

**Name of Article:** Antimicrobial effects of bacterial binding to a DACC coated wounds dressing an in vitro study

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## Summary:

- It is seen that dressings that inactivate or sequester microorganisms such as DACC coated dressings can reduce the release of bacterial endotoxins aggravating inflammation by avoiding bacterial cell wall disruption.
- This is advantageous in hard-to-heal wounds
- The full scope of DACC dressings, including the potential impact of higher inoculum ( a process or technique that involves the transferring of microorganisms from culture for growth) densities, increased protein load and different pH on antibacterial activity, needs to be evaluated.
- The Japanese Industrial standard (JIS) L1902 challenge test was used to evaluate the antimicrobial activity of the DACC-coated dressing against several World Health Organisation (WHO) prioritised wound pathogens ( E.g., MRSA, VRE with extended -spectrum beta - lactamases and Acinetobacter baumannii)
- The effect of repeated bacterial challenge in an adverse wound environment, and antimicrobial performance at wound related ph.

### Results

- High antibacterial activity of the DACC dressing against the prioritised bacteria strains was confirmed
- At increased inoculation densities, compared to standard conditions, the DACC coated dressings still achieved strong-to-significant antibacterial effects.
- Augmenting the media protein content also effected antibacterial performance
- The pH did not influence antibacterial performance
- The DACC-coated dressing also sustained antibacterial activity over subsequent reinfection steps

### Conclusion

- It can be assumed that the DACC-coated dressing exerts beneficial effects in controlling the wound bioburden, reducing the overall demand on the demand for antibiotics, without using antimicrobial substances.

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**External Evidence – Summary**



**External Evidence – Summary**

