



## AB022. 205. Prophylactic negative pressure wound therapy for closed incisions in breast surgery—a systematic review & meta-analysis

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**Background:** Prophylactic negative pressure wound therapy (NPWT) is a promising technology for preventing wound complications in closed surgical incisions. We aimed to evaluate the association of prophylactic NPWT with rates of wound complications for closed incisions in breast surgery and compare them with those of conventional dressings.

**Methods:** This meta-analysis was conducted according to preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines. A systematic search of Medline, Embase, CINAHL and Cochrane Library was undertaken for articles in which prophylactic application of a single use NPWT device was compared with standard dressings for total wound complications, surgical site

infection (SSI), seroma, haematoma, wound dehiscence and necrosis.

**Results:** Seven studies met the inclusion criteria for analysis, reporting on 1,500 breast incisions in 904 patients. On random effects analysis, NPWT was associated with a significantly lower rate of total wound complications [pooled odds ratio (OR), 0.36; 95% CI, 0.19–0.69; P=0.002], SSI (pooled OR, 0.45; 95% CI, 0.24–0.86; P=0.015), seroma (pooled OR, 0.28; 95% CI, 0.13–0.59; P=0.001), wound dehiscence (pooled OR, 0.49; 95% CI, 0.32–0.72; P=0.000) and wound necrosis (pooled OR, 0.38; 95% CI, 0.19–0.78; P=0.008). There was no significant difference in rates of haematoma (pooled OR, 0.8; 95% CI, 0.19–3.2; P=0.75). Significant heterogeneity existed amongst included studies for rates of total wound complications but not for the other endpoints.

**Conclusions:** Compared with standard dressings, prophylactic application of NPWT significantly reduced the rate of total wound complications, SSI, seroma, wound dehiscence and wound necrosis when applied to closed incisions on the breast.

**Keywords:** Breast surgery; closed incisions; negative pressure wound therapy (NPWT)

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