

## Decimation of PD exit site infections means routine surveillance is unnecessary

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### Introduction

We present a review of peritoneal dialysis (PD) catheter exit site infections in patients receiving PD and looked after by a tertiary paediatric nephrology unit. We investigated the contributing factors related to these infections. The 2017 Clinical Practice Guideline for Peritoneal Dialysis in Adults and Children provide guidance on investigation, monitoring and treatment of exit site infections but it was unclear how frequent exit site infections were following newer interventions to reduce infection rates in our unit.

### Methods

31 children were reviewed over a four year period (511 patient months) in a tertiary paediatric dialysis unit. All patients were receiving chronic peritoneal dialysis at home.

All parents/carers were deemed competent to maintain exit site sterility having completed a minimum of three dressing changes on initiation of dialysis, under supervision from a member of the home therapies team, consisting of dedicated PD clinical nurse specialists. Carers were then instructed to change exit site dressings twice per week and as required when the dressing was not intact. Assisted PD was available to patients unable to perform cares of PD.

Routine exit site swabs were obtained three monthly along with MRSA and nasal swabs. Exit site swabs were also obtained if there were any concerns about exit site integrity e.g. redness, discharge, granuloma etc. Topical antibiotic administration was used to reduce the frequency of exit-site infection and peritonitis. Patients (and/or carers or parents) underwent regular revision of their technique (at least annually or more frequently if indicated, such as after an episode of PD-related infection).

### Results

Between 14-18 prevalent patients per year received chronic PD therapy between 2015-2019 (98-151 PD months/yr). Only 2-3 patients were affected by exit site infections per year. Organisms isolated were *Staphylococcus aureus*, *Klebsiella oxytola*, *Pseudomonas aeruginosa*, *Serratia Marcescens* and *Enterococcus Casseliflavus*. All patients had clinical symptoms or signs (erythema, discharge, granuloma). Factors that predisposed to exit site infection included younger age and presence of other –ostomies. Only one patient had to change modality due to inability to eradicate *Pseudomonas* exit site infection. Routine exit site swabs in the absence of clinical symptoms or signs were consistently culture negative.

### Conclusion

Very low rates of exit site infections were identified in our tertiary paediatric unit. Contributory factors to aid this may have included a proactive approach including twice weekly dressing changes, the use of a PD belt and an occlusive semi-transparent, flexible film dressing (parafilm) for the end of the covered PD catheter and extension set junction. Factors that could not be controlled as easily such as presence of -ostomy site in close proximity to the PD exit site accounted for a significant proportion of the observed exit site infections.

Based on this retrospective data we plan to discontinue routine exit site swabs in the absence of clinical symptoms. Exit site swabs will be performed only if there is a clinical indication to do so. We will continue to monitor using digital photographs of exit sites taken by carers on a three monthly basis.