

# Pilot Study To Investigate The Performance Of A New Chitosan Gelling Fibre As A Primary Dressing In 20 Patients In A Wide Variety Of Wounds That Potentially Caused Delays In Discharge

Lead Author: Rommel Orig, Tissue Viability Nurse  
Queen Elizabeth Hospital University Hospital NHS Trust Birmingham,  
Mindelsohn Way, Edgbaston, Birmingham, B15 2GW.  
Tel: 0121 627 2000 ext 3025. Email: Rommel.Orig@uhb.nhs.uk

Co Author: Joseph Singleton, Tissue Viability Nurse  
Queen Elizabeth Hospital University Hospital NHS Trust Birmingham,  
Mindelsohn Way, Edgbaston Birmingham, B15 2GW.  
Tel: 0121 627 2000 ext 3025. Email: Joseph.Singleton@uhb.nhs.uk

Co Author: Jo Swann, Lead Tissue Viability Nurse  
Queen Elizabeth Hospital University Hospital NHS Trust Birmingham,  
Mindelsohn Way, Edgbaston Birmingham. B15 2GW.  
Tel : 0121 627 2000 ext 3025

### Introduction

Early recognition of infection is essential if delays in wound healing and complications are to be avoided (World Union of Wound Healing Societies (WUWHS) 2008, Collier 2004). At University Hospital Birmingham the tissue viability specialist nurses assess most complex wounds this is sought early to identify early signs of wound infection. Consideration of other alternatives to antimicrobial dressings and their physical properties is vital to prevent resistance and promote cost effectiveness and encourage early discharge.

### Methodology

Local trust approval was obtained following submission of evaluation proposal and data collection forms. A bespoke evaluation form was provided by Aspen Medical following detailed consultation with the tissue viability team. Training on how, to apply and remove the dressing (according to instructions for use of KytoCel®) and additional support was provided by the local company representative prior to and during the evaluation period. All dressing products were provided by Aspen Medical this study. The study incorporated three main criteria Patient base line data, dressing performance and patient perspective on quality of life listed in table 1. Patients that had clinical signs of critical colonisation or infection wound swabs were taken pre and post dressing application between day 3 , 5 and 11.

Patient baseline data	Dressing performance	Quality of Life
Gender	Bacteriostatic properties	Manage wound exudate
Age	Haemostatic performance	Pain
Underlying diseases	Fluid handling	Malodour
Wound measurements start and end of study	Ease of application	Ease of application
Critical colonisation /infection	Ease of removal	Ease of removal
Wound swabs results before and after application	Overall performance	

Table 1 Pilot study criteria.

### Results

A total of 20 patients 11 (55%) males, 9 (45%) females, with an age range 22-94 years, total of 18(90%) The majority of patients in this evaluation presented with challenging post-operative and surgical wounds, 11 (50%), 1(4%) pressure ulcers 2 (9%) diabetic foot ulcers 1 (4%) vascular that included below knee amputation, chronic venous leg ulcers 2 (9%) ,Traumatic wound 1(5%) "Others" included, Post incision and drainage of abscess, infected Left ventricular assisted device line wound Permanent Pacemaker site wound 3 (14%) Overall experience was documented by the lead investigators. Key finding: - A significant reduction in wound size. The rapid improvement in the quality of granulation tissue 11 (55%) suggested that patients were able to be discharged home sooner than expected. The reduction in wound bioburden (particularly candida albicans) and malodour, combined with effective exudate management made a real difference to the outcome of some of the most challenging wounds

### Discussion

The ability to gel when in contact with wound fluid, and the absorption moderate to high levels of exudate was maintained during wear time. This study demonstrates that this dressing is an effective bacteria static in a wide range of mico-organisms in vivo The bacteria species included gram +, Gram negatives, including commonly found resistant strains such as :- Klebsiella, Pseudomonas aeruginosa, Escherichia coli, Methicillin-resistant Staphylococcus aureus. A total of 8 (40%) were given oral or intravenous antibiotics or antifungal treatment. it would be difficult to reach a firm conclusion as to the effectiveness of the dressing in treating patients where the dressing is an adjunct to another therapy. Further studies would be required to establish any significance but used in conjunction with systemic treatment has shown to have an impact from as soon as day 5 post application.

### Conclusion

This evaluation demonstrates the benefits of the KytoCel® dressing in a wide variety of complex wounds that are commonly seen by the tissue viability team in a large acute hospital. . KytoCel® has the potential to improve the patients experience and provides an opportunity to reduce hospital stays (and costs) that warrants further investigation.

### Case Study 1

- 60 year old lady
- Admitted with dehisced infected abdominal wound
- Past medical history: Bipolar disorder, hernia repair, chronic kidney disease
- Did not require surgical debridement. Not suitable for NPWT. On Systemic oral antibiotic and silver dressing with no significant outcome
- Kytocel for 2 weeks



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### Case Study 2

- 77 year old man
- Admitted with infected pacemaker site
- Past medical history: Heart failure, CABG, NIDDM, COPD
- Pacemaker removed on admission. Developed haematoma – local debrided by plastics team.
- Kytocel applied for 2 weeks



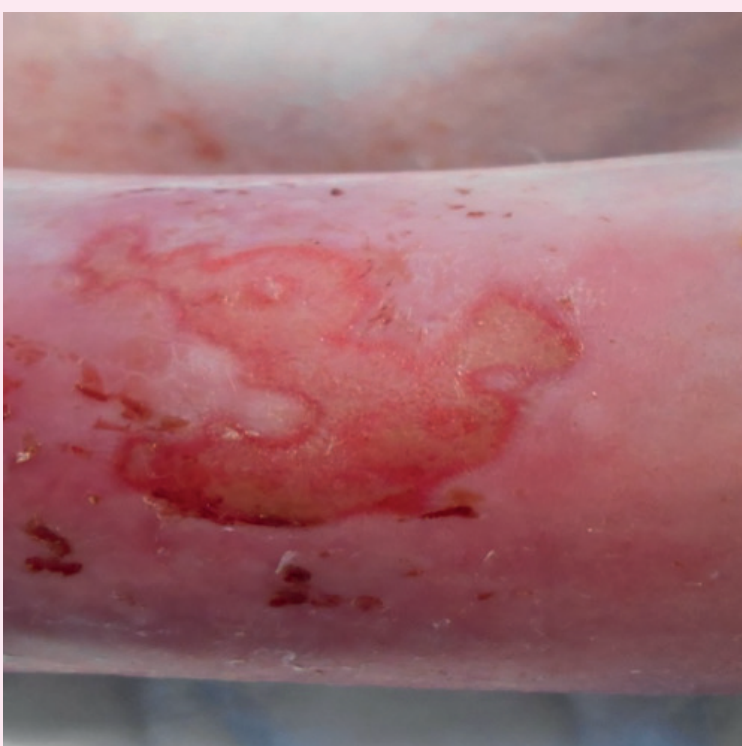
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### Case Study 3

- 78 year old lady
- Admitted with pneumonia
- Past medical history: Hypertension, anaemia
- Due to decreased mobility became oedematous and developed spontaneous blistering and ulceration.
- Wound static for 3 weeks.
- Kytocel applied



01.05.15



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