References:

1. 3m v.a.c. therapy clinical guidelines.

2. Negative-Pressure-Wound-Therapy.pdf. W030 Negative Pressure Wound Therapy Patient Education Handout; Sept 14.

3. Advisor WC. Guidelines for safe negative-pressure wound therapy [Internet]. Wound Care Advis. 2014 [cited 2023 Apr 27]. Available from: https://woundcareadvisor.com/guidelines-for-safe-negative-pressure-wound-therapy/

4. Director of Nursing, Outpatient Wound Care Department, Hamad General Hospital, Doha, Qatar, Al-Qahtani SA, Critchley KA, Professor, Deputy Minister of Health and Wellness, Prince Edward Island, Canada, Ngwakongnwi E, Assistant Professor, Research Coordinator, University of Calgary in Qatar, Doha, Qatar. Patient Satisfaction with an Interprofessional Approach to Wound Care in Qatar. Public Health – Open J. 2017;2:46–52.

5. Huang Y, Mao B, Hu J, Xu B, Ni P, Hou L, et al. Consensus on the health education of home-based negative pressure wound therapy for patients with chronic wounds: a modified Delphi study. Burns Trauma. 2021;9:tkab046.

6. Webster J, Scuffham P, Stankiewicz M, Chaboyer WP. Negative pressure wound therapy for skin grafts and surgical wounds healing by primary intention. Cochrane Wounds Group, editor. Cochrane Database Syst Rev [Internet]. 2014 [cited 2023 Apr 26]; Available from: https://doi.wiley.com/10.1002/14651858.CD009261.pub3

7. Gupta S, Gabriel A, Lantis J, Téot L. Clinical recommendations and practical guide for negative pressure wound therapy with instillation. Int Wound J. 2015;13:159–74.

8. Kim PJ, Attinger CE, Crist BD, Gabriel A, Galiano RD, Gupta S, et al. Negative Pressure Wound Therapy With Instillation: Review of Evidence and Recommendations. Wounds Compend Clin Res Pract. 2015;27:S2–19.

9. Apelqvist J, Willy C, Fagerdahl A-M, Fraccalvieri M, Malmsjö M, Piaggesi A, et al. EWMA Document: Negative Pressure Wound Therapy. J Wound Care. Mark Allen Group; 2017;26:S1–154.

10. Peinemann F, Sauerland S. Negative-pressure wound therapy: systematic review of randomized controlled trials. Dtsch Arzteblatt Int. 2011;108:381–9.

Negative Pressure Wound Therapy (NPWT)

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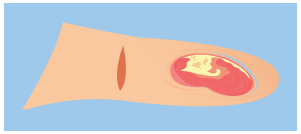
Negative Pressure Wound Therapy (NPWT)

What is a Wound?



Damage in the skin or other body tissues caused by a surgical incision or injury affects the structure and function of the skin, soft tissues, or mucosa.

Negative Pressure Wound Therapy (NPWT) (Vac machine)

Leading technology for treating and managing chronic or difficult-to-heal wounds. It involves using a vacuum dressing, which creates negative pressure over the wound site. It can be applied to wounds on any part of the body.
The total duration of the treatment is determined by the size, pathology, structure, and intended use of this therapy for the wound.

Indication.

- Chronic, acute, and dehisced wounds.
- Burns, ulcers (such as diabetic, pressure ulcers).
- Skin flaps and grafts.

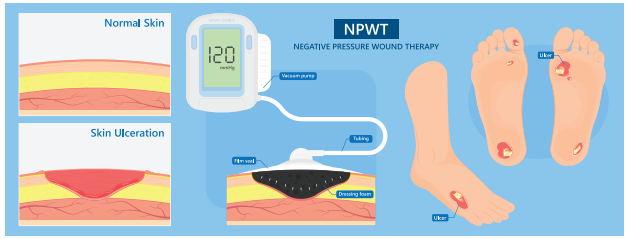
Purpose.

- It promotes the formation of new tissue that speeds up the healing process of wounds.
- It provides a moist environment for wound healing.
- It pulls the borders of the wound together.
- It helps move the infectious substances and excess fluid into a machine-specific container.

Components of Negative Pressure Wound Treatment.

- The wound is covered with special foam padding.
- A thin transparent occlusive dressing seals over the wound.
- A trackpad with suction tubing is connected to a canister to collect the fluid drainage.
- Negative pressure is applied using a specialized pump.

Inform the healthcare team of any previous history of allergy to wound dressing materials.



Mechanism of action.

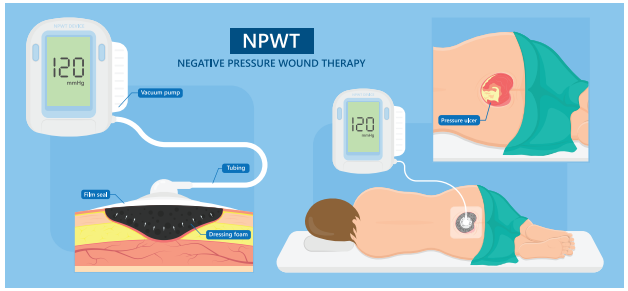
- The vacuum dressing consists of a foam or gauze pad placed over the wound, covered with an airtight adhesive dressing, and connected to a vacuum pump. The pump creates negative pressure within the dressing,
- Negative pressure setting (from -25 to -200 mm Hg) can be adjusted according to the patient's needs and wound nature.
- The therapy setting could be continuous or intermittent.
- The wound healing duration depends on factors such as age, smoking, obesity, blood glucose level, nutrition status (protein stores), and other underlying conditions.

Contraindications

- Cancer (malignancy) in the wound,
- Insufficiently debrided wounds
- Untreated bone infection (osteomyelitis)
- Untreated bleeding disorder (coagulopathy)
- Unexplored tunnel (fistulas)
- Exposed blood vessels or vital organs.

Negative pressure wound therapy care.

- Usually, the dressing is changed every 48 to 72 hours.
- Ensure that THERAPY ON is showing on the display screen.
- Confirm that the clamps are open and the tubing isn't kinked.
- The machine should not be disconnected or switched off for more than 2 hours daily.
- When the machine runs, you notice a slight pulling sensation and squishing of the dressing material. Mild itchiness and tenderness are expected as a wound heals.
- Check your dressing every two to three hours to ensure the material has firmed up and collapsed.
- Starting this treatment will help ease the pain.
- You can walk or shower while on vac therapy, taking necessary precautions.
- Kindly adhere to the fall prevention measures in place.



Possible complications that could arise:

- Bleeding.
- Around the wound, skin damage. (Maceration).
- Skin irritation.

Signs and symptoms of infection.

- Fever.
- Warm to touch
- Swollen wound.
- Severe redness and itchiness on the skin around the wound.
- Foul smell or pus from the wound.

It is essential to remember that this treatment is safe, that most patients handle NPWT well, and that these problems are uncommon.

You should inform your nurse immediately if you suffer any unexpected symptoms or adverse effects while getting NPWT.

Call your nurse right away:

- If the machine is working, but the dressing has not collapsed or when the machine stops functioning.
- If you feel tingling or numbness near the wound.
- If the machine alarms, as alarms can be triggered when the battery is low, leaking is present, canister is full etc.
- If you observe a sudden increase or a large amount of blood in the tubing or canister
- If you observe signs and symptoms of infection (mentioned before).
- If the pain suddenly worsens or changes in nature.