flap

survival, and preventing surgical site infections (SSIs). Strong recommendations are given for early NPWT combined with thin-layer debridement in deep second-degree burns, non-irrigation NPWT after skin grafting, NPWT for diabetic foot ulcers (DFUs), and prophylactic use after orthopedic trauma surgery. The consensus also provides more cautious, scenario-specific recommendations for pressure injuries, flap surgery, vascular procedures, abdominal surgery, cesarean section in women with body mass index (BMI) above 30 kg/m², sternal infections, spinal fusion surgery, and wounds after complete excision of cutaneous malignant soft tissue tumors.

The authors said the updated consensus is intended to move NPWT from experience-driven use toward more consistent, evidence-based practice. They said the central message is that NPWT should be matched to the wound and the patient, rather than applied as a one-size-fits-all intervention. When used appropriately, NPWT can remove exudate, reduce edema, support granulation, improve graft adherence, and lower SSI risk. But careful selection of pressure level, dressing type, irrigation strategy, and monitoring remains essential to avoid preventable complications and maximize benefit.

The guidance may be valuable for burn units, wound care centers, orthopedic departments, vascular surgery teams, obstetric services, reconstructive surgeons, and clinicians managing chronic wounds. By providing clearer operational standards, it could help reduce variation in care and improve outcomes for patients with complex wounds or high-risk surgical incisions. The consensus also points to the next stage of NPWT development: smarter devices, improved biomaterials, more precise pressure control, and personalized treatment protocols. Further multicenter clinical studies will be needed to refine pressure parameters, compare NPWT systems, and strengthen evidence in clinical areas where current data remain limited.

References

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