WIMBA Wound Care
Science Behind the Product

WOUND CARE

Healing in Comfort: WIMBA Wound Care for Optimal Wound Recover

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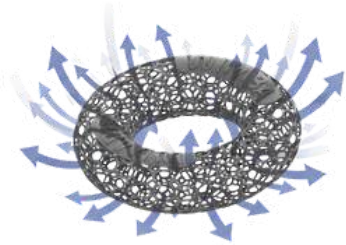
Wimba's Breathable Lattice Dressing for Optimal Wound Recover

The Challenge of Traditional Wound Dressings

Traditional wound care has long relied on conventional stockinette donuts and standard bandaging materials that, while functional, often create suboptimal healing environments. These older methods can lead to excessive heat retention and restricted airflow, hindering the natural healing process and potentially causing discomfort. Vet professionals have recognized the need for innovative solutions that maintain protection while promoting optimal thermal regulation - a critical factor in successful wound recovery.

Revolutionary 3D-Printed Lattice Technology

Wimba has developed a protective dressing that transforms wound care through additive manufacturing. Wound Care features a 3D-printed donut made of Thermoplastic Polyurethane (TPU) utilizing Multi Jet Fusion (MJF) technology.



The lattice structure is engineered with openings that create optimal airflow channels while maintaining structural integrity and protection. Unlike conventional solid materials, it allows for continuous air circulation around the wound site, promoting natural temperature regulation and moisture management. The TPU material provides flexibility and comfort, conforming to the patient's anatomy.

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Scientific Validation: Thermal Regulation Performance

To validate the thermal regulation benefits of lattice protective dressing, Wimba conducted a comprehensive thermal imaging study using FLIR TG267 camera. The controlled study involved a 10-year-old female German Shepherd as the test subject, following protocol to ensure accurate and reliable results.

Study Methodology

The testing protocol included several critical elements to maintain scientific integrity:

- 2-hour fasting period before imaging to minimize metabolic variables
- Consistent ambient temperature maintained at 23°C throughout testing
- 30-minute acclimation period to ensure baseline thermal stability
- No physical contact with dog limbs during testing to prevent heat transfer
- 1-hour continuous wear period for both configurations

Comparative Analysis

The study employed a direct comparison methodology, applying different dressing solutions to each limb:

- Left limb: Conventional stockinette donut combined with veterinary wrap
- Right limb: Wimba Wound Care donut paired with veterinary wrap

Thermal images were captured:

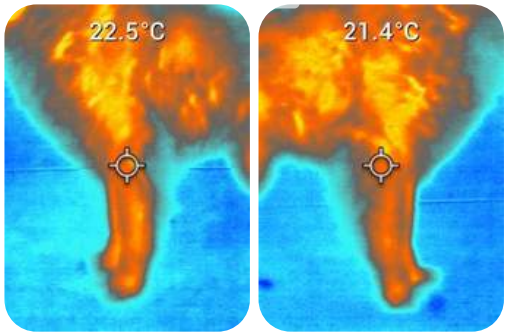
- Before application (reference baseline)
- After the 1-hour wear (post-test results)

This methodology provided clear visual evidence of thermal performance differences between the two solutions.

Results and Implications

Before application, both limbs showed similar thermal profiles.

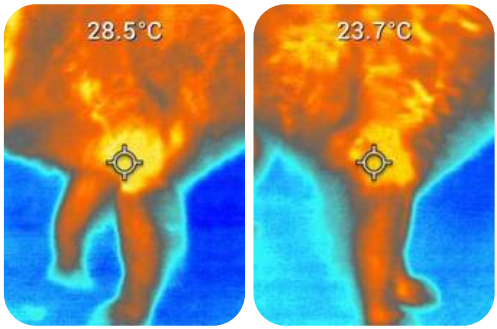
Before



Conventional Donut **WIMBA Wound Care**

After one hour the thermal imaging results demonstrated significant temperature regulation advantages of the Wimba Wound Care protective dressing. The conventional stockinette dressing showed notable heat retention, creating elevated temperatures around the wound area. In contrast, the Wimba Wound Care protective dressing maintained temperatures closer to baseline levels, indicating better heat dissipation and airflow management.

After



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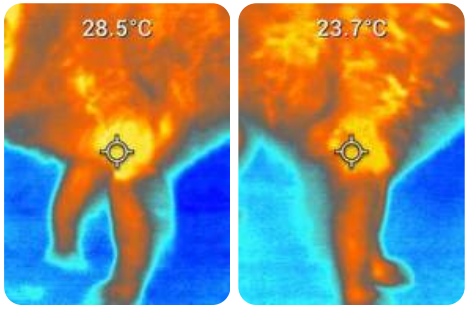
This thermal regulation is crucial for wound healing, as excessive heat can increase metabolic demands, promote bacterial growth, and create uncomfortable conditions for patients. The improved airflow provided by lattice structure helps maintain optimal healing temperatures while reducing moisture buildup that can lead to complications.

Comparison After



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The Future of Wound Care

Wimba's breathable protective dressing represents an innovation in wound care technology, combining advanced 3D printing capabilities with evidence-based design principles. This scientific validation demonstrates clear thermal regulation advantages that directly translate to improved patient comfort and potentially enhanced healing outcomes.

Vet professionals seeking wound care solutions now have access to a proven and validated alternative that addresses the fundamental limitations of traditional dressings. The Wimba Wound Care protective dressing offers the protection patients need with the breathability they deserve.

Ready to revolutionize your wound care protocols? Contact WIMBA today to learn more about our innovative lattice dressing technology and how it can benefit your patients' healing journey.

Place. Wrap. Rinse. Reuse.

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Place. Wrap. Rinse. Reuse.

Clinical challenge

Clinicians often hand-roll stockinette “donuts” to off-load pressure. These spacers absorb fluids and debris. Once wet, they are harder to clean, feel heavier, and can trap moisture working against comfort, hygiene and consistent care.

The Solution: A 3D-Printed, Easy-Clean WIMBA Wound Care

WIMBA Wound Care replaces absorbent stockinette with a 3D-printed lattice structure engineered for breathability, thermal regulation, and ease of cleaning. The open-cell geometry promotes airflow around the primary dressing, helping dissipate heat and humidity. Compared with stockinette, the polyurethane dressing exhibits reduced absorption, allowing surface contaminants to be rinsed away instead of soaking in.

WIMBA Wound Care Donuts come ready to apply over the primary dressing and to secure with a wrap, which reduces the time needed to cut and roll stockinette. Between uses, clean with warm water and a mild detergent, then air-dry. Devices are reusable for up to five (5) uses, helping reduce waste from single-use textiles.

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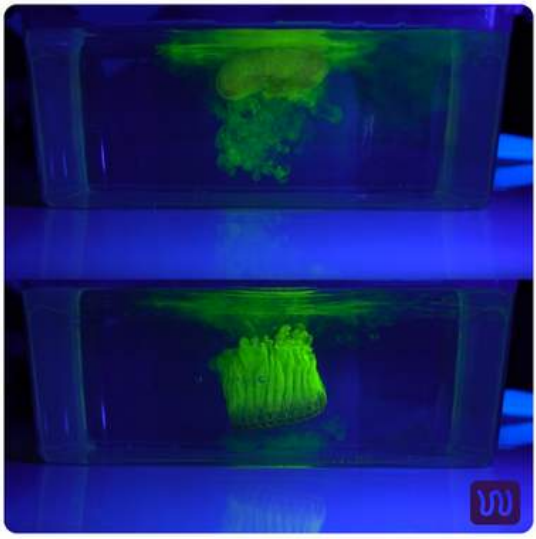
Scientific Validation: Fluorescent Dye Challenge

To compare fluid uptake and post-rinse residual contamination between a WIMBA Wound Care Donut and a conventional stockinette donut WIMBA conducted a controlled bench test.

Study Methodology

WIMBA Wound Care Donut and a hand-rolled stockinette donut of a similar size were selected. Initially, both items were inspected under a 365 nm UV lamp and confirmed to show no fluorescence before the test solution was applied.

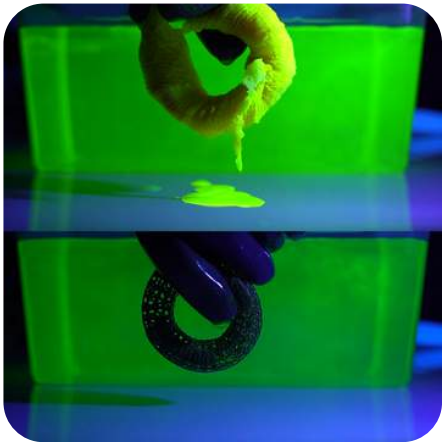
They were each coated with an equal volume of a solution containing water, isopropyl alcohol (IPA), and fluorescent dye. After being coated, each donut was immersed in water.

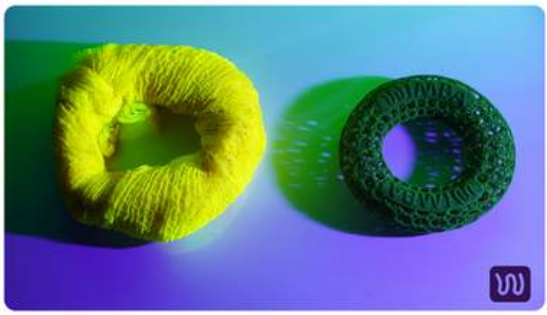


Fluorescence under a 365 nm UV lamp provided a clear visual comparison of how much fluid each donut retained after rinsing.

Results and interpretation

The WIMBA Wound Care Donut showed significantly less fluorescence after rinsing, indicating it retained far less of the dye solution compared to the stockinette donut, which visibly glowed under a 365 nm UV lamp.





This confirms that the WIMBA Wound Care Donut lattice structure sheds fluid more effectively. In clinical practice, that means faster cleaning, lower risk of residual contamination, and more consistent hygiene between uses.

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The Future of Wound Care

WIMBA Wound Care Donut brings modern materials and design to a familiar clinical task: protect, off-load, and keep things clean. Compared with traditional stockinette donuts, it is faster to use, easier to clean, less absorbent, and reusable with simple washing. For teams seeking clinically proven, hygienic and time-saving wound protection, WIMBA offers a ready-to-use alternative.

See how the WIMBA Wound Care range can streamline your protocol. Contact us for samples.

For more information about Wimba Wound Care's innovative solutions, visit our website or contact our WIMBA team

Reach out at hello@wimba.vet

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