"Naturally Derived, Superabsorbent Wound Dressing Materials" VCU #15-047

VIRGINIA COMMONWEALTH UNIVERSITY

Applications

- Wound healing bandage
- Superabsorbent material

Advantages

- Simple fabrication
- Naturally derived
- Biocompatible
- Provides moisture at wound site
- Anti-microbial properties

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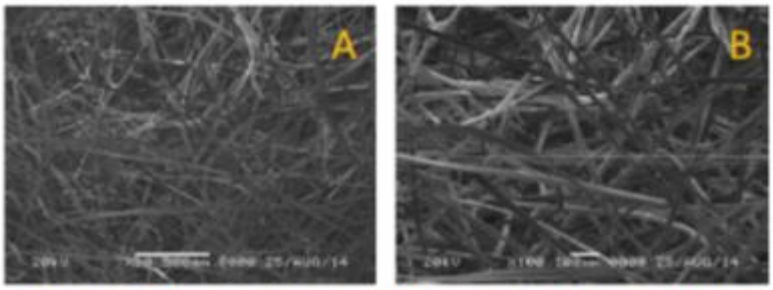
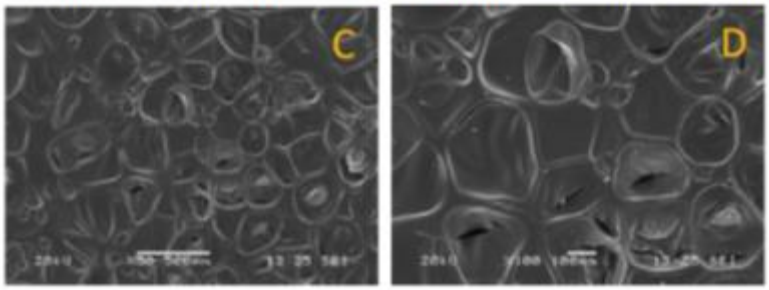
Technology Summary

Naturally derived polysaccharide polymers provide a suitable foundation for wound healing. Wound management fields have shown a drastic rise in applying such materials due to its biocompatible benefits and abundancy in nature. Researchers at VCU have produced a naturally derived superabsorbent wound dressing material from a carbohydrate polymer found in the cell walls of plants. This material is superabsorbent while providing moisture to the wound site. The material has been modified to deliver anti-microbial factors to combat infections during the healing process.

The figure to the right shows SEM images from comparison experiments between this novel material and a commercially available alginate material from 3M. Comparison studies have shown that the VCU bandage had a higher swelling capacity compared to the alginate control, providing a superior method for controlling high flow wounds.



SEM images of A) 3M Alginate at 500 µm; B) 3M Alginate at 100 µm



SEM images of C) Novel material at 500 µm D) Novel material at 100 µm

Technology Status

Wound dressing has been prototyped with extensive *in vitro* testing
Patent Pending: U.S. and Foreign rights available
This technology is available for licensing to industry for further development and commercialization.