

## Modification of Breast Pump as a Negative Pressure Wound Therapy for Accelerating Wound Healing of Diabetic Ulcer

<b>Title</b>	Modification of Breast Pump as a Negative Pressure Wound Therapy for Accelerating Wound Healing of Diabetic Ulcer
<b>Author Order</b>	1 of 3
<b>Accreditation</b>	
<b>Abstract</b>	<p>Introduction: Negative Pressure Wound Therapy (NPWT) is considered as the best treatment for accelerating wound healing, including diabetic ulcer. However, this device is still not available in Indonesia. Therefore, the purpose of this study were to make NPWT by using modification of breast pump, and to elucidate the effect of this device on acceleration of wound healing in diabetic ulcer. Methods: NPWT was made by using digital breast pump. Wounds were divided into two groups; wound-treated by NPWT (experimental group) and wound-untreated by NPWT (control). The negative pressure used for this study was 85 mmHg. Rats were sacrificed on day 7, and wound samples and surrounding skin were stained with Hematoxylin and Eosyn. Inflammation, intensity of necrotic tissue, and wound closure were observed. Results: The device could deliver a negative pressure at a range of 85–140 mmHg. Wound size in the experimental group was smaller than in control group. Inflammation was also less in the experimental group than control group. Conclusion: The modification of breast pump could be used as a negative pressure therapy for wounds, and has effect on reducing inflammation and necrotic tissue. Further study is needed to elucidate the effect of this device on human subject.</p>
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