

➤ QUICKGUIDE



Continuous Topical Oxygen Therapy (cTOT) for improved healing

WOUNDS | INTERNATIONAL

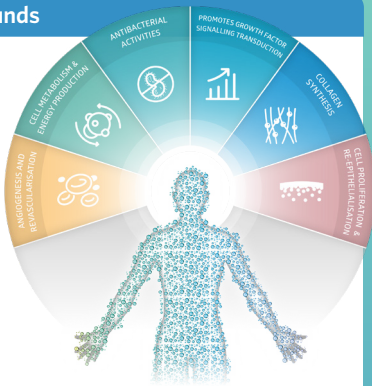
Low oxygen levels for chronic wounds

The challenge

- 97% of chronic, non-healing wounds have low oxygen levels or chronic lack of oxygen (hypoxia)¹
- Additional associated comorbidities will only compromise oxygen supply further
- Chronic hypoxia leads to inactivation of growth factors and cellular senescence, with eventual wound deterioration².

The solution

- Oxygen is essential for wound healing, is required to create energy for cells to function and is essential for immune cells to attack bacteria, thus is pivotal in the host response to tackling infection^{2,3}
- Early intervention with supplemental oxygen to injured tissues, such as topical oxygen therapy (TOT), can help to correct this.



Introducing NATROX® O₂

NATROX® O₂ is a wearable medical device designed to deliver continuous topical oxygen therapy (cTOT) directly to a wound to support improved healing.

Patients can continue with their normal daily activities as the device is:

- Battery powered/portable
- Easy to manage
- Discreet and completely silent
- Practical for everyday use.

NATROX® O₂ is an adjunct to standard of care (SoC), providing oxygen to a wide range of chronic wounds, including:

- Diabetic foot ulcers (DFUs)
- Pressure injuries
- Leg ulcers
- Open surgical wounds.

NATROX® O₂ has also been shown to help relieve pain in hard-to-heal leg ulcers, whilst improving healing rates⁴. In a recent study, 76% of patients reported substantial pain relief, which led to 69% discontinuing opioids⁴.

How does NATROX® O₂ work?

Through a process of water electrolysis, the NATROX® O₂ Oxygen Generator [OG; [Figure 1a](#)] creates a flow of highly concentrated oxygen, which is delivered to the wound using the NATROX® O₂ Oxygen Delivery System [ODS; [Figure 1b](#)]. The sterile, single-use ODS has a soft, pliable “wheel” shape that allows optimal oxygen flow and conformability directly to the wound bed. This ensures comfort for the patient whilst allowing free passage of wound exudate into the secondary dressing. The OG is powered by one of two rechargeable batteries [[Figure 1c](#)] that are interchanged every 24 hours.

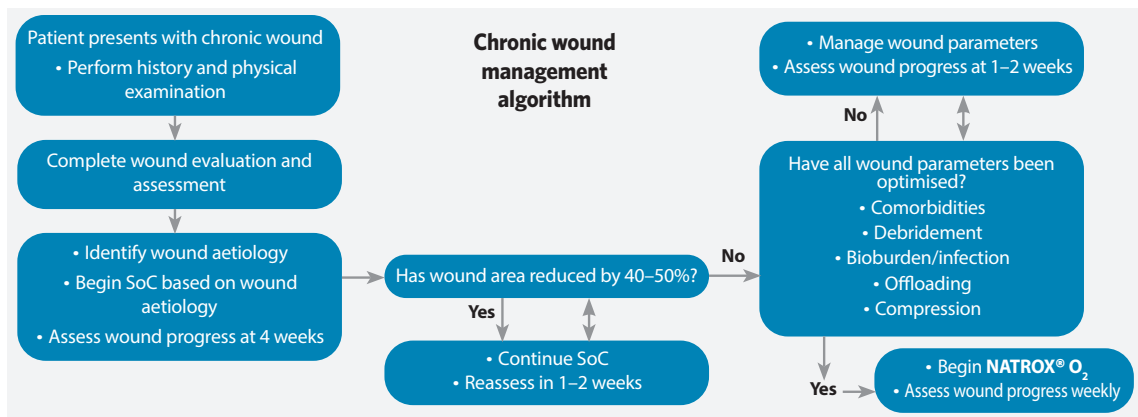


When to use NATROX® O₂

The chronic wound management algorithm may help to guide clinicians using NATROX® O₂ on non-healing wounds.

NATROX® O₂ should be considered when:

- > The wound has not reduced in size by 40-50% in 4 weeks by SoC alone
- > There are clinical signs that the wound is hypoxic
- > The patient has underlying conditions or risk factors that make them more susceptible to wound complications.*



*Always refer to the Instructions For Use (IFU) for the country of use as indications can vary from CE countries to the US.

Treatment expectations

NATROX® O₂ can be administered by clinicians, patients and carers, in clinical settings or at home, and is compatible with most standard secondary dressings, including compression. Treatment is typically 8-12 weeks to complete healing, but this can vary from patient to patient, see [Figure 2-5](#) as an example. Generally, there are clinical indicators that help to suggest the wound is on a healing trajectory⁵.



Figure 2: Macerated wound edges following 45 days of NPWT; cTOT commenced



Figure 3: Reduced pain, exudate and inflammatory signs (+4 days)

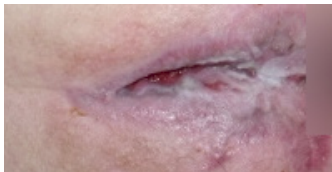


Figure 4: Reduced wound size and inflammation with increased granulation tissue (+14 days)

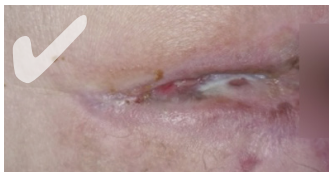
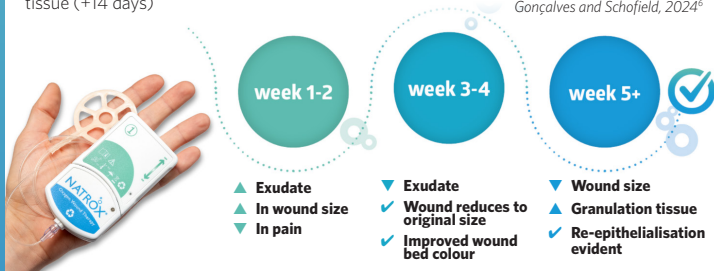


Figure 5: Wound closure (+42 days)

Images courtesy of Viviana Gonçalves; Gonçalves and Schofield, 2024⁶



Evidence-based practice

Evidence-based guidelines call out the use of TOT and recognise the high level of evidence supporting the technology:

- **The Wound Healing Society (WHS) 2023 DFU treatment guidelines** update increased TOT to 'Level 1' evidence, stating, "topical oxygen has been shown to increase the incidence of healing and decrease the time to heal"⁷
- **The International Working Group on the Diabetic Foot (IWGDF) 2023 guidelines** also give TOT recognition as an accepted intervention when treating non-healing DFUs where SoC alone has failed³
- **The American Diabetes Association (ADA)** gave TOT an "A Grade" evidence rating in both 2023⁸ and 2024⁹; panel findings state "multiple reasonably robust randomised controlled trials (RCTs), systematic reviews and meta-analyses provide supportive evidence for the more established TOTs"⁸.



Improved healing outcomes with NATROX O₂ are reported in:

- RCT data included in 5 meta-analyses¹⁰⁻¹⁴
- 2 RCTs and 1 year follow-up in DFUs^{5,15,16}
- Multiple real-world data across chronic wounds confirming impact on wound pain and healing⁶.



Scan the QR code to view all NATROX® O₂ resources

References

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