

WoundEvidence

Single paper review

Galiano RD, *et al.* (2018)

PICO[®] helped to prevent post mammoplasty dehiscence compared with standard care

Application of PICO single use NPWT also significantly reduced the incidence of post-operative wound complications compared with standard care



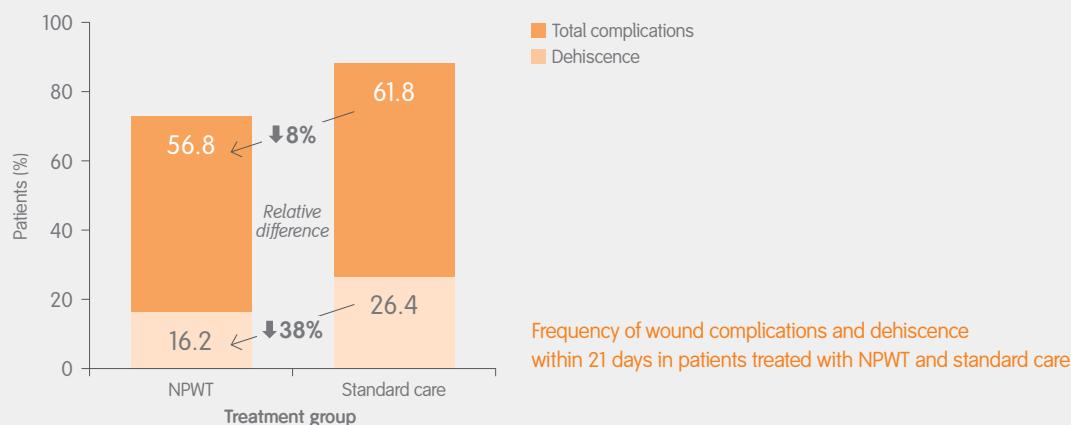
Study design

- A prospective, within-patient, randomised controlled, open-label, multicenter study assessing prevalence and type of healing complications in patients having undergone elective bilateral reduction mammoplasty
- Two hundred patients (mean age 35.7 years) of generally good health were recruited and randomized within-patient (i.e. to the right or left breast) to be treated with either negative pressure wound therapy (NPWT) or standard dressings and followed for up to 90 days post-operatively



Key results

- Wound healing complications
 - PICO single use NPWT significantly reduced wound healing complications within 21 days post-operatively compared to standard care ($p=0.004$)
 - Results were consistent after sensitivity analysis (39.7% with PICO vs 44.7% with standard care; $p=0.033$)
- Dehiscence
 - Incidence of wound dehiscence within 21 days of surgery was significantly reduced by application of PICO single use NPWT compared to standard care ($p<0.001$, 95% CI: 5.1;15.9)
 - NPWT appeared to have the greatest effect on reducing dehiscence in the higher BMI categories



Conclusions

Application of NPWT as a prophylactic on closed incision mammoplasty surgical wounds reduced wound healing complications compared with standard care. This outcome is suggested to be augmented in patients with $BMI >25\text{kg}/\text{m}^2$ or tissue resection weight above 500g.



Considerations

- In this open-label study, design assumptions may have led to over estimation of delayed healing, and therefore total wound healing complications, at day 7; however, the treatment effect was consistent even when the delayed healing window was expanded to day 10 (sensitivity analysis)
- Comparing treatments on the same patient avoids inter-cohort variability and may provide more robust results

Authors:

Galiano RD, Hudson D, Shin J, *et al.*

Title:

Incisional negative pressure wound therapy for prevention of wound healing complications following reduction mammoplasty. *Plast Reconstr Surg Glob Open* 2018;6:e1560.