

Supplementary File

A part of Burhan, A., Ali Khusein, b. A., & Sebayang, S. M. (2022). Effectiveness of negative pressure wound therapy on chronic wound healing: A systematic review and meta-analysis. *Belitung Nursing Journal*. <https://doi.org/10.33546/bnj.2220>

JOURNAL SEARCH STRATEGY AND DETERMINATION

We started this meta-analysis by gathering authors who are experts in nursing wound care and medical doctors in the field of wounds. We determined PICOS (Population: Wound Chronic, Intervention: Negative Pressure Wound Therapy, Comparison: Standard Wound Care, Outcome: Infection and Wound Healing, Study's: Randomized Control Trial and Clinical Trial). Then we discussed with the team and searched for keywords in Mesh Browser and Mesh Term Pubmed, our authors agreed with Keyword Search: Negative Pressure Wound Therapy OR Vacuum Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial, and the three of us saw the results the same for all three authors:

Table S1 Similarity of search results from all authors

No	Authors	Database (2016-2021 Years)				
		Institution	CINAHL	ProQuest	PubMed	ScienceDirect
1	Asmat Burhan, RN., M.Kep, ETN	Universitas Harapan Bangsa-Indonesia	148	6,929	568	1,415
2.	Dr. Nizam Bin Ali Khusein, MD	Hospital Sarawak, Kucing-Malaysia	148	6,929	568	1,415
3	Septian Mixrova S, S.Kep., Ns., M.Kep	Universitas Harapan Bangsa-Indonesia	148	6,929	568	1,415

SEARCHING STRATEGY IN FIVE DATABASES

Searching articles in **CINAHL** on September 30, 2021 with the following keywords: Negative Pressure Wound Therapy OR Vacuum-Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial.

The screenshot shows the CINAHL Plus search interface. The search query is "Negative Pressure Wound Therapy OR Vacuum Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial". The results page displays three articles:

- Portable Negative Pressure Wound Therapy: A Case Study of a Patient Treated in the Community in Jersey.** (Includes abstract) Brown, Sara; Glendewar, Gilly. *British Journal of Community Nursing*, 2019 Supplement 6; 24(Suppl6): 56-610. 5p. (Article - case study, pictorial, tables/charts) ISSN: 1462-4753. The aim of this case study is to describe the authors' experience with the use of portable negative pressure wound therapy (pNPWT) in a non-NHS community health care environment. In this context...
Subjects: Wounds, Chronic; Negative Pressure Wound Therapy; Pain Management; Cost Benefit Analysis; Patient Satisfaction; Middle Aged; 45-64 years; Male
- An Alternative Treatment Strategy for Complicated Chronic Wounds: Negative Pressure Therapy over Mesh Skin Graft.** (Includes abstract) Maruccia, Michele; Onesti, Maria G.; Sorvillo, Valentina; Albano, Antonio; Dessy, Luca A.; Carlesimo, Bruno; Tarallo, Mauro; Marcasciano, Marco; Giudice, Giuseppe; Cigna, Emanuele; Ribuffo, Diego. *BioMed Research International*, 2/19/2017; 2017 1-7. 7p. (Article - pictorial, research, tables/charts) ISSN: 2314-6133. Extensive skin defect represents a real problem and major challenge in plastic and reconstructive surgery. On one hand, skin grafts offer a practical method to deal with skin defects despite the...
Subjects: Wounds, Chronic; Skin Ulcer Therapy; Negative Pressure Wound Therapy; Skin Transplantation; Wound Healing; Adult; 19-44 years; Middle Aged; 45-64 years; Aged; 65+ years; Aged, 80 & over; Female; Male
- Accelerated wound healing with combines NPWT and IPC: a case series.** (Includes abstract) Arvesen, Kristian; Nielsen, Camilla Bak; Fogh, Karsten. *British Journal of Community Nursing*, 2017 Supplement 3; v.22. 541-545. 5p. (Case Study - exam questions, research, tables/charts) ISSN: 1462-4753. Negative pressure wound therapy (NPWT) and intermittent pneumatic compression (IPC) have traditionally been used in patients with chronic complicated non-healing wounds. The aim of this study (re...
Subjects: Negative Pressure Wound Therapy; Compression Therapy; Wounds, Chronic; Leg Ulcer Therapy; Wound Care; Combined Modality Therapy; Adult; 19-44 years; Middle Aged; 45-64 years; Aged; 65+ years; Aged, 80 & over; Male; Female

Figure S1 Screenshot of the screening results in CINAHL (2016-2021)

Searching articles in **ProQuest** on September 30, 2021 with the following keywords: Negative Pressure Wound Therapy OR Vacuum-Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial.

The screenshot shows the ProQuest search results page. The search bar contains the keywords: "Negative Pressure Wound Therapy OR Vacuum Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial". The page displays 6,929 results. On the left, there are applied filters: Scholarly Journals, 2016-09-01 - 2021-09-01, patients, Article, and English. The main results list shows two articles:

- 1** A Prospective **Randomized** Study: The Usefulness and Efficacy of **Negative Pressure Wound Therapy** with Lipidocolloid Polyester Mesh Compared to Traditional **Negative Pressure Wound Therapy** for Treatment of **Pressure Ulcers**. Baek, Wooyeol; Lee, Nara; Eun Jin Han; Roh, Tai Suk; Lee, Won Jai. *Pharmaceutics*; Basel Vol. 12, Iss. 9, (2020): 813. ...vacuum-assisted closure technique in the management of acute and chronic wounds... ulcers treated with negative pressure wound therapy: A pilot study. Wounds... -assisted closure: A new method for wound control and treatment. Clinical... Abstract/Details Full text Full text - PDF (414 KB)
- 2** **Negative pressure wound therapy** in patients with wounds healing by secondary intention: a systematic review and meta-analysis of **randomised controlled trials**. Zens, Yvonne; Barth, Michael; Bucher, Heiner C; Dreck, Katrin; Felsch, Moritz; et al. *Systematic Reviews*; London Vol. 9, (2020): 1-26. Full Text

Figure S2 Screenshot of the screening results in ProQuest (2016-2021)

Searching articles in **PubMed** on September 30, 2021 with the following keywords: Negative Pressure Wound Therapy OR Vacuum-Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial.

The screenshot shows the PubMed search results page. The search bar contains the keywords: "Negative Pressure Wound Therapy OR Vacuum Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial". The page displays 568 results. On the left, there is a bar chart titled "RESULTS BY YEAR" showing the number of results from 2016 to 2021. The main results list shows one article:

- 1** **Effect of Stress Ulcer Prophylaxis With Proton Pump Inhibitors vs Histamine-2 Receptor Blockers on In-Hospital Mortality Among ICU Patients Receiving Invasive Mechanical Ventilation: The PEPTIC Randomized Clinical Trial.** PEPTIC Investigators for the Australian and New Zealand Intensive Care Society Clinical Trials Group, Alberta Health Services Critical Care Strategic Clinical Network, and the Irish Critical Care Trials Group, Young PJ, Bagshaw SM, Forbes AB, Nichol AD, Wright SE, Bailey M, Bellomo R, Beasley R, Brickell K, Eastwood GM, Gattas DJ, van Haren F, Litton E, Mackle DM, McArthur CJ, McGuinness SP, Mouncey PR, Navarra L, Opgenorth D, Pilcher D, Saxena MK, Webb SA, Wiley D, Rowan KM.

Figure S3 Screenshot of the screening results in PubMed (2016-2021)

Searching articles in **ScienceDirect** on September 30, 2021 with the following keywords: Negative Pressure Wound Therapy OR Vacuum-Assisted Closure AND Chronic Wounds OR Ulcers AND Clinical Trial AND Randomized Control Trial.

Figure S4 Screenshot of the screening results in ScienceDirect (2016-2021)

Fixed and Random Effects			
	Q	df	p
Omnibus test of Model Coefficients	9.083	1	0.003
Test of Residual Heterogeneity	41.663	14	<0.001
<i>Note.</i> <i>p</i> -values are approximate.			
<i>Note.</i> The model was estimated using Restricted ML method.			

Coefficients						
					95% Confidence Interval	
	Estimate	Standard Error	z	p	Lower	Upper
intercept	0.243	0.081	3.014	0.003	0.085	0.400
<i>Note.</i> Wald test.						

Residual Heterogeneity Estimates			
		95% Confidence Interval	
	Estimate	Lower	Upper
τ^2	0.056	0.013	0.173
τ	0.238	0.114	0.416
I^2 (%)	66.701	31.706	85.986
H^2	3.003	1.464	7.136

Rank correlation test for Funnel plot asymmetry		
	Kendall's τ	p
Rank test	0.115	0.552

Regression test for Funnel plot asymmetry ("Egger's test")		
	z	p
sei	0.447	0.655

File Drawer Analysis			
	Fail-safe N	Target Significance	Observed Significance
Rosenthal	137.000	0.050	<0.001