

Oxidized Regenerated Cellulose/Collagen/Silver Dressing Use in Conjunction With Negative Pressure Wound Therapy: Expert Panel Consensus Recommendations

¹Robert Klein, DPM, FACFAS, CWS, FFPM, RCPS (Glasgow); ²Michael N. Desvigne, MD, FACS, CWS, FACCWS; Emily Greenstein, APRN, CNP, CWON, FACCWS;

³Catherine Milne, APRN, MSN, ANP, CWOCN-AP; ^{4,5}Ralph J. Napolitano, Jr., DPM, CWSP, FACFAS; ⁶Marcus S. Speyrer; RN, CWS, DAPWCA; ⁷Dot Weir, RN, CWON, CWS

Background

- With an increase in patients requiring wound care, development of new wound care options has also intensified.
- Advanced wound dressings and negative pressure wound therapy (NPWT*) are some of the more commonly utilized products.¹⁻⁵
- Recently, the use of oxidized regenerated cellulose (ORC)/collagen/silver-ORC (silver collagen[†]) dressings in conjunction with NPWT and reticulated open cell foam (ROCF) dressings has become available.

Purpose

- An in-person panel meeting with seven US-based health care providers was held to identify clinical care settings and appropriate use of silver collagen dressings in conjunction with NPWT and ROCF dressings.

Methods

- A modified Delphi technique was used.
- An additional 25 participants were invited to complete an anonymous survey on the consensus statements.
- Consensus was defined as a $\geq 80\%$ agreement among survey respondents.
- The panel members and survey participants included podiatrists, surgeons, physician assistants, registered nurses, and nurse practitioners (Figure 1).

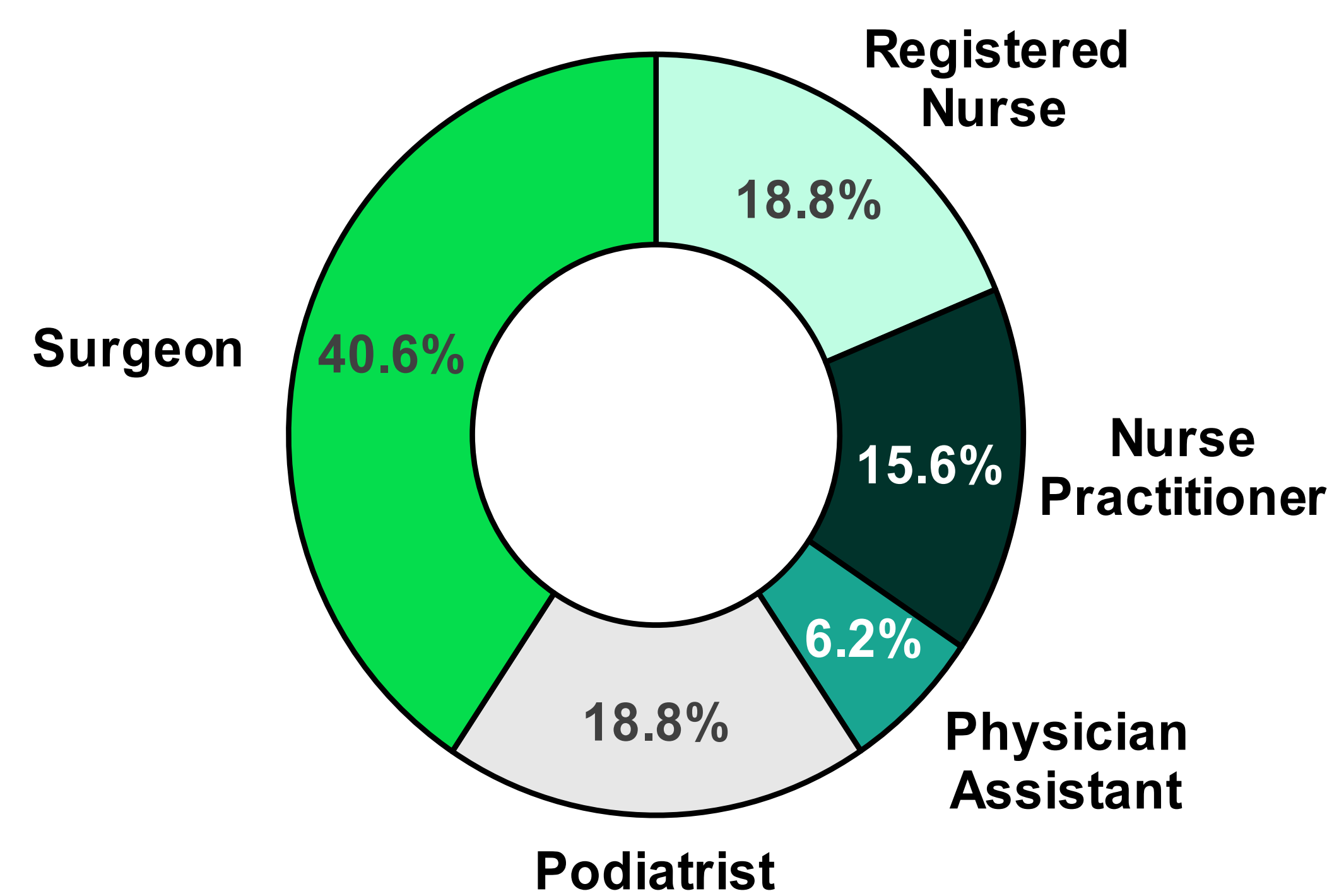


Figure 1. Survey participant specialty

Presented at Symposium on Advanced Wound Care Spring/Wound Healing Society, May 14-18, 2024, Orlando, FL

NOTE: Specific indications, contraindications, warnings, precautions and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only.

- Silver collagen dressings must be fenestrated prior to application to the wound bed (Figure 2).
- Panel members recommended use of silver collagen dressings with NPWT and ROCF dressings in both inpatient and outpatient healthcare settings (Figure 3).

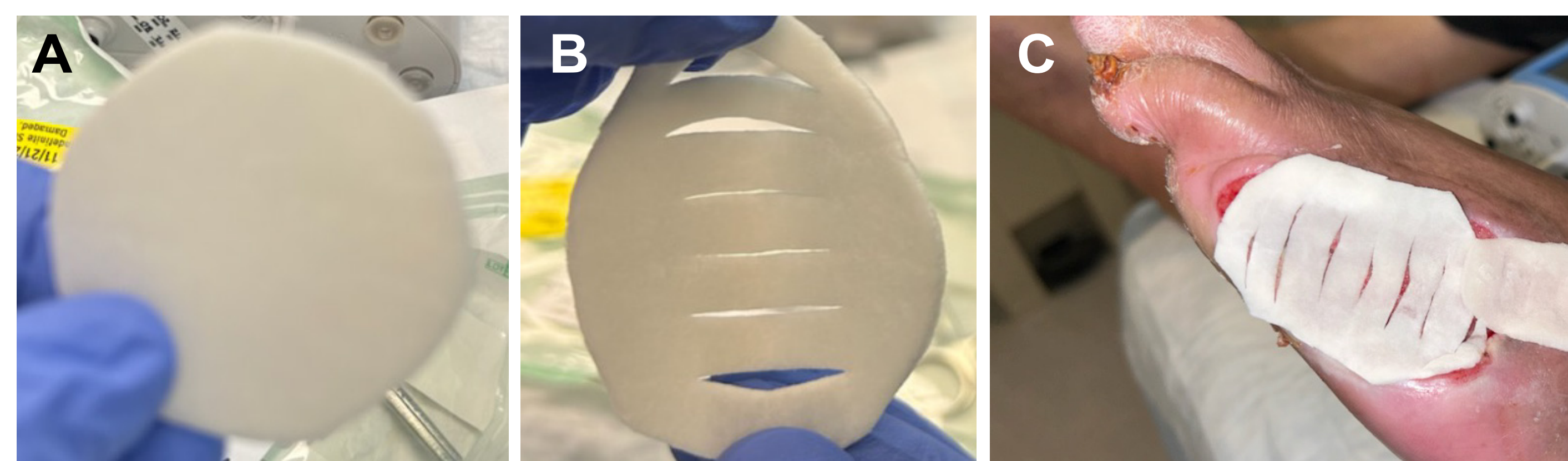


Figure 2. Application of silver collagen dressings. A. The silver collagen dressing is trimmed to size; B. Slits are cut into the dressing for fenestration; C. Application of the fenestrated silver collagen dressings to a wound.

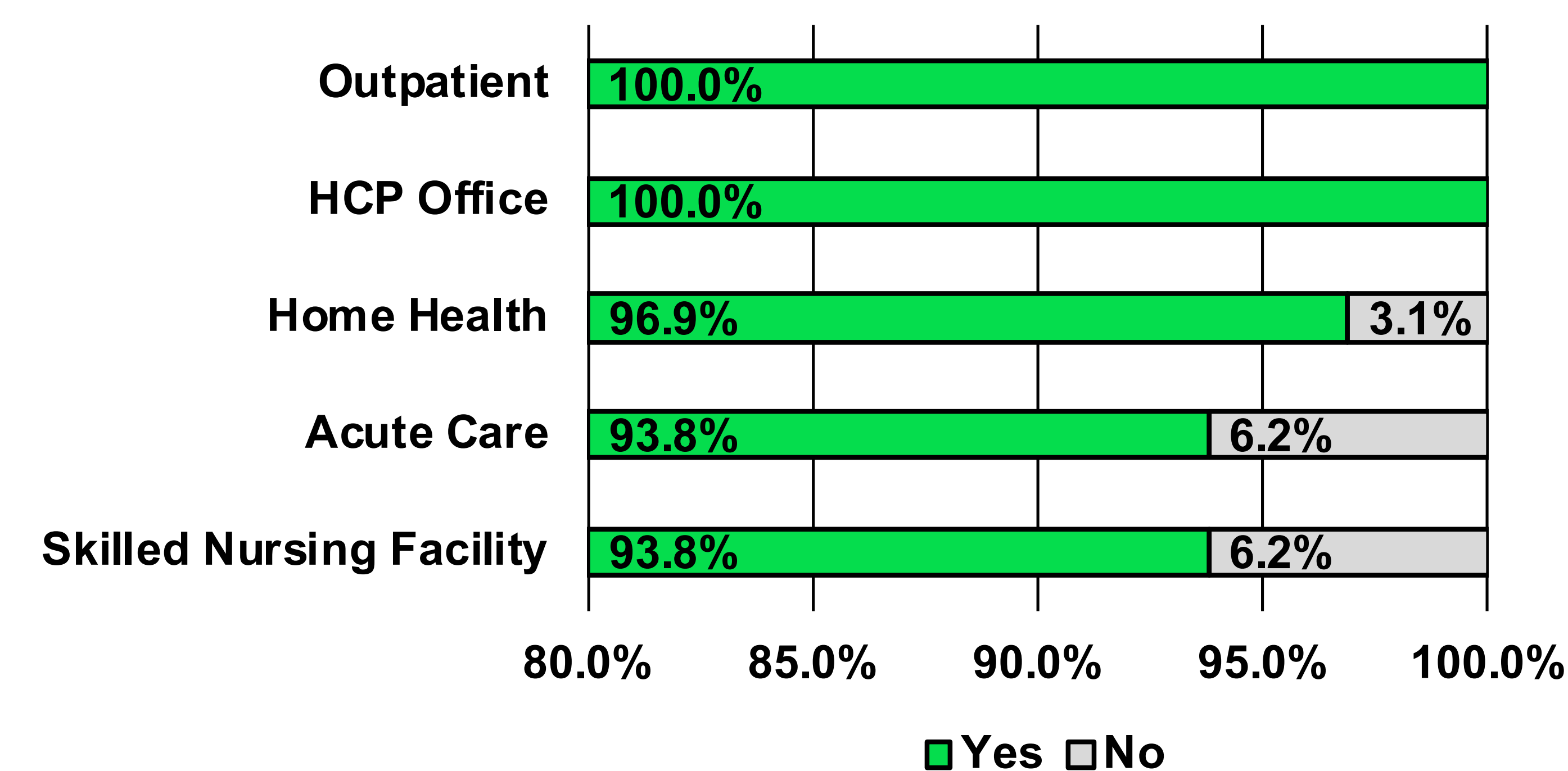


Figure 3. Recommended healthcare settings for use of silver collagen dressings in conjunction with NPWT and ROCF dressings.

- Use in traumatic wounds, surgical wounds, diabetic ulcers, venous leg ulcers, and pressure injuries was supported (Figure 4).
- Silver collagen dressing use in combination with NPWT and ROCF dressings was also recommended in adequately cleansed and debrided wounds, contaminated or infected wounds, inflamed wounds, stalled/hard-to-heal wounds, and slow to granulate wounds with NPWT use alone (Figure 5).

Results

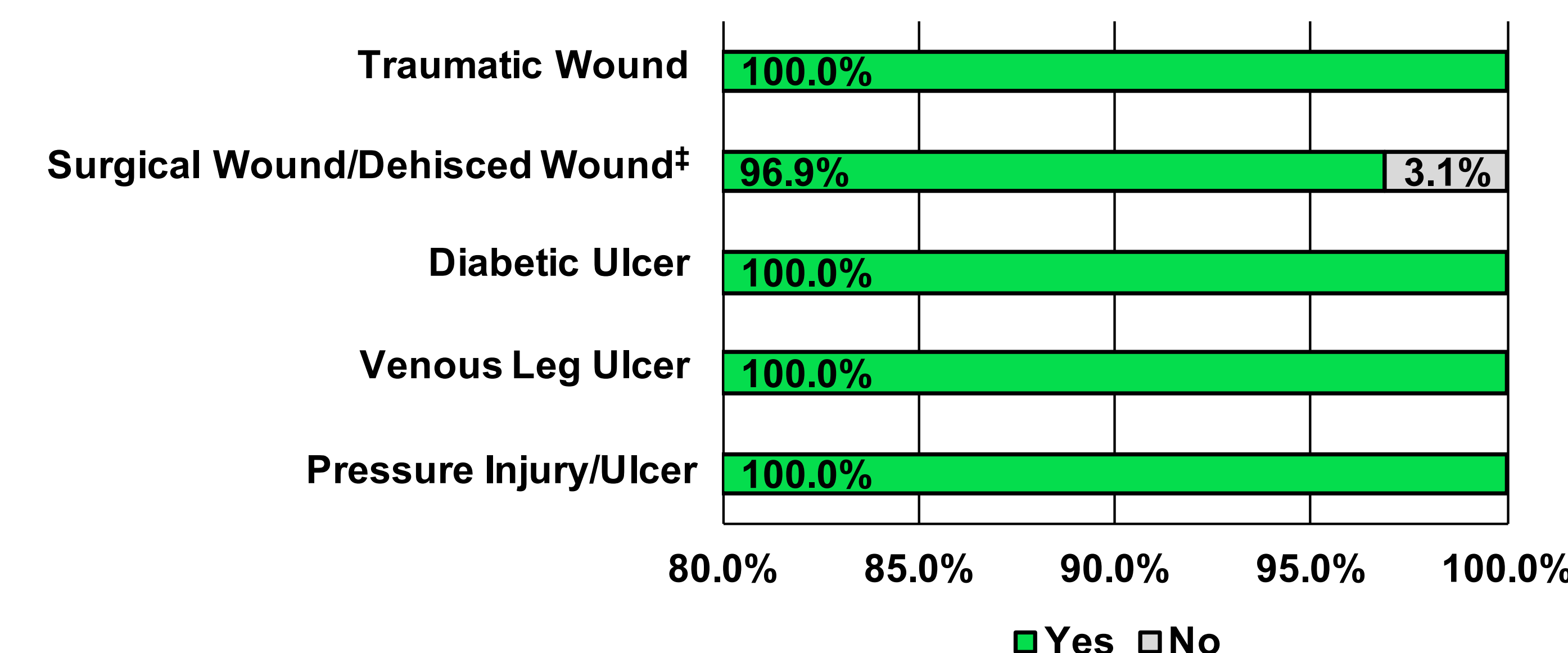


Figure 4. Recommended wound types for silver collagen dressings use in conjunction with NPWT and ROCF dressings. [‡]Recommended wound type including surgical wounds, dehisced wounds, wounds healing by secondary intention, or wounds being prepared for surgical closure, along with appropriate wound care.

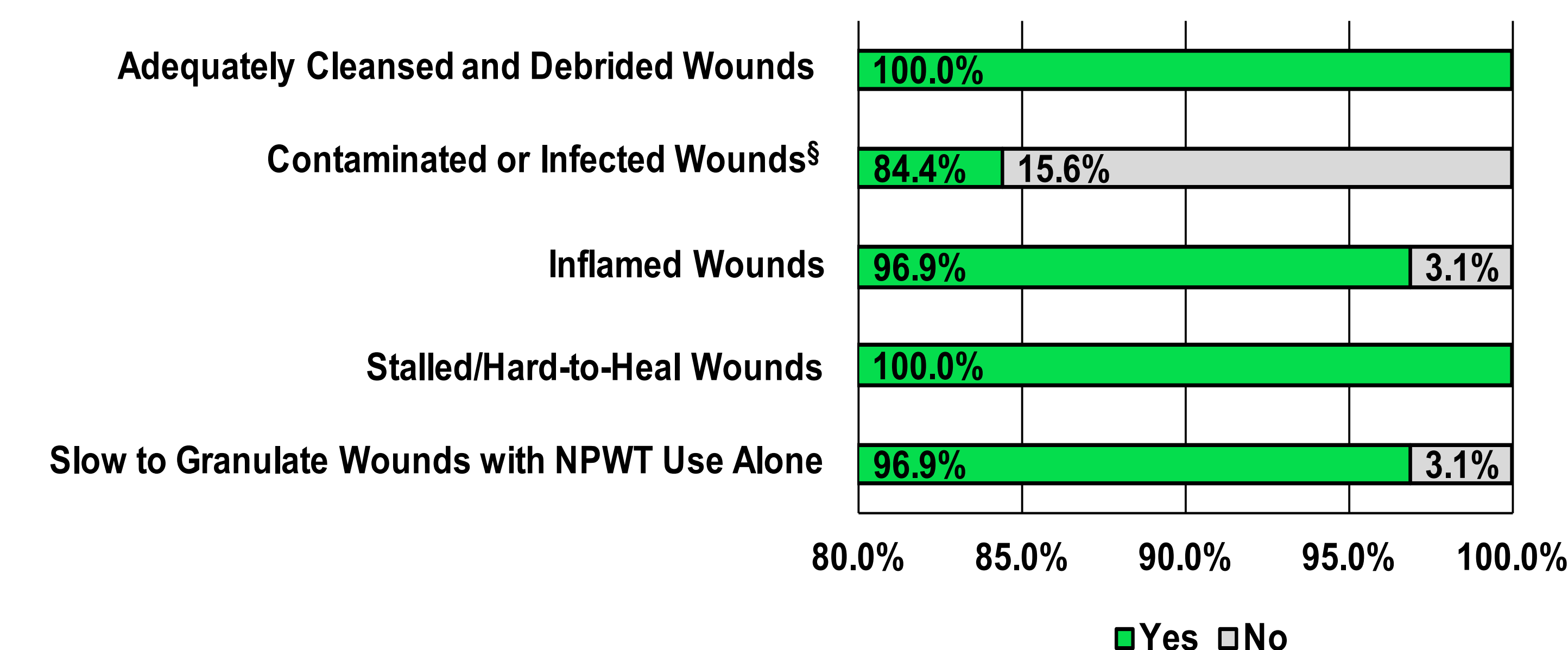


Figure 5. Recommended wound characteristics for silver collagen dressings use in conjunction with NPWT and ROCF dressings. [§]Recommended wound characteristic along with appropriate infection treatment protocols.

- Use of silver collagen dressings in combination with NPWT and ROCF dressings at the earliest point possible in the wound care plan was advised.
- The therapy combination was not recommended in the presence of exposed unprotected organs or exposed unprotected vessels, inadequate wound hemostasis, acutely ischemic wounds, surgically closed incisions, third degree burns, or in patients with hypersensitivity to therapy components.
- A representative case of silver collagen dressing use in conjunction with NPWT and ROCF dressings is shown in Figure 6.

Representative Case

Diabetic foot infection of the left foot, present for 18 days. Amputation of the 2nd and 3rd toes was previously performed. After sharp debridement, silver collagen dressings in conjunction with NPWT were initiated. Silver collagen dressing with a secondary dressing was utilized once NPWT was discontinued.



Figure 6A. At presentation



Figure 6B. Application of silver collagen dressing



Figure 6C. After 25 days of combination therapy



Figure 6D. After 10 days of silver collagen dressing and secondary dressing

Conclusions

- Limited evidence exists on the use of NPWT and ROCF dressings in conjunction with silver collagen dressings.
- A panel was convened to develop guidance for the use of this therapy combination.
- A total of 12 consensus statements were created to help educate clinicians on the recommended and contraindicated uses of NPWT in conjunction with silver collagen dressings.

References

- Zhang L, Wang S, Tan M, et al. *Evid Based Complement Alternat Med.* 2021;2021:1058671. doi:10.21037/apm-21-10830-10839.
- Chowdhry SA, Nieves Malloure Y, Camardo M, et al. *Int Wound J.* 2022;19(2):241-252.
- Chen L, Zhang S, Da J, et al. *Ann Palliative Med.* 2021;10(10):10830-10839.
- Song YP, Wang L, Yuan BF, et al. *Wound Repair Regen.* 2021;29(1):20-33.
- Suissa D, Danino A, Nikolis A. *Plast Reconstr Surg.* 2011;128(5):498e-503e.

*3M™ ActiV.A.C.™ Therapy System; †3M™ Promogran Prisma™ Collagen Matrix with ORC and Silver (Solventum Corporation, Maplewood MN)

The authors thank Solventum for assistance with poster preparation and production.

¹University of South Carolina School of Medicine – Greenville; PRISMA Health, Greenville, SC; ²Abrazo Arrowhead Hospital & Wound Clinic, Glendale, AZ; ³Connecticut Clinical Nursing Associates, LLC, Bristol, CT; ⁴OrthoNeuro, Columbus, OH; ⁵Heritage College of Osteopathic Medicine, Ohio University, Athens, OH; ⁶The Wound Treatment Center, Opelousas, LA; ⁷Saratoga Hospital Center for Wound Healing and Hyperbaric Medicine, Saratoga Springs, NY

R Klein, MN Desvigne, E Greenstein, C Milne, RJ Napolitano, Jr., MS Speyrer, and D Weir are paid consultants of Solventum.