

Design Interface's XSONX Wound Hygiene System Named Finalist in Prestigious IDSA/IDEA Awards

Developed in Collaboration with Dr. Wade Farrow



Case Study

1. Overview

XSONX is a revolutionary wound-cleaning system designed to significantly reduce pain while speeding up the healing process for patients with chronic wounds. It is equally beneficial for medical practitioners, offering a safer and more efficient method for cleaning wounds in-home or in clinical settings. The system is ideal for individuals suffering from conditions such as bedsores, deep burns, vascular ulcers, diabetic neuropathy, and even leprosy.

The **XSONX Wound Hygiene System (WHS)** consists of a battery-powered, reusable handpiece, disposable single-use sleeves, and interchangeable wound heads. The system also includes an Xscrub wound pad designed to gently scrub the wound and remove bacterial biofilm, a major barrier to wound healing. With its ease of use and innovative features, XSONX is set to redefine the standard of wound care.

2. Design Innovation

XSONX addresses a significant gap in wound care by offering a system that uses powerful vibrations to clean and debride wounds with reduced pain and bleeding. The traditional debridement method involves scalpels and gauze, which can be painful, imprecise, and dangerous. By contrast, XSONX provides a more controlled and consistent process.

One key innovation of the XSONX system is its **#1 scrubbing head**, which effectively disrupts bacterial biofilms, a persistent problem in chronic wounds. Studies have shown that biofilms can colonize up to 1-2 cm around the wound bed. XSONX is currently the only powered device capable of cleaning both the wound and the surrounding skin.

The system also features **#4 and #4S debriding heads** with rigid polycarbonate teeth, safely removing dead tissue with less bleeding risk. Its rapid vibrations—over 500 micro-scrubs per second—allow for thorough cleaning, which is impossible to achieve by hand. This controlled debridement technique ensures better wound hygiene while minimizing pain.

3. Benefit to the User

XSONX provides a range of benefits for both the patient and medical practitioners:

- **Better patient outcomes:** XSONX leads to cleaner wounds and better debridement, improving overall healing.
- **Time efficiency:** XSONX saves significant time compared to traditional methods. Clinical studies show reduced procedure times, allowing healthcare workers to treat more patients in less time.



Wound cleaning scalpel vs. XSONX



More pain using scalpel

Less pain using XSONX vibration

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- **Time efficiency:** XSONX saves significant time compared to traditional methods. Clinical studies show reduced procedure times, allowing healthcare workers to treat more patients in less time.
- **Less pain and anxiety:** Patients report less discomfort with XSONX compared to traditional scalpel or curette debridement. This is mainly due to the device's micro-vibrations, which stimulate analgesia and cause less trauma to the wound.
- **Higher safety margin:** The vibrating heads minimize the risk of cutting too deeply, a danger associated with sharp instruments. This makes the procedure safer for both practitioners and patients.
- **Biofilm removal:** XSONX is the first product specifically designed to scrub both wounds and surrounding skin to remove bacterial biofilm, improving the wound environment for healing.

4. Benefit to Client/Brand

From a business perspective, XSONX meets the growing demand for portable, affordable wound care solutions. Unlike most debridement devices that are costly and restricted to clinics, XSONX can be used in the home, making it accessible to a broader range of patients. Its **portable and reusable design** with disposable single-use heads makes it both cost-effective and hygienic.

By focusing on ease of use, the design team ensured that the **ergonomically shaped handle** is simple to manipulate, even in challenging wound environments. The system's disposable heads are injection-molded for precision and versatility, reducing production and shipping costs while maintaining high standards of care.

Traditional wound debridement systems that rely on saline sprays are cumbersome, expensive, and risk aerosolizing contaminants. XSONX's fluid-resistant design avoids these pitfalls, making it a safer option for both patients and healthcare providers.

5. Benefit to Society

XSONX
Wound Hygiene System with VIBRATIONAL MECHANICAL DEBRIDEMENT TECHNOLOGY (VMDT)

cordless system with micro-vibrational technology to powerfully clean and debride chronic and contaminated wounds.

- ◊ IMPROVED WOUND HYGIENE
- ◊ SIMPLIFIED PROCEDURE
- ◊ LESS PAIN
- ◊ LOWER COST

Removes stubborn and problematic biofilm and bacteria to speed wound healing

The most common methods for cleaning wounds, sharp debridement and curette debridement, are often painful and can cause bleeding. Current solutions involve aggressive, controlled pressure or full back to make gentle and sufficient pressure. The XSONX head is gentle on the wound and removes biofilm, the leading barrier to improved outcomes.

XSONX
HEAL WOUNDS BETTER

A ROBUST SYSTEM, DESIGNED FOR COMPREHENSIVE WOUND SCRUBBING OR DEBRIDEMENT, YET SIMPLE AND EASY TO USE FOR A RANGE OF APPLICATIONS

- ◊ Handpiece is reusable between patients.
- ◊ Reusable handpiece in minutes with standard containers.
- ◊ Single use sleeve used over the handpiece makes tool sanitary.
- ◊ Equipped with 3 AAA batteries.
- ◊ Interchangeable heads (XSONX maintains established coding protocol)

COMPONENTS

- 1 Reusable Handpiece
- 2 Reusable Head #1
- 3 Debridement Head with Curette #4C
- 4 Small Debridement Head with Curette #4S
- 8 Single-use sleeves (not shown)

ADDRESSING ALL OF YOUR GREATEST WOUND CARE CHALLENGES

- WOUND BED PREP:** An important step in the care of a wound.
- CENTER DEBRIDEMENT:** An essential step in the care of a wound.
- WOUND EDGE REFINISHING:** Refining the wound edges to help prevent further injury.
- SCALPES:** A sharp tool used to cut through tissue.
- STALLED WOUNDS:** A wound that is not healing.

VIBRATORY ANALGESIA: Proprietary sonic technology delivers powerful low frequency vibrations (VMDT) to the debridement tip—clinically demonstrated to reduce pain perception!

ORDERING INFORMATION

ITEM #	DESCRIPTION	QUANTITY
XSONX-1	#1 Debridement Head	20000
XSONX-2	#2 Debridement Head	20000
XSONX-3	#3 Debridement Head	20000
XSONX-4	#4C Debridement Head	20000
XSONX-5	#4S Debridement Head	20000

XSONX
HEAL WOUNDS BETTER

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2024-0001
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