

## U-Drain for automated peritoneal dialysis: 3 year follow up safety and outcomes

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### Objectives

U-Drain is a fixed drainage mechanism for disposal of PD effluent for patients on APD, avoiding the need for draining bags. We present long term follow up data of patient and technique survival, peritonitis and the green dividend

### Methods

15 patients were enrolled in this Academic Health Sciences sponsored project commencing November 2016. 8 male, 7 female, aged 57 (34-84) years. Causes of kidney failure were diabetes (6), glomerulonephritis (3) and hypertension (3). There was variation in weight 71 (48-101) kg and body mass index (BMI) 26 (20-39) kg/m<sup>2</sup>. 4 patients were active on the kidney transplant waiting list.

Patients and staff completed an anonymised questionnaire: 14 themes including ease of installation, tolerability, advantages and issues arising.

The Peritoneal Dialysis Dependency Score, a validated measurement of global patient performance was undertaken regularly.

Peritonitis episodes, admissions and modality changes were regularly reviewed by the MDT

### Results

MDT review noted no delays to diagnosis of peritonitis or increased incident in comparison to the unit's APD population.

No patient modality change was associated with U Drain and patients actively wished to continue using it.

5 patients remain on U Drain after 3 years, peritonitis free.

Peritonitis was experienced by 5 patients, total 7 episodes

Modality changes: 4 deaths, 3 transplants, 2 transfers to haemodialysis

Questionnaire results indicated a high level of patient and staff satisfaction with installation and function.

Feedback was provided on flushing and maintenance.

Over 100kg clinical waste have been avoided.

### Conclusions

This project demonstrates the long term safety and tolerability of U-Drain. No delays or infectious complications were found. Patients appreciated the reduced amount of consumables to dispose of and not having to empty drain bags.

Removing the requirement for drainage bags significantly reduces the volume of clinical waste for disposal and single use, non-recyclable plastic.

The data support offering U-Drain to support home dialysis therapy to patients in the pre-dialysis and established dialysis populations, improving quality of life in a safe and ecologically sustainable manner.