

**Abstract Submission No.: A-0683**

## **Efficacy of Peritoneal Dialysis Catheter Partial Replantation in Managing Catheter-Related Infection and Mechanical Damage**

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**Objectives :** The revised 2023 guidelines from the International Society for Peritoneal Dialysis (ISPD) place greater emphasis on salvage methods, such as cuff shaving and exit site relocation, as treatment options for refractory exit site infections (ESI) or mechanical catheter damage. This approach offers the advantage of preserving the existing catheter by manipulating only the outer cuff above the peritoneum, eliminating the need for hemodialysis transfer. We investigated the efficacy of partial replantation technique.

**Methods :** In this retrospective single-center study conducted from September 2020 to January 2023, we compared 9 patients who underwent salvage methods with 58 patients who received de novo catheter insertion. Our evaluation encompassed exit site or tunnel infection, peritonitis, and catheter dysfunction. The salvage technique involved the distal cutting of the infected or mechanically impaired catheter, followed by the connection of a new catheter using a connector comprising a PD adaptor and transfer set.

**Results :** During the study period, a total of nine patients (four males, mean age 56 years) with a mean duration of 66 months on PD underwent the salvage technique. Following salvage replantation, one patient (11.1%) experienced ESI, one patient (11.1%) developed a tunnel infection, three patients (33.3%) experienced peritonitis, and eventually, two patients (22.2%) required catheter removal. No procedural complications or catheter dysfunctions were observed. In the control group, ESI occurred in six patients (10.3%), tunnel infection in one patient (1.7%), peritonitis in 11 patients (19.0%), catheter removal in seven patients (12.1%), and catheter dysfunction in one patient (1.7%). Kaplan-Meier analysis demonstrated no significant differences in outcomes between the two groups (ESI;  $p=0.338$ , tunnel infection;  $p=0.064$ , peritonitis;  $p=0.855$ , catheter dysfunction;  $p=0.694$ , catheter removal;  $p=0.393$ ).

**Conclusions :** This study confirms the non-inferiority and effectiveness of the salvage technique compared to de novo insertion for managing exit site or tunnel infections and the mechanical impairment of the catheter.

Ryou et al - PD catheter partial replantation - Figure KSN.jpg

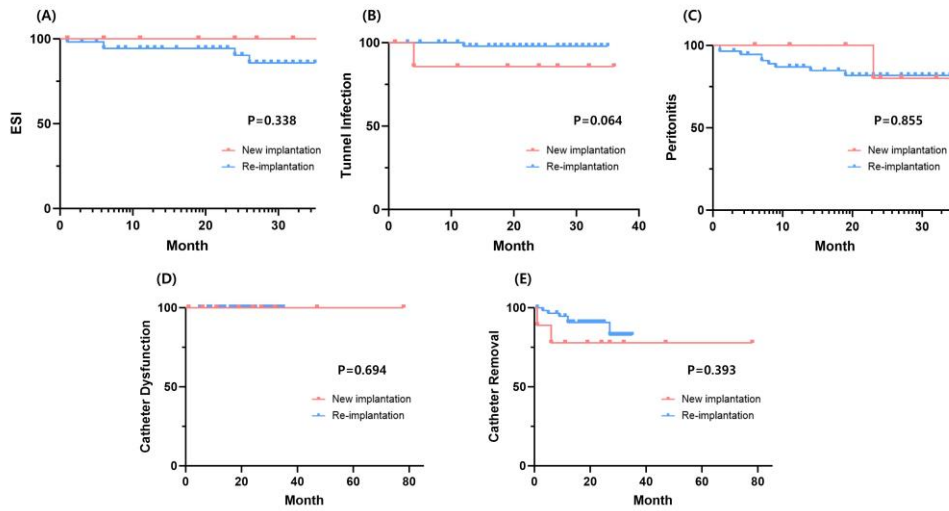


Figure 1. Clinical Outcomes

Ryou et al - PD catheter partial replantation - Figure KSN.jpg

Table 1. Clinical outcomes of PD catheter partial replantation comparing to de novo insertion

	Patients (n=9)	Control (n=58)	P-value
ESI	1 (11.1%)	6 (10.3%)	0.338
Tunnel Infection	1 (11.1%)	1 (1.7%)	0.064
Peritonitis	3 (33.3%)	11 (19.0%)	0.855
Procedure Complication	0 (0%)	0 (0%)	
Catheter Dysfunction	0 (0%)	1 (1.7%)	0.694
Catheter Removal	2 (22.2%)	7 (12.1)	0.393

ESI; exit site infection