



**Service Priorities and Programmes  
Electronic Presentations**

**Convention ID:** 553

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**The application of a physical antimicrobial spray dressing for reducing post-operative peritoneal dialysis catheter exit site infection in end stage renal failure patients: a prospective cohort study**

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**Keywords:**

JUC

Peritoneal dialysis catheter exit site infection

**Introduction**

Care of the peritoneal dialysis (PD) catheter exit site is very important in the early postoperative period, as this will encourage the development of a healthy sinus tract and minimize the risk of exit site infection (ESI) which may lead to peritonitis and catheter removal. None of the current strategies is considered a successful measure in preventing ESI in the early stage of PD catheter insertion.

**Objectives**

This study aims to evaluate the effectiveness of JUC® physical antimicrobial spray dressing on post-operative PD exit site care with respect to reduction of infection risk and patient comfort.

**Methodology**

A prospective cohort study was conducted in December of 2012 to March of 2013 and the study results obtained were compared with retrospective data (historical cohort) obtained between 2010 to 2011 in the same Renal unit. JUC® physical antimicrobial spray dressing was administered to exit sites of the consenting participants. The incidence rate of ESI, the causative microorganisms of ESI and demographic data was compared between the study group and the historical control group. Pain was assessed by means of a numeric pain score. Two weeks after PD catheter insertion an exit site swab culture were performed to determine presence of colonizing organisms. The patients were observed for ESI for 4 week.

**Result**

Of the 23 subjects completing the trial, only one ESI (*S. aureus*) was reported and the incidence of ESI (within 4 week after PD catheter insertion) in study group was only 4.3%. This was a 77% decreased in ESI incidence when compared with the historical control. Four positive colonization culture results were reported but no ESI was developed at these colonization exit sites. The pain score was low and no adverse

effects, skin discomfort such as itchiness and no delayed sinus epithelialization or wound healing was reported. The outcomes were compared with 209 historical controls with respect to ESI incidence and organism involved.