An evaluation of wound dressings to manage wound exudate and conform to the wound bed

Breda Cullen, Stuart Boothman, Sarah Aickin, Systagenix Wound Management, Gargrave, UK

Abstract

Maintaining a moist wound healing environment is now accepted practice in the treatment of chronic wounds. Fluid handling ability is an important property of wound dressings, providing clinicians with a means of predicting product difficulty in determining which dressing best suits a particular wound. Existing methods of measuring fluid handling ability of wound dressings are time consuming and require the use of different test vehicles. This model mimics the early stages of inflammation, when fluid release is most prevalent, allowing the dressing to begin absorbing fluid in the presence of the wound bed, a property that enhances its ability to absorb fluid.

Method

The model consists of a 35mm Petri dish which is placed centrally onto the gel surface, secured using adhesive tape and a disc weight. The gel containing Petri dish was secured on top of a square dish (10x10cm). A dressing (3.5 cm x 3.5 cm) was placed centrally onto the gel surface, secured using adhesive tape and a disc weight. The gel containing Petri dish was secured on top of a square dish (10x10cm). A dressing (3.5 cm x 3.5 cm) was placed centrally onto the gel surface, secured using adhesive tape and a disc weight. The gel containing Petri dish was secured on top of a square dish (10x10cm). The dish was then covered with a lid, and placed into a humidified incubator, set at 37°C and 100% relative humidity, for 24 hours. The lid was then removed and the Petri dish peeled from the gel surface. The wound area was then flooded with red dye to allow for easy visualisation of the fluid handling ability of dressings. This model is simple, reproducible and capable of representing different wound shapes and depths.

Conclusions

The results obtained from this new model appear to be more clinically relevant,•Assesses dressing ability to conform to wound shape •Controls release of fluid from agar gel • Mimics wound contours & depth • Adopted for pressure ulcer & leg ulcer wounds

The results show the ability of TIELLE® to swell when in contact with fluid enabling it to conform to the wound bed, reducing pooling of fluid in a more efficient manner compared to the other dressings.

TIELLE with LiquaLock Technology TIELLE absorbs fluid and expands
• Fluid fills the hydrophilic polymers • Fluid permeates into the cell walls • TIELLE’s unique LiquaLock Advanced Absorption Technology then locks fluid in even under movement and pressure • TIELLE’s ability to expand into the wound area increases its ability to absorb exudate, minimising maceration