



Title	Vacuum-assisted Closure for the Management of Wounds: An Accelerated Systematic Review
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Aim

To assess whether the management of non-healing wounds using vacuum-assisted closure (VAC) therapy will improve efficacy and safety outcomes compared to conventional methods.

Conclusions and results

Six RCTs of VAC on four indications (pressure sores/ulcers, diabetic foot ulcers, skin grafts, chronic/complex wounds) were reviewed. Also included were 4 nonrandomized comparative studies (sternal wounds, skin grafts) and 7 case series studies (skin grafts, chronic wounds, pressure sores/ulcers, diabetic foot ulcers, sternal wounds). Regarding pressure sores/ulcers, no difference was found between VAC and traditional gauze dressings or the Healthpoint (HP) system. Foot ulcers managed with VAC significantly decreased in surface area versus those managed with saline-moistened gauze, which increased. VAC therapy appeared to be more effective than Opsite and bolster dressings in skin graft management. Patients managed with VAC had higher reepithelialisation rates, and fewer patients required repeat split thickness skin graft to the same site. VAC was more effective than WM gauze in chronic/complex wounds (significantly greater reduction in wound volume, depth, and treatment duration). Comparative studies on sternal wounds suggest that VAC may be more cost effective than traditional dressings or closed drainage and irrigation (VAC required fewer dressing changes, fewer flaps to close the wound, and shorter treatment time & hospitalization). This could reduce healthcare costs and enhance patient satisfaction and quality of life. A major complication for patients whose wounds failed to heal with VAC was amputation. Cases of periwound maceration and infection were reported (unclear if VAC-related). Some patients reported minor discomfort with pressure exceeding 100 mmHg.

Recommendations

Although most studies were probably too small to detect significant differences, some findings showed

VAC to result in better healing than standard methods, with few serious complications. With proper training to ensure appropriate and competent use, VAC is simple to use and appears to be a promising option for managing various wound types.

Methods

MEDLINE, PREMEDLINE, EMBASE, Current Contents and PubMed were searched from inception up to July 2003. The Cochrane Library Issue 3, 2003 was searched for randomized controlled trials (RCTs) comparing VAC with an alternative treatment. The York (UK) Centre for Reviews and Dissemination databases, Clinicaltrials.gov, National Research Register, Grey Literature Reports, relevant online journals, and the Internet were searched in July 2003. Searches had no language restrictions. Studies with safety and efficacy data on the VAC technique were included (RCTs, other controlled or comparative studies, and case series with consecutive patients and stating the type of wound). Accelerated systematic reviews use the same methodology as full systematic reviews, but may restrict the types of studies to produce the review in less time.

Further research/reviews required

Rigorous studies with larger sample sizes assessing the use of VAC therapy on different wound types are required.