# Could a Wound Management Pathway help reduce antibiotic prescribing?

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Antimicrobial resistance (AMR) is a global issue of considerable concern. In the UK, around 70% of antibiotics are prescribed in general practice[1] and at least 20% of these prescriptions have been described as 'inappropriate'[1]. This is a worrying trend as sub-optimal use of antimicrobials is recognised as one of the main drivers of AMR[2].

Anecdotal reports of local, inappropriate antimicrobial prescribing for non-infected wounds were received by the Tissue Viability team at the Royal Devon University Healthcare NHS Foundation Trust. There were also concerns about patients with chronic non-healing wounds being prescribed multiple courses of antibiotics, whose wounds failed to heal. In some cases the wound continued to deteriorate.

Given that around 16% of systemic antibiotics are prescribed for skin/ wounds,[3] it was agreed that action should be taken to help reduce inappropriate antimicrobial prescribing. The team designed a 'Wound Infection Management Pathway', based on a review of published data, together with our own extensive clinical experience. The Pathway aims to give community based nurses the clinical skills to distinguish between a wound with covert signs of infection (suspected biofilm) and a wound with overt signs of infection and then to take the most appropriate management steps. If a wound shows signs of a biofilm, topical management, with re-assessment after two weeks is recommended. A wound showing signs of a spreading and systemic infection is likely to require additional management with systemic antibiotics. The pathway is meant to act as a guide, rather than a replacement for clinical judgement.

Wound cleansing with octenilin solution and periwound cleaning with octenisan wash mitts form part of the protocol. Octenidine is a broad spectrum antimicrobial that is less susceptible to bacterial resistance[4] is effective in a short contact time at low concentrations,[5] and is the only antiseptic that remains active locally for up to 48 hours.[6]

A small pilot study was completed in 2024 to evaluate the use of the Pathway in practice, and how best to deliver training for community nurses (CNs) in using the Pathway. It was anticipated that if community nurses better understood how to differentiate between a biofilm infection and a systemic spreading infection, inappropriate prescribing of antibiotics would decrease; chronic wounds would be more optimally managed, leading to improved patient care.

## Methods

The pilot was conducted amongst 32 community nurses. Initially three x two-hour training sessions over a fortnight were planned, but feedback from CNs indicated that this was not feasible due to their extensive workloads. This was subsequently reduced to two one-hour sessions. The first session concentrated on teaching the skills required to identify the nature of the wound and wound biofilm. The second one focussed on wound hygiene and how to manage different types of wound infection.

Patients receiving 'Gold Standard Care' were selected by the CNs, who then followed the Pathway to make a diagnosis, followed by appropriate management. Data on using the Pathway and patient outcomes were to be recorded.

## Results

Insufficient patients were eligible for inclusion as they were not receiving 'Gold Standard Care'. This meant the Pathway was only evaluated on five patients – all with leg ulcers, and a mean wound duration of 10.8 months. CNs used the Pathway guidance but did not input data. Therefore TVNs regularly assessed the patients, all of whom had previously received systemic antibiotics. Whilst following the Pathway, the TVNs noted that all wounds healed or progressed to healing during the study period. Feedback on the Pathway recommended a clearer visual difference between the biofilm and infected wound.

## Discussion

The pilot was a steep learning curve. It was found that CNs have little time to undertake training. Therefore training sessions needed to be modified to fit in with working patterns. Whilst the Pathway was found to be useful, a number of modifications were needed to help make it more effective in practice. These modifications have now been made and are being assessed in the second stage of the study. Restricting the study to patients receiving 'Gold Standard Care' was too limiting on the number of eligible patients and will not be included in phase two.

## Conclusion

There is value in a 'Wound Infection Management Pathway' and by communicating the distinction between a biofilm and an infected wound, it may be possible to reduce inappropriate antimicrobial prescribing. Further work on refining the Pathway and delivering engaging education is in progress as part of the stage two study. Longer term, it is hoped that the Pathway will be adopted by GP formularies.

## References

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