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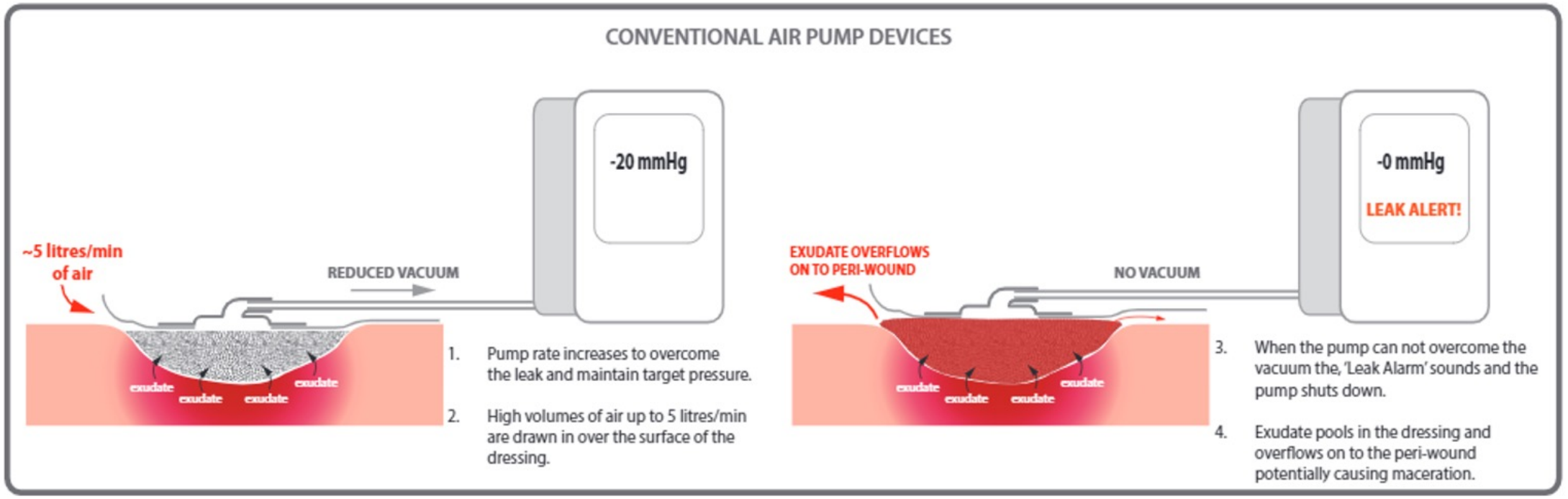
NEXA – NPWT System

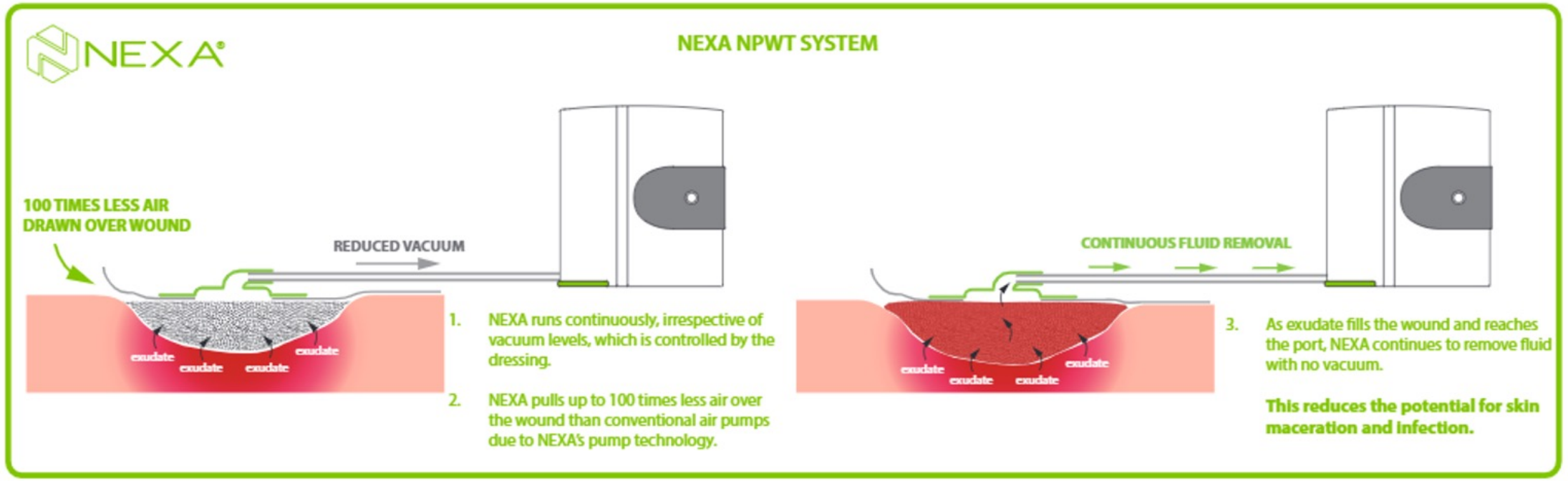
A new and simple use of Disposable Negative Pressure Therapy

Combining the simplicity of disposable NPWT with performance features of traditional durable NPWT technology platforms

What happens in the case of leaks?



What happens in the case of leaks?



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A new and simple use of Disposable Negative Pressure Therapy

Wound Care Consultants Ltd were invited to undertake a clinical evaluation of four subjects over four weeks.

The wounds comprised three pressure ulcers (PUs) and one leg ulcer (LU). The nurses were shown how to use this simple pump that never alarms. All of patients gave consent to participate in the evaluation and for any photographs to be used.

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Poster produced for Wounds UK Conference

Wound Care Consultants

Knowledge, Experience in Healing Wounds

Wound Care; Audit; Report Writing; Advice on Product Development

A new and simpler use of Negative Pressure Wound Therapy in treatment of 3 pressure ulcers and 1 leg ulcer

Sylvie Hampton and Sarah Gray, Independent Tissue Viability Nurse Consultants

Use of Negative Pressure Wound Therapy (NPWT) can be difficult for both patient and nursing team. Sometimes complex to apply and, when the seal is lost, the pump stops functioning and the wound remains untreated until the dressing can be changed. This new NPWT pump works by manipulating the outer walls of the tubing, thereby eliminating the risk of fluid contaminating the internals of the unit. It runs continually, providing negative pressure and continuous removal of both air and fluid from the wound site. This means that exudate can be removed from the wound even in the event of a leak in the dressing - thereby reducing the potential risk of skin maceration and removing the risk of fluid build-up within the wound bed.

We evaluated the use of this new pump on 4 wounds over 4 weeks or longer as required. The wounds were 3 pressure ulcers (PU) and one leg ulcer (LU). The nurses were shown how to use the pump which was a simple method and would never alarm. The patients all gave permission for the evaluation.

The first pressure ulcer was a lady who had been on the floor for 5 days and had a category 4 pressure ulcer that had been treated previously with NPWT. She complained that the pump kept alarming through the night. The 2nd and 3rd PUs were 4 and 5 months duration. The LU was of 9 months duration.

The 4 wounds were all assessed by a Tissue Viability Consultant Nurse (TVCN) to ensure suitability for the evaluation and permission was sought for each wound. Those applying the NPWT were a mixture of qualified nurses and healthcare assistants. The TVCN demonstrated how to apply the dressing and ensured that there was an understanding of how to use and what to do. The TVCN then left the nurses to care for the wounds and the TVCN assessed weekly.

The PUs of 4 and 5 months and LU all healed within 6 weeks. The PU category 4 is now healing and is half of the original size. The lady was content as the pump did not alarm and her wound showed every sign of healing over the 3 months.

Two videos were undertaken with the nurses' permission demonstrating how simple it was to use the machine. They were given the pump and told to connect it without instruction. Each managed it without assistance.

The Category 4 wound was being changed two or three times daily. It is now changed after 2 to 3 days. Less discomfort for the lady and making the treatment cost effective.

NPWT is a technique that uses negative pressure under a sealed dressing connected to a pump in order to promote healing in acute or chronic wounds and has been proven effectiveness in since 1986. In fact there are many documented cases of NPWT in wound healing throughout history with one of the oldest methods can be traced back to 400 BC when the Greeks practised cupping using heated copper bowls(1).

This new concept of NPWT is simple to use and takes away any fear of managing the machine. The outcome is as would be expected of any NPWT and is less costly and easier to use. The pump is single patient use and is recycled through the company.

These case studies were important for three reasons. The simplicity of use, the effectiveness of the treatment and the associated cost which are all important to modern wound healing. This particular pump (NEXA) was found to be very successful in all 3 areas and the healing of the 3 wounds that healed, given their chronicity, was remarkable.

METHODS:

- The product was to be used as described in the package leaflet.
- Photographs to be taken at each assessment.
- The nurses caring for the patient will apply and remove the dressing. This is to identify how simple or difficult NEXA is to use.
- Patient and nurses to be provided with a questionnaire to be completed during the use of NEXA.
- TVNC to assess prior to, during and at the final removal of the dressing.
- Any problems to be reported to the TVN and then to NEXA Medical.

Kucharzewski M, Mieszczański P, Wilemska-Kucharzewska K, Taradaj J, Kuropatnicki A, Sliwiński Z. The application of negative pressure wound therapy in the treatment of chronic venous leg ulceration: authors experience. *Biomed Res Int.* 2014;2014:297230. doi:10.1155/2014/297230

Mrs Y is a 65 year old healthy lady although, with diabetes, who lives alone. Watching TV one evening, she attempted to stand and fell onto the floor. She was unable to stand again and was on the floor for 5 days. Her family rang and received no answer so after 5 days were worried and her so, a policemen, broke open her door and found his mother in a terrible state with a huge black area on her sacrum. This developed to a Category 4 pressure ulcer.

Following 4 weeks in hospital she was taken to a nursing home and the independent TVCNs became involved in her care. They provided a NEXA topical negative pressure and monitored the healing. Healing such a large pressure ulcer can take many months if not many years. Dressings changed daily or more as required.

Fig 1. 14/4/19

Fig 2. 30/5/19

Fig 3. 30/6/19

Fig 4. 29/9/19

Fig 5. NEXA Cover

Fig 6. NEXA Container filled with fluid

On admission to the evaluation the wound measured 121cms in diameter. Depth was to bone with undermining of 5cms. There were no problem identified with the TNP NEXA. The wound remained clean and healthy and measurement was 20cms in diameter with 1cm undermined. The bone was completely covered and the wound granulated almost to the surface. The machine was able to manage large amount of exudate that formed (Fig 7). Dressing change reduced to twice weekly with the wound base covered with silicone dressing. There was no pain in use. The nurses and carers in the nursing home found it intuitive to use and the TVNCs visited weekly and as required during the week.

Mr X was an 89 year old gentleman with anaemia due to Aplastic anaemia. He had sustained a wound on his lateral left leg which had been present for 4 months without healing. He consented to be part of the in service evaluation and the Topical Negative Pressure NEXA was applied. He agreed to the evaluation and his wife was shown how to use the product and dressings and she would change the dressing as required. The TVNCs visited weekly to assess the wound and photograph.

The gentleman and his wife gave permission for the photograph.

21-6-19

28-6-19

9-7-19

25-7-19. The wound is too small to apply NEXA. This progressed to full closure within next 7 days.

Mrs X managed the dressing changes with instruction from TVNCs. The TVNCs visited every week had given her more if advice was required. The wound progressed to healed in 6 weeks.

Dressing in situ

Dressing pack

This lady is 84 years old and has multiple sclerosis. She has poor nutrition as she refuses food. She has had a very long duration pressure ulcer over her ischial tuberosity which developed when she was seated. Now on long term bedrest she developed a different pressure ulcer over the sacrum of 3 months duration.

8-6-19

14-6-19

17-6-19

Device after 4 days in situ.

Nexa applied on June 8th 2019 when the wound measured 2.5cms x 3 cms. By June 17th, the wound had shrunk to such a degree that the NEXA could no longer be applied. A second wound developed but healed so well with NEXA it was discontinued after only one week.

NEXA device

NEXA is an excellent product. It has the advantages of being simple to use and inexpensive when compared to other products. Overall, every nurse enjoyed using NEXA and the patient, who had experience with KCl VAC (and hated the thought of using it due to the alarm constantly waking her) was grateful for the fact NEXA did not wake her once, the compressor noise did not disturb her in the least and the wound is certainly in a healing state for which she is very grateful.

Case studies

Case study: One

- This case concerns an 84-year-old lady with multiple sclerosis. She was malnourished, as she was refusing food.
- She had a long-standing pressure ulcer that had developed on the ischium while she was seated.
- She was placed on long-term bedrest, but developed another pressure ulcer over the sacrum, which was of 3 months' duration.
- Nexa was applied on June 8 2019, when the wound measured 2.5x3cm.
- By June 17, the wound had decreased to such an extent that Nexa could no longer be applied.
- A second wound developed but healed so well with Nexa that the device was discontinued after only one week.

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Case study: One

8th June 2019 The wound is deep and non healing. Nexa is applied

14th June 2019
The wound is clean, superficial and granulating.

17th June 2019 The wound is clean, superficial, granulating and has almost closed. It is too small for Nexa to be applied

Nexa was easily applied. Some of the foam from the dressing was used to protect the skin. This was not essential, but this lady had particularly delicate skin.

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Case study: Two

- This case is about an 89-year-old gentleman who had aplastic anaemia.
- He had sustained a wound on his lateral left leg which had been present for four months and was not healing.
- As he consented to participate in the in-service evaluation, NEXA was applied.
- His wife was shown how to use the device and how to change the dressing as required.
- The tissue viability nurse consultant visited weekly to assess and photograph the wound.
- The patient's wife managed the wound dressing without any difficulty, and no infection occurred.
- The wound healed within six weeks.

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Case study: Two

28th June 2019

Nexa is situ

28th June 2019

29th July 2019 The wound is too small for Nexa to be applied. It healed within the next seven days

Case study: Three

- This case concerns a 65-year-old lady with diabetes who lived alone.
- One evening, while watching television, she attempted to stand up, but fell onto the floor and was unable to stand again. She was on the floor for five days.
- Her family rang and received no answer. After 5 days they were so worried that her son, a policemen, broke open her front door and found his mother in a terrible state, with a huge black area on her sacrum. This developed into a category IV pressure ulcer.
- Following four weeks in hospital, during which time VAC was applied, she was discharged to a nursing home, where an independent tissue viability consultant nurse became involved in her care. The patient's dressings were changed daily or more often, as required.
- The tissue viability consultant nurse initiated treatment with Nexa and monitored the wound.
- Healing such a large pressure ulcer can take many months, if not many years.

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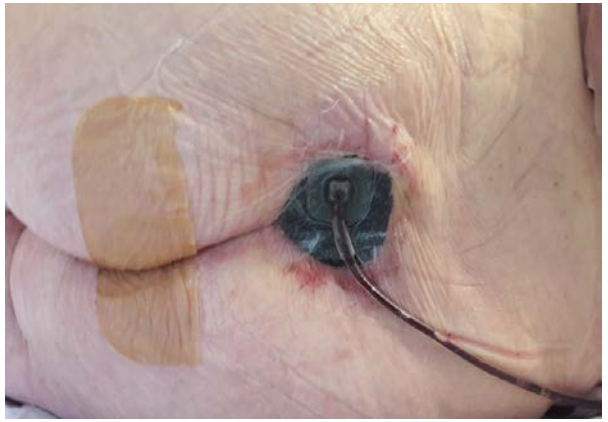
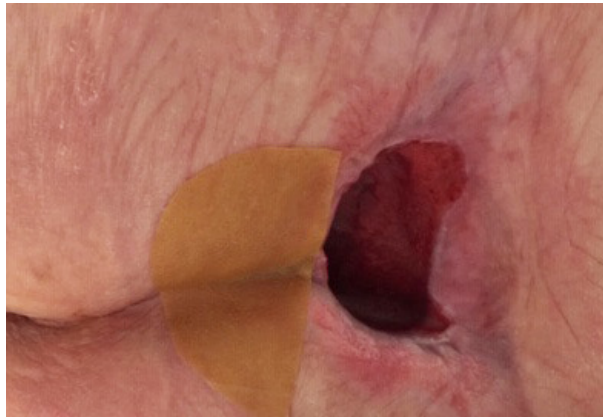
Case study: Three

14th April 2019
The wound measured 12cm in diameter and extended down to the bone. There was 5cm of undermining.

21st May 2019
The wound diameter had decreased by 3cm and the undermining by 3cm.



Nexa in situ. A hydrocolloid dressing was used to provide a barrier to faecal contamination.



20th September 2019
The wound diameter had decreased by a further 5cm. There was no undermining.

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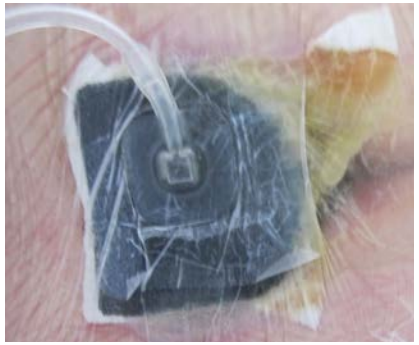
Video



Nexa is simple to use.

The following video is of a healthcare assistant who was given the device and told to work out how to use it without help.

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Any Questions?