



# "A superior wound healing method going beyond just 'cleaning' the wound bed."

# Syllable™ Ultrasonic Surgical Debridement System

- A Gamechanger Device Offering Better Results
  - Decreasing bioburden,
  - Preserving healthy tissue,
  - Enhancing the wound healing process.

# **Mechanism of Action**

Syllable™ Ultrasonic Surgical Debridement System uses ultrasonic technology in the form of a debridement system that ensures the secure and efficient removal of soft nonviable tissues excisional or sharp-edge debridement of wounds while safe preservation of healthy structures. Ultrasonic waves are utilized with Sterile Saline in order to remove debris and particulate matter from the wound bed which results in the proliferation phase.

## 1) Decreasing bioburden:

It was proved that UAW is effective in the cleaning the wound bed by destroying the extracellular substances. It influences the biofilm slime building capacity of bacteria left at wound site. The gas-filled bubbles that is created by Ultrasonic Surgical Debridement System, expand rapidly after collapse. The microbubbles implosion releases energy which causes debridement thereby decreasing bioburden by fragmenting biofilms and bacteria.

### 2) Preserving healthy tissue:

Ultrasonic Surgical Debridement System uses cavitation effect to debride wound selectively. Cavitation is caused by the vibrations of the transducer at an ultrasonic frequency of 40kHz in an irrigation solution. An ultrasonic generator and Piezo-crystals transform the electrical energy into this mechanical vibratory motion that results in oscillations in tissue molecules that consists of a linear movement of macromolecules and ions around the stationary structure of the cells. This cavitation removes devitalized tissue from the wound bed while healthy tissue membranes move with oscillation.<sup>2</sup>

# **Indications**

Ultrasonic Surgical Debridement System is indicated for using in selectively fragmentation, emulsification, resection, irrigation and aspiration of nonviable tissues excisional or sharp-edge debridement of wounds and, such as, but not limited to, burn wounds, diabetic ulcers, bedsores and vaginal ulcers, soft tissue debridement and cleansing of the surgical site.





# **Product Overview**

PRODUCT LIST	REF NO
Ultrasonic Generator Integrated with a Peristaltic Pump (Non-Sterile, Reusable)	SYL-GN01-N
Foot Switch (Non-Sterile, Reusable)	SYL-SHA01-N
Serum Hanger (Non-Sterile, Reusable)	SYL-FW01-N
Ultrasonic Handle (Non-Sterile, Re-Sterilizable)	SYL-HL01-N
Surgical Probe SPR (Non-Sterile, Re-Sterilizable)	SYL-SPR-N
Probe Torque Tool (Non-Sterile, Re-Sterilizable)	SYL-PTTRQ-N
Sterilization Case (Non-Sterile, Re-Sterilizable)	SYL-STE01-N
Surgical Probe SPI (Sterile, Single-Use)	SYL-SPI-S
Surgical Probe SPII (Sterile, Single-Use)	SYL-SPII-S
Surgical Probe SPIII (Sterile, Single-Use)	SYL-SPIII-S
Surgical Probe SPIV (Sterile, Single-Use)	SYL-SPIV-S
Surgical Probe SPV (Sterile, Single-Use)	SYL-SPV-S
Irrigation Tubing (Sterile, Single-Use)	SYL-IRT-S

### References

<sup>1</sup>Yarets, Y. (2017). Effective biofilm removal and changes in bacterial biofilm building capacity after wound debridement with low-frequency ultrasound as part of wound bed preparation before skin grafting. Chronic Wound Care Management and Research, Volume 4, 55-64. doi:10.2147/cwcmr. s127874

<sup>2</sup>Nyborg, W.L. Ultrasonic microstreaming and related phenomena. Br J Cancer. 1982; 45: 156–160.

J. Vanable Integumentary potentials and wound healing R. Borgens (Ed.), Electric Fields in Vertebrate Repair, Alan Liss Inc., New York (1989), pp. 171-224

The Syllable™ Ultrasonic Surgical Debridement System is intended to be used in selectively fragmentation, emulsification, resection, irrigation and aspiration of soft nonviable tissues excisional or sharp-edge debridement of wounds. Indications, contraindications and instructions for use can be found on the product labeling supplied with each device.

Syllable™ Ultrasonic Surgical Debridement System should be used by surgeons who have received the appropriate training.



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