

*PRO-I™*

Advancing the  
Art and Science of  
Negative Pressure  
Wound Therapy (NPWT)



RecoverCare®  
*Equipment. Solutions. Results!*



**Change the Way  
You Look at Negative  
Pressure Wound  
Therapy.**

Consider the science of Negative Pressure Wound Therapy based on the clinical evidence outcome reports and clinical experiences. Both have demonstrated accelerated wound healing with the Pro-1 Negative Pressure Wound Therapy system.

# The PRO-I™ system is simple to use, comfortable for your patients, cost effective and is engineered to feature:

- Variable Pressure Therapy (VPT™).
- Flexible settings for customized treatment plans.
- Dressings that are simple to apply, safe, effective and comfortable for patients.
- Multiple alarm and safety features.
- Virtually silent operation.

## Customize Pressure Settings to Maximize Outcomes

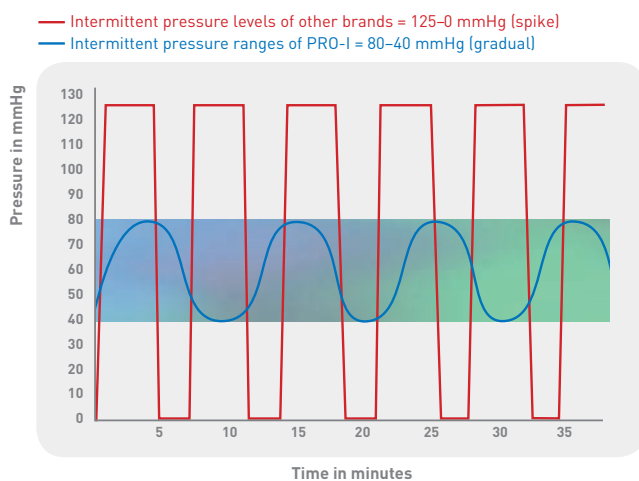
Best practices in wound care call for customized treatment plans for both the wound and the patient. Therefore a Negative Pressure Wound Therapy system, should be equally customizable. Wound etiology and pain thresholds should guide Negative Pressure Wound Therapy clinical decisions. These factors, along with recent clinical research reports regarding the potential benefits of lower negative pressure settings in general, and the different pressure ranges in different tissue types<sup>1</sup>, can assist in achieving maximal wound healing outcomes with the Pro-1.

## Variable Pressure Therapy (VPT™)

According to a recent independent study, intermittent negative pressure therapy may increase blood flow to the wound site more effectively than continuous pressure. This may be due to the fact that during higher pressure settings there is increased perfusion of blood flow to the wound with a hypoperfused “halo” at the wound edge. As pressure levels decrease, this “halo” is reduced and increased blood flow disperses into the surrounding tissue minimizing possible ischemic effects.<sup>1</sup>

And the potential benefits of VPT do not end there. With PRO-I's Variable Pressure Therapy:

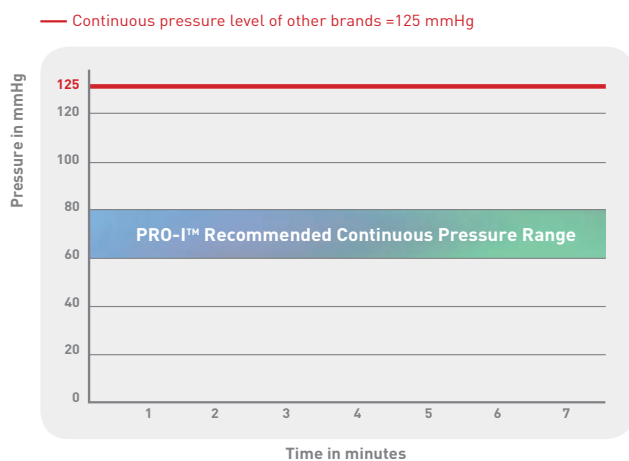
- Pressure levels and time settings for high and low pressures are completely customizable.
- Recommended pressures of between -40 and -80 mmHg are calibrated to increase in comfortable increments providing a gentle massage effect.
- Discomfort due to sudden high to low pressure spikes is virtually eliminated.
- Negative pressure is always maintained at the wound site because pressures never drop to 0 mmHg.



# Continuous Pressure Therapy (CPT)

Recent research indicates that lower pressure may be beneficial, especially in soft tissue to minimize ischemia in the hypoperfused zone surrounding the wound edge.<sup>1</sup>

The recommended maximum pressure for the pump is -80 mmHg, however, pressures can be set at other levels desired by the clinician in order to accommodate concerns such as wound etiology, volume of exudate, and patient pain thresholds.



# Negative Pressure Wound Therapy Should Not Be Painful

PRO-I customizable Negative Pressure Wound Therapy delivers all the benefits of Negative Pressure Wound Therapy with minimal pain and discomfort for the patient.

- Customizable, lower pressure settings increase patient comfort during use.
- VPT™ provides a gentle massage effect eliminating painful high to low spikes in pressure. (Many patients report not feeling the pressure changes at all.)
- Facilitate pain management with dressing changes.<sup>4</sup>
- May decrease the need for pain medication.

# The PRO-I Dressing System

Antimicrobial gauze dressings have been shown to be safe and cost effective. Consider these benefits:

- Moist Antimicrobial gauze will not adhere to the wound.
- Easy to apply to oddly shaped, tunneled, and undermined wounds.
- Can be removed from the wound in one piece, decreasing the danger of retained dressing fragments.
- Delivers antimicrobial protection.<sup>2,3</sup>
- Allows clinician to observe the wound at the wound site—by assessing the present exudate, not exudate that has separated in the collection canister.
- Minimizes the need for pain medication during dressing changes.<sup>4</sup>
- Substantially reduces nursing time required for dressing changes.
- Low dressing cost.

<sup>1</sup> Wackenfors A, Sjögren J, Gustafsson R, Algotsson L, Ingemansson R, Malmsjö M., Effects of Vacuum-assisted Closure on Inguinal Wound Edge Microvascular Blood Flow. *Wound Repair and Regeneration*. 2004 Nov-Dec;12(6):600-6.

<sup>2</sup> Angelique M. Reitsma, M.D. and George T. Rhodeheaver, Ph.D, Effectiveness of a New Antimicrobial Gauze Dressing as a Bacterial Barrier; University of Virginia Health System, Charlottesville, Virginia. 9/2001.

<sup>3</sup> Glenda J. Motta, RN, MPH, ET; Lisa Q. Corbett, APRN, MSN, CWCN; Impact of an Antimicrobial Gauze Upon Bacterial Colonies in Wounds That Require Packing. *Ostomy Wound Management* 2004 AUG;50(8):48-62.

<sup>4</sup> Diane L. Krasner, PhD, RN, CWOCN, CWS, FAAN, Managing Wound Pain in Patients with Vacuum-Assisted Closure Devices, *Ostomy/Wound Management*—ISSN:0889-5899—Volume 48—Issue 5—May 2002—Pages:38-43.

<sup>5</sup> Meyer, W. Schmieden, V. Biers Hyperemic Treatment. Philadelphia and London: WB Saunders Company;1908:78-153.

<sup>6</sup> Wustmann O, Ulrich HC. German Patent Specification. Appliance for the Drainage of Wounds. No. 847 475 Class 30 k Group 17 04. 1952.

<sup>7</sup> Chariker ME, Jeter KF, Tintle TE. Effective management of incisional and cutaneous fistulae with closed suction wound drainage. *Contemporary Surg*. 1989;(34):59-63.

# Clinical Case Study

## Transmetatarsal Amputation 4 weeks Post-Op

### Patient Profile

**Age/Gender:** 76 year-old male

**Diagnosis:** Diabetes

**Co-Morbidity:** Peripheral Artery Disease,  
Organic Brain Syndrome

**Comments:** Poor nutrition

### Wound Profile

**Exudate:** Heavy, fully-controlled

**Dressing Frequency:** Every 3 days

**NPWT Setting:** Continuous, -80 mmHg

**Reduction of Wound Surface Area:**

16.8cm<sup>2</sup> to 4.5cm<sup>2</sup>

**Length of NPWT Therapy:** 64 days

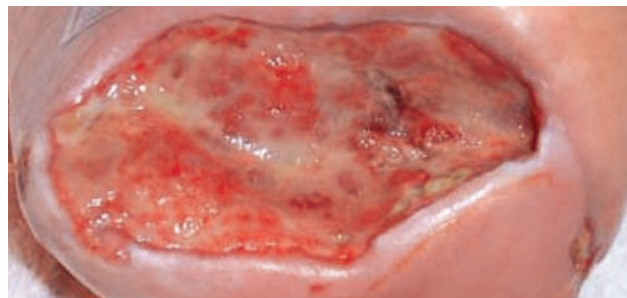
### Contributing Clinicians:

Thomas Eberlein, MD and Helmut Fendler, RN  
Gesundheits Manager Health and Wound Management  
Nuremberg, Germany.

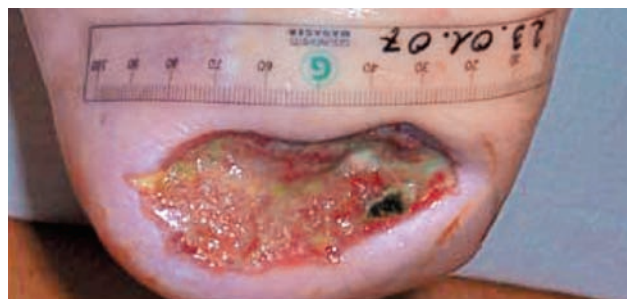
This case was treated with PRO-I™  
and other adjunctive therapies.



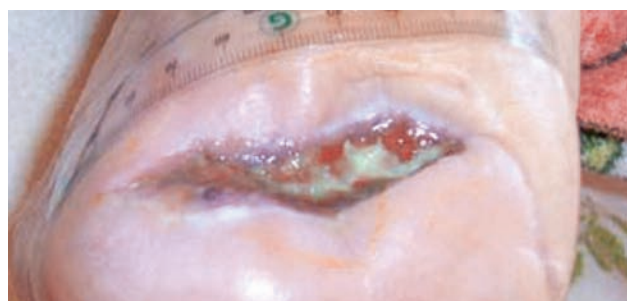
▲ Day 1



▲ Day 15



▲ Day 46



▲ Day 64

# Indications for Use

- Partial and Full-thickness Wounds
- Pressure Ulcers
- Acute and Chronic Wounds
- Venous Ulcers
- Diabetic/Neuropathic Ulcers
- Acute and Traumatic Wounds
- Surgical Wounds
- Partial Thickness Burns
- Dehisced Surgical Incisions
- Skin Grafts
- Skin Flaps



*RecoverCare also offers a complete line of disposable wound dressing kits, collection canisters, and an assortment of silicone drains.*

# Contraindications

- **Malignancy in the wound** *However can be used for wound drainage in terminally ill patients*
- **Fistulae of unknown origin** *A non-enteric fistula or an unexplored fistula to organs or body cavities*
- **Necrotic tissue with eschar present** *Wound should be debrided to remove majority of necrotic tissue and eschar*
- **Untreated Osteomyelitis** *Necrotic bone requires treatment prior to therapy initiation*
- **Exposed blood vessels or organs** *Ensure all vessels or organs are protected with overlying fascia, tissue or other protective barrier precautions*
- **Precautions should be taken with:** *Patients on Anticoagulants; Patients with difficult wound hemostasis; Patients with active bleeding*

# Technical Data

|   |  |
|---|--|
| Air-flow rate of pump                       | 9 liters/min   |
| Negative pressure                           | 0-200 mmHg   |
| Power requirements                          | 100-240V, 50/60Hz, 45W   |
| Battery (rechargeable)                      | 12V, 2.1Ah-Nickel-metal hydride (NiMH)   |
| Dimensions (H x W x D)                      | 11.4" x 14.13" x 5.12"   |
| Operating time (battery)                    | Approx. 4 hours  |
| Weight (basic unit)                         | 2.8kg (6.16lbs)  |
| Alarm                                       | Audible and visual   |
| Degree of protection according to IEC 601-1 | Type BF  |
| Risk class according to 93/42/EEC, IX       | Ila  |
| Sound emission                              | 35dB   |
| Transport/Storage                           | -10°C up to +60°C temperature<br>5% up to 80% humidity, non-condensing<br>860-1060hPa air pressure |
| Compliance                                  | UL 2601-1:1997, ISO 60601-1:1988 + A1:1991<br>+ A2:1995, ISO 60601-1-2:2001, ISO 10079-1:1999      |

### For Ordering Information

PHONE 888-750-7828 • FAX 866-750-7828

[www.recovercare.com](http://www.recovercare.com)

1920 Stanley Gault Parkway, Suite 100, Louisville, KY 40223