

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.



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.

Avelle™
Negative Pressure Wound Therapy System