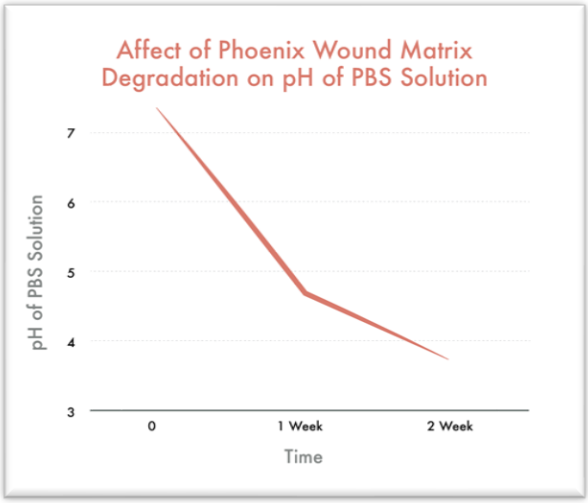
PHOENIX
WOUND MATRIX

The Phoenix Wound Matrix is designed as a bioabsorbable scaffold to allow for cellular invasion and capillary growth.
It is composed of lactic acid, glycolic acid, and caproic acid. It is designed to gradually degrade into these weakly acidic monomers and absorb into the wound bed over 2-3 weeks.

Degradation and Acidification of the Wound Bed to Promote Tissue Regeneration

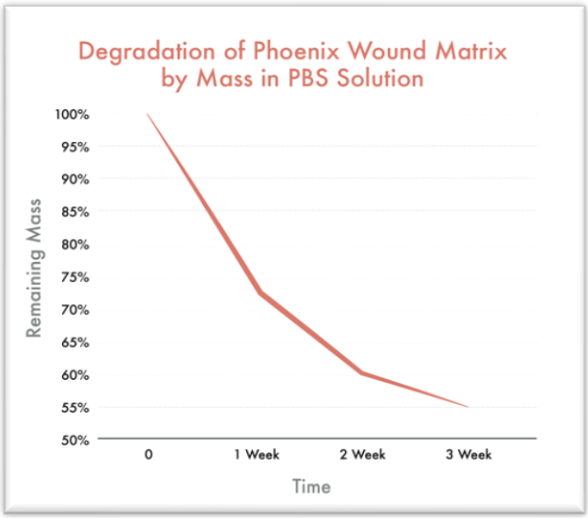
Acid Environment & Wound Healing

As the Phoenix Wound Matrix degrades, the weakly acidic monomers comprising it are gradually released into the wound bed, lowering the pH of the local wound environment. In vitro degradation tests on the Phoenix Wound Matrix demonstrate a drop in the pH of PBS from 7.4 to 4.75 over the course of one week. In wounds, an acidic pH inhibits destructive protease enzymes, increases available oxygen via the Bohr-effect, promotes angiogenesis, reduces toxicity of bacterial enzymes and metabolites, enhances destruction of abnormal collagen, and increases macrophage and fibroblast activity [1] [2].



Controlled Degradation

When the Phoenix Wound Matrix is initially placed, it provides a scaffold that allows for cellular adhesion and proliferation [3]. The scaffold slowly degrades after it is placed, with in vitro degradation tests displaying a 40% mass loss over 2 weeks in isotonic PBS solution. This degradation profile is designed to clear out space within the scaffold so that it can be replaced by native ECM, providing a gradual transition from the Phoenix Wound Matrix scaffold to native ECM and healthy tissue over the wound bed.



Conclusions

The Phoenix Wound Matrix gradually degrades in the wound bed after it is placed. This degradation is designed to acidify the wound bed and to allow for gradual regrowth of native ECM structures to promote regeneration of healthy tissue.

References

1. Nagoba BS, Suryawanshi NM, Wadher B, Selkar S. Acidic Environment and Wound Healing: A Review. Wounds. 2015;27(1):5-11.
2. Porporato PE, Payen VL, Saedeleer CJD, et al. Lactate stimulates angiogenesis and accelerates the healing of superficial and ischemic wounds in mice. Angiogenesis. 2012;15(4):581-592. doi:10.1007/s10456-012-9282-0.
3. Manufacturer-Sponsored White Paper – "Phoenix Wound Matrix: Cell Adherence and Proliferation".

RENOVODERM

(614) 319-3075
1330 Kinnear Rd.
Columbus, OH 43212
renovoderm.tech