

SYNOPSIS

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Title: Negative Pressure Wound Therapy (NPWT): A Comprehensive Study

Introduction:

Negative Pressure Wound Therapy (NPWT) has emerged as a promising treatment modality for various types of wounds. Despite its widespread use, there is a need for comprehensive research to explore its efficacy, mechanisms of action, and potential limitations.

Research Questions:

What are the clinical outcomes associated with NPWT in wound healing?

What are the physiological mechanisms underlying the effectiveness of NPWT?

Are there specific patient populations or wound types that respond better to NPWT?

Objectives:

To evaluate the clinical efficacy of NPWT in promoting wound healing.

To investigate the physiological mechanisms involved in NPWT.

To identify factors influencing the effectiveness of NPWT.

To assess the safety profile of NPWT.

Hypothesis:

NPWT will demonstrate significant improvement in wound healing outcomes compared to standard wound care methods.

Approved

15/3/2024
Dr. Saubh Kumar

Materials and Methods:

Study Design:

This study will employ a prospective cohort study design to assess the clinical outcomes of NPWT.

Settings:

The study will be conducted in a tertiary care hospital with specialized wound care facilities.

Study Population:

The study will include patients with chronic wounds who are candidates for NPWT.

Study Tools:

NPWT devices

Standard wound care supplies

Clinical assessment tools (e.g., wound size measurement, pain assessment)

Duration of Study:

The study will span over 12 months, with follow-up assessments conducted at regular intervals.

Sample Size:

A sample size of 100 patients will be recruited based on power analysis and estimated effect sizes.

Sampling Technique:

Consecutive sampling will be utilized to recruit eligible patients admitted to the wound care unit during the study period.

Data Collection Procedure:

Clinical data, including wound characteristics, patient demographics, comorbidities, and treatment outcomes, will be collected using standardized data collection forms.

Operational Definitions:

Wound healing outcomes will be assessed based on parameters such as wound size reduction, granulation tissue formation, and time to complete closure.

Complications associated with NPWT will include infection, bleeding, and device-related adverse events.

Data Analysis Plan:

Descriptive statistics will be used to summarize patient demographics and wound characteristics. Inferential statistics, including t-tests and chi-square tests, will be employed to compare outcomes between NPWT and standard wound care groups.

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Ethical Considerations:

The study will be conducted in accordance with the principles outlined in the Declaration of Helsinki. Informed consent will be obtained from all participants, and patient confidentiality will be ensured throughout the study.