Supplemental Material: Methods, Literature Review

Methods:
A systematic search was conducted within the PubMed database using the terms “negative pressure” or “Negative Pressure Wound Therapy” or “NPWT” or “NPT” or “Topical Negative Pressure” or “Vacuum Assisted Closure” and either “closed wound”, “Incision,” “incisional,” or “closed incisional.” The database was searched on June 10, 2018. English language publications were included, there were no exclusions on publication date. Relevant articles cited in these papers were also reviewed. Inclusion criteria for review included studies comparing postoperative application of iNPT to other dressing (usually gauze) with ten or more patients in the study. Case series, comparative cohorts, and randomized controlled trials were included. Meta-analysis, cost-analysis, and literature reviews were considered. Papers addressing negative pressure therapy on open wounds were excluded, as were studies in which the dressing was not applied immediately after surgery. Due to the paucity of preclinical trials on incisional NPT, the search was expanded to include animal studies of incisional and open NPT. A total of 73 articles were recovered which addressed the application of negative pressure wound therapy to closed incisions. Papers were grouped into preclinical trials (49, Table 1, Supplemental Digital Content 3, http://links.lww.com/PRS/D188;), clinical trials (12, Table 2, Supplemental Digital Content 2, http://links.lww.com/PRS/D187), and literature reviews, cost analysis, and meta-analyses (12, Table 3, supplemental digital content 4, http://links.lww.com/PRS/D189). Clinical trials were further grouped by specialty for discussion of relevant and landmark studies.

Clinical studies discussed above include both randomized controlled trials and case controlled or cohort studies. Case controlled and cohort studies are included with the
knowledge that they are significantly subject to selection bias, and therefore useful but non-ideal references.