Protocol Number: NP-PWD-02

Protocol Date and Version #:09 February 2024, V2

PROTOCOL TITLE: A Case-Control Study of Negative Pressure Platform Wound Devices (NP-PWD) for Skin and Soft Tissue Defects

SECTION A: RESEARCH TEAM AND LOCATIONS

A1. RESEARCH TEAM

Study Role	Institution/Company and Contact Information
Principal Investigator and Sponsor	**Rodney K. Chan, MD** Principal Investigator The Metis Foundation 210-569-1110 chan@metisfoundationusa.org
Key Research Personnel	**Victoria Diaz, RN** Research Project Manager The Metis Foundation 210-569-1110 diaz@metisfoundationusa.org
	Kristin Anselmo, RN Clinical Research Nurse The Metis Foundation 210-569-1110 kanselmo@metisfoundationusa.org

A2. RESEARCH LOCATIONS

Northeast Baptist Hospital

A3. MULTISITE RESEARCH N/A

B. SOURCE OF EXTERNAL FUNDING

Applied Tissue Technologies

C1. HYPOTHESIS/STUDY SYNOPSIS

Hypothesis: The Negative Pressure Platform Wound Device (NP-PWD) technology is a feasible alternative to manage skin and soft tissue defects as compared to standard of care, KCI Wound VAC granulofoam.

Study Synopsis: This study will demonstrate the effectiveness of the NP-PWD therapy in managing complex wounds and improving wound healing parameters as compared to standard of care.

A study of 24 completed subjects will be conducted by enrolling patients who are requiring treatment for open skin and soft tissue defects. Patients will be screened for inclusion criteria and asked to consent to participate in the study. Following consent subjects will be randomized to receive treatment of one of the two study arms. Arm 1, the standard of care arm, will receive KCI Wound VAC Granulofoam. Arm 2, the study arm, will receive treatment with NP-PWD. Prior to the initial application, wound evaluations and photography will be completed to include assessment of infection with wound swabs. The wound dressing will be assessed for the need for change every 2-3 days and changed if clinically indicated (following each device IFU). Subjects will be followed for up to nine days post initial application. At minimum, the randomized treatment will be applied for 2 days after initial application for a subject to be considered completed. Subject who do not complete the treatment course (minimum of 2 days of treatment), may be replaced per investigators discretion. Follow up data will be gathered at each change/removal of the NP-PWD or Wound VAC. The data collected will include indications for dressing change, dressing change process, photographs and assessments for wound healing, infection, and adverse events. Gathered clinical data of the enrolled subjects will be used to evaluate the feasibility in using the NP-PWD device for wound healing management.

C2. BACKGROUND

Open complex wounds are a prominent issue, as unhealed or untreated wounds pose a risk of microbial infection. The Negative Pressure Platform Wound Device or NP-PWD, is an innovative therapy which uses a patented dressing to promote healing by creating a vacuum (negative pressure) at the wound site without the use of an intervening foam dressing. This pressure promotes granulation of the skin, forming new connective tissue and blood vessels, removes or inhibits microbial and infectious agents, as well as pulls wound edges together for closure. Although this therapy is evolving, the review of elements and effects on wounds is still uncertain and requires further studies regarding the mechanism and use of NP-PWD in wound healing.

C3. OBJECTIVES/STUDY GOALS

This study is intended to evaluate the feasibility of the NP-PWD as compared to SOC for the treatment of wound healing through assessment of healing time, feasibility of application, patient

comfort, and adverse events.

Primary:
To determine the usability and feasibility of NP-PWD in comparison to SoC

Secondary:

- To evaluate and compare wound readiness for closure between study wounds treated with NP-PWD versus SoC
- To evaluate colony forming units present on study wounds before and after treatment(s)
- To evaluate the ease of use of the product by healthcare providers
- To evaluate tolerability of the product by patient subjects

C4. SUBJECT SELECTION

Twenty-four (24) patients, 18 years of age or older, who are requiring treatment for open skin and soft tissue defect at a hospital within the Baptist Health System will be recruited for participation in this study. Potential subjects must meet the following inclusion and exclusion criteria to be included in this study.

Inclusion Criteria
All subjects enrolled must meet ALL the following criteria:
1. Patients 18 years of age or older of either gender
2. Have an open skin or soft tissue defect requiring treatment

Exclusion Criteria
Subjects who meet any of the following criteria will be excluded from the study:

1. Active malignant disease at the study site
2. Any concomitant medications or co-morbidities that, in the opinion of the investigator, may interfere with device use
3. On any investigational drug(s) or therapeutic device(s) to the study site in the last 30 days or any previous enrollment in this study
4. Pregnant at enrollment

When a potential subject is identified a member of the research staff will approach the potential subject or their legally authorized representative (LAR) and introduce the proposed study. If a potential subject or their LAR expresses interest in participation in the study, the PI or designated study personnel will proceed with the informed consent process for potential enrollment.

D. STUDY PROCEDURES/ RESEARCH METHODS

Informed consent of potential subjects will be done in a quiet and private area of the patient care setting (hospital or clinic office) to ensure patient confidentiality. The PI or designated study staff will discuss and explain elements of the study with the informed consent document. The PI or designated study staff will also be available to answer questions for the potential subject.

A copy of the IRB-approved informed consent document will be given to the potential subject for their review and ample time will be given for their decision making. If the potential subject decides to participate, the IRB-approved informed consent document will be signed and dated appropriately by all persons required on the document. The original signed consent document will be kept in the study files; a copy will be given to the subject and a copy will be placed in the subject's medical record.

Study procedures will not begin until eligibility is determined, and the informed consent process is completed. Patients who sign the informed consent form are considered to be enrolled. If a patient signs the consent but is not randomized into the study, the patient is considered a screen failure.

Subjects will be enrolled for up to 9 days following application of the NP-PWD or Wound VAC. At minimum, the randomized treatment will be applied for a minimum of 2 days after initial application for a subject to be considered completed. Subject who do not complete the treatment course (minimum of 2 days of treatment), may be replaced per investigators discretion.

Activities to be completed for each visit are as follows:

Treatment (Day 0): Screening, consent, documentation of baseline demographics, medical history and physical, measurement and photography of wound, wound swab for colony forming unit count, randomization, and application of NP-PWD or Wound Vac according to randomization.

Follow-up visits:

At each follow-up visit the study wound will be assessed for the need for dressing change (every 2-3 days) and changed if clinically indicated (following the respective device's IFU). The study wound sites will be assessed for signs of infection, erythema, itching, drainage, quality of closure and pain.

Follow-up (Visit 2): Assessment of need for dressing change and completion of change of treatment dressing if necessary. Should the study subject's wound indicate continuation of negative pressure wound therapy a second application of the randomized treatment may be applied. If the subject no longer requires negative pressure wound therapy, the therapy will be

discontinued. Wound assessments, measurements, photographs, assessments for adverse events will all be completed and documented.

Optional Follow-up (Visit 3 & 4): Assessment of need for change of treatment dressing, reapplication if necessary or removal, wound assessment, measurements, photographs, assess for adverse events.

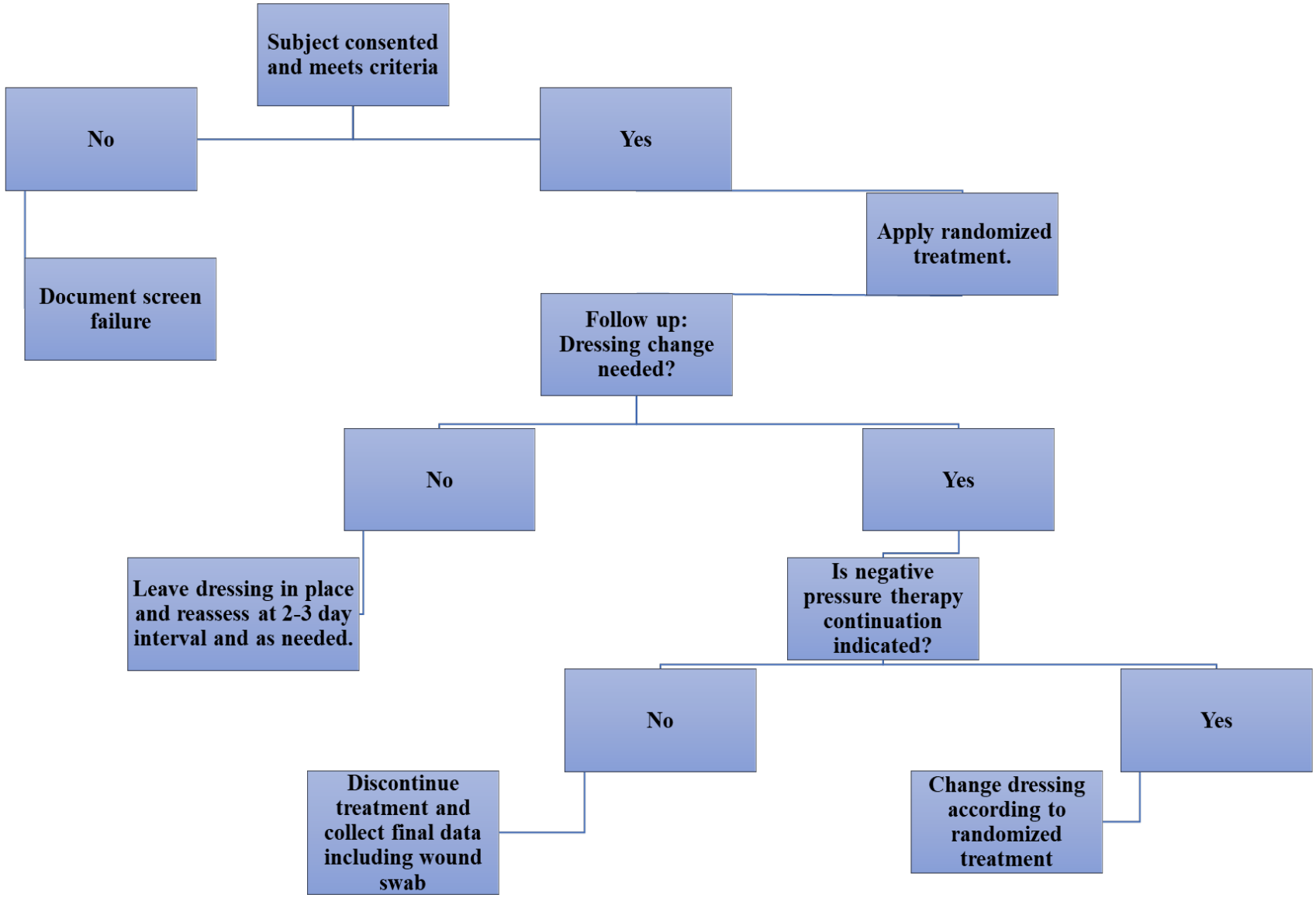
If negative pressure wound therapy is no longer indicated at any time after the minimum requirement of 2has been met, the therapy will be discontinued and assessments will be completed to include a final wound swab, and the subject's participation will end.

Schedule of Events

Research Procedures	**Visit 1 Day 0**	**Visit 2 Day 2-3**	**Visit 3 Day 5-6 (Optional)**	**Visit 4 Days 7-9 (Optional)**
Assessment of Eligibility	X			
Informed Consent	X			
Demographics and H&P	X			
Wound assessment	X	X	X	X
Photography	X	X	X	X
Randomization	X			
Assessment of need for dressing change		X	X	X
Treatment application	X	X*	X*	
Wound swab (CFU)^	X			X
Adverse event assessment	X	X	X	X

*At minimum the treatment will be applied once but can be applied up to three times. Visits 3 and 4 are optional.
^ The wound swab will be taken once at baseline and once at the time of final removal.

Study Intervention Flow Chart



Data Collection

Data collection will consist of data collection worksheets. All information collected about subjects during the study will be kept strictly confidential and will be maintained in a secure, locked file and accessed only by study staff. Data will be entered into a secured, password protected database. Upon completion of the study, records will be archived in a password-protected file on a Metis server. Subject names will not appear in any reports or published articles.

Subjects will be assigned and identified by a sequential study number to protect the confidentiality of the subject. All information collected about subjects during the study will be kept strictly confidential. Subject names will not appear in any reports or published articles. Materials that identify subjects as individuals including medical records will not be released without the subject's explicit permission as required by law.

Subjects will be made aware that their medical records, which identify them as individuals, may be inspected by the designated IRB and/or other applicable regulatory authorities.

Data Analysis

All pertinent data will be analyzed using descriptive and correlational statistics as appropriate to compare those patients who were treated. Overall standard descriptive statistical methods will be used to analyze other data; any categorical variables will be compared via chi square analysis while continuous variables will be compared via student-t test or Wilcoxson test as appropriate. We plan to perform a forward stepwise logistic regression. The available data including patient specific data as well as treatment variables will first be evaluated using a univariate analysis for possible significant risk factors. These will then be analyzed using a multiple logistic regression analysis and tested for interaction.

D1. RISK/ SAFETY INFORMATION

Risks of harm, measures to reduce the risks of harm and benefits of participation

Risks of Harm

Research Procedure Name: Application of NP-PWD or Wound VAC

Research Procedure Description: Application of a NP-PWD or Wound VAC onto open wound.

Research-related Risks

•Itching, swelling and redness.

•Infection.

•Poor healing.

Measures to Minimize Risks of Harm: (Precautions, safeguards): Application of the NP-PWD or Wound VAC will be performed in a controlled clinical setting. Throughout the course of the study, the NP-PWD or Wound VAC will only be applied by trained professionals and the site will be monitored for signs adverse reactions such as infection or poor healing.

D2. MONITORING AND REPORTING OF ADVERSE EVENTS/ SERIOUS ADVERSE EVENTS

Monitoring

Data collected on the subjects will be entered into a data spreadsheet that will be verified routinely by designated study personnel for accuracy and completeness. The study will be conducted in compliance with any applicable laws and regulations. Designated study staff, for accuracy and completeness, will verify data collected. All regulatory and subject files will be maintained in accordance with any applicable regulations.

The principal investigator will be responsible for the protocol safety monitoring. The PI will make study documents (e.g., consent forms, data pulls) and pertinent hospital or clinical records readily available for inspection by the IRB and oversight staff for confirmation of the study data.

Adverse Events

Adverse events that are anticipated in this patient population include those associated with wound healing.

Unexpected adverse events and unanticipated problems

All unanticipated problems involving risks to subject or others will be promptly reported to the IRB by email. A complete written report will follow the initial notification.

Adverse Device Effects

Unanticipated adverse device effects (UADE) are any serious adverse effect on health or safety or any life-threatening problem or death caused by, or associated with, a device, if that effect, problem, or death, was not previously identified in a nature, severity, or degree of incidence in the investigational plan or application (including a supplementary plan or application), or any other unanticipated serious problem associated with a device that relates to the rights, safety, or welfare of subjects.

UADEs must be reported by the clinical investigator to the sponsor and the reviewing IRB. For device studies, investigators are required to submit a report of a UADE to the sponsor and the reviewing IRB as soon as possible, but in no event later than 10 working days after the investigator first learns of the event (21 CFR 812.150(a)(1). Sponsors must immediately conduct an evaluation of a UADE and must report the results of the evaluation to FDA, all reviewing IRBs, and participating investigators within 10 working days after the sponsor first receives notice of the effect (21 CFR 812.46(b), 812.150(b)(1).

D3. CONFEDENTIALITY

PRIVACY FOR SUBJECTS

Discussion of the study with the potential subject and the Informed consent process will be done in a quiet and private area of the hospital to ensure privacy.

Subjects will be made aware that their research records, which identify them as individuals, may be inspected by applicable regulatory authorities, to ensure the integrity of the data and/or to protect research participants.

CONFIDENTIALITY PROCEDURES FOR RESEARCH RECORDS, DATA

To protect subject confidentiality, subjects will be identified using an assigned study ID number that will be used on study documents. The key linking subjects' identities will be electronically stored by the research team on a password protected secured database, separate from other study data. All information collected about subjects during the study will be kept strictly confidential and will be maintained in a secure, locked file accessible only by study staff. Signed informed consent forms will be kept no fewer than three years, and no fewer than 6 years for signed HIPAA authorizations. Upon completion of the study, records will be archived in a password-protected file on an ISR network server. Thereafter, the key linking subject identifiers to study ID numbers will be destroyed, rendering the data permanently de-identified. Subject names will not appear in any reports or published articles.

Electronic data to include, but not limited to, information gathered from the electronic medical records and stored data entries will be stored on a password protected file. Locked subject study records will only be accessed by research personnel assigned to the protocol.

D4. INTENDED USE OF DATA

The data collected for this study will be used to determine the feasibility of the NP-PWD use as compared to SOC in the treatment of complex wounds. The intentions are to present the findings at a professional conference/meeting and/or via publication. All data presented or published will be de-identified keeping the identity of the subjects will be protected.