

Use of Avelle™ NPWT System reduces the risk of local surgical site complications and improves scar elasticity within the first year following immediate postmastectomy breast reconstruction

Study design

A prospective, randomized study comparing closed incision Negative Pressure Wound Therapy (ciNPWT) with standard care in immediate postmastectomy breast reconstruction.

This study assessed the impact of ciNPWT after immediate breast reconstruction (IBR) in terms of surgical site complications, superficial skin temperature, skin elasticity and subjective scar quality.



30 patients
Standard treatment
(gauze and tape)



30 patients
ciNPWT with Avelle™
NPWT System



Endpoints



Surgical site complications



Superficial skin temperature

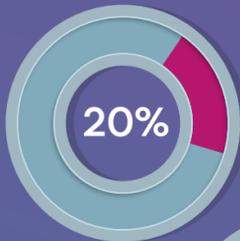


Skin elasticity & subjective scar quality

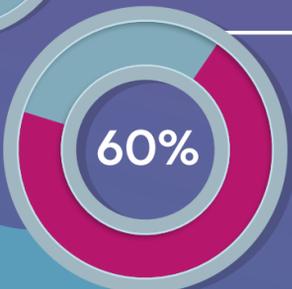
Results

Surgical site complications

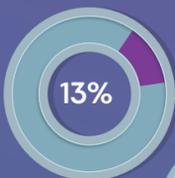
The Avelle™ group had a significant decrease in surgical site complications within one year of surgery with the greatest difference in seroma.



20% in Avelle™ group



60% in standard dressing group; p = 0.003



Seroma formation:

13% in Avelle™ group



43% in standard dressing group; p = 0.02

Avelle™ use was associated with a 10-fold risk reduction in local complications within the first year.



The Avelle™ group had more elastic scar tissue

(average coefficient of elasticity)

Avelle™ 0.9 vs 0.7 with standard of care (p<0.001). Measured 1 year after surgery.



Scar skin temperature was significantly higher in the Avelle™ group than the standard dressing group.

Avelle™ 32.3 vs 31.2 with standard of care (p=0.006). Values are averages, units are °C- measured at day 7.

Conclusion

This is the first prospective, randomised, and controlled study which proves a significant decrease of surgical-site complications and improved scar elasticity within one year of IBR in patients receiving Avelle™ NPWT.