

Introduction

A chronic wound is a wound that fails to progress through a normal, orderly, timely sequence of repair and where co morbidities interfere with the normal healing process¹. Chronic wounds are 'stuck' in the inflammatory state and elevated protease activity (EPA) could play a role in their inability to follow a normal healing process. The presence of EPA creates an environment that is detrimental to wound healing. A recent clinical trial showed chronic wounds with EPA have a 90% probability of not healing without appropriate intervention and 28% of non-healing wounds have EPA². WOUNDCHEK™ Protease Status is an in vitro, visually read, immunochromatographic test for the qualitative assessment of human neutrophil-derived inflammatory protease activity directly from wound fluid swab samples taken from chronic wounds. The test helps clinicians establish within minutes which wounds may benefit from a protease modulating therapy, ensuring appropriate and targeted use of these therapies.

Swabbing technique



Gently cleanse the wound with sterile saline.



Add additional drops of saline to the wound until it glistens.



Press the head of the swab flat against the wound. Gently roll it back and forth until fully discoloured with wound fluid

How to use it?

STEP 1

Lay test card flat on the work surface. Add 4 drops of Reagent to the top hole



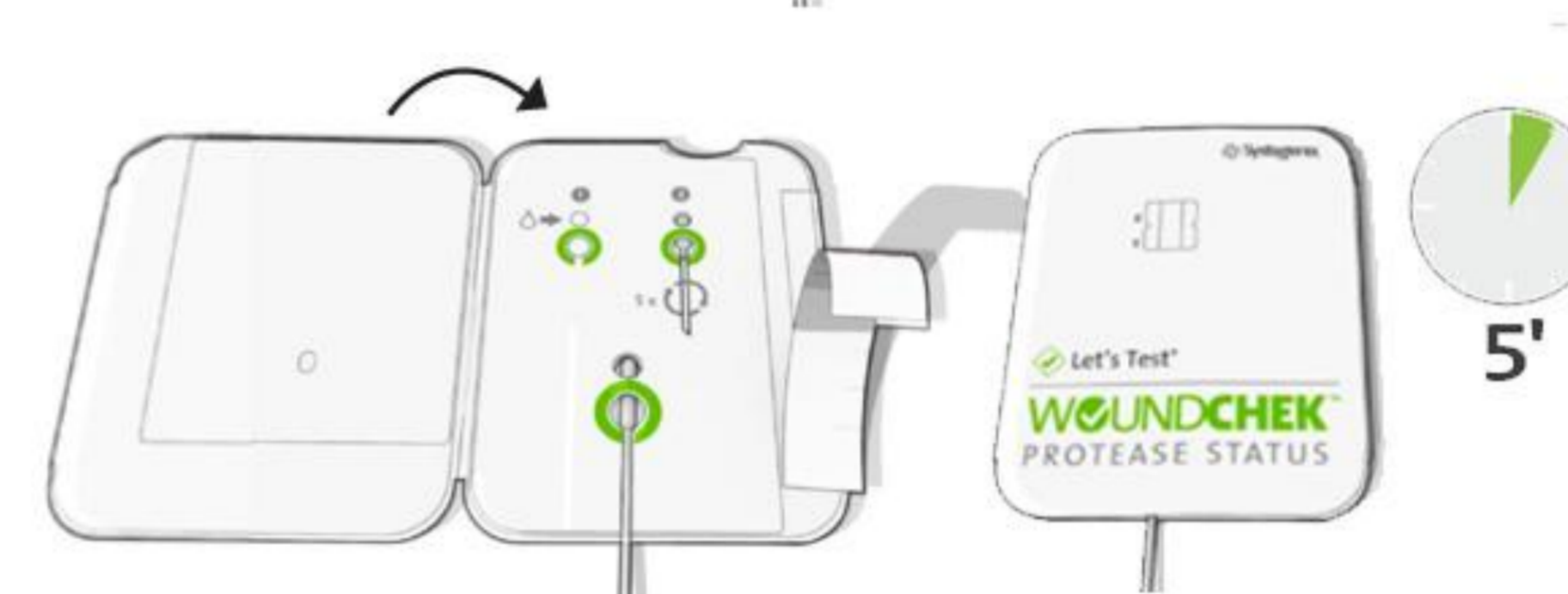
STEP 2

Insert sample swab into the bottom hole, firmly push upwards, then rotate at least five times. Wait 10 minutes.



STEP 3

Peel off adhesive liner from the right edge of the test card, close and securely seal the card. Wait 5 minutes.



STEP 4

Read test result in window using result interpretation reference strip.

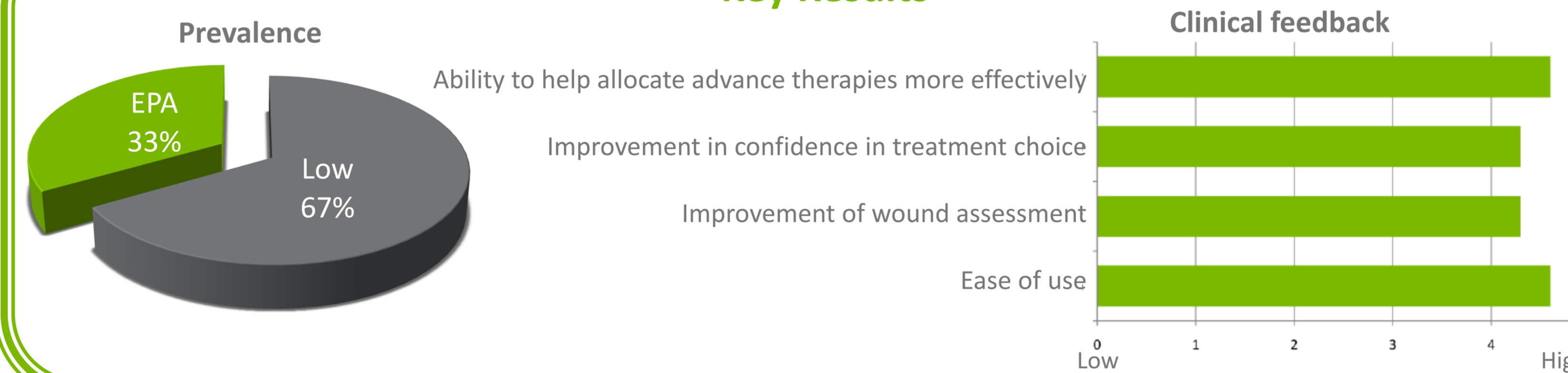


Method

The primary objective was to evaluate the protease status of 15 chronic diabetic foot ulcers using WOUNDCHEK™ Protease Status. The wounds were a convenience sample of patients attending a multi-disciplinary foot clinic. Age of the wounds varied from 6 weeks to 2 years. The wounds had been previously treated by conventional wound care including debridement, off loading and a variety of modern wound care products had been used including foams, antimicrobial and gel dressings. Data was collected on the percentage of positive results and clinicians were asked to rate, on a likert scale of 1-5, 5 being the highest rating, the following:

- Ease of use
- To what degree did the test improve their wound assessment
- To what degree did the test give more confidence in the treatment choice
- To what degree did the test offer the ability to allocate advanced therapies more effectively

Key Results



Results

Of the 15 ulcers tested 5 (33%) had EPA. Ease of use of the test, a mean score was 4.6 out of 5. The degree which the test improved wound assessment was 4.3. The degree of improvement in confidence in treatment choice was 4.3. The degree of the ability of the test to allocate advanced therapies more effectively was 4.6.

Discussion

This small sample reflects the literature providing evidence that around one third of the patients who had a chronic wound had EPA, which may explain the reason for their chronicity. It enables clinicians to rationalise their use of protease modulating products to ensure their application is appropriate. It also identifies to a clinician that there are other reasons that a wound has become 'stuck' and should prompt the clinician to reassess the patient to identify other possible causes. The clinical feedback indicated that the test was easy to perform as part of normal clinical practice.

Conclusion

It is essential that diagnostic tools are used as part of an integrated, structured approach to patient management that is designed to ensure that appropriate treatment is provided at all times. Ideally diagnostic tools will indicate specific modifications to practice or treatment that will move the wound towards healing.

References

1. Lazarus GS, Cooper DM, Knighton DR et al. Definitions and guidelines of wounds and evaluation of healing. *Arch Dermato* 1994;130(4):489-493
2. Serena T. et al. Protease activity levels associated with healing status of chronic wounds. Poster, Wounds UK 2011.