

# P141: HOW A NOVEL PATIENT AID COULD PREVENT EARLY DROP-OUT OF PD THERAPY

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## INTRODUCTION

Enrolling patients on PD requires resources for training and education, especially at the beginning. In general, registries include patients only after 90 days. Retrospective studies in the US<sup>1</sup> and UK<sup>2</sup> have that early drop-out of PD therapy within the first 90 days is as high as 13 – 20%.

Disregarding causes such as death and transplantation, the percentage of patients transfer to HD within the first 90 days is 10%<sup>2</sup> - 13%<sup>1</sup>. Concerns are reported<sup>3</sup> that the first 90 days bear the highest risk for technique failure.

If these drop-outs could be reduced, the healthcare system would save resources, time, and money.

## OBJECTIVE & METHODS

The aim was to understand how a newly developed connect device would help to prevent early drop-out and support patients during their first weeks on PD therapy prior to the product launch.

Reasons for the drop-out were identified and compared with patient profiles that would benefit from such a device.

The results were also related to functionalities such as a connecting mechanism or a secluded device area where the patient cannot interfere with the open catheter. Also under evaluation was a therapy guidance approach that leads the patient through the therapy steps.

## RESULTS

Reasons for early PD technique failure and transfer of patients to HD<sup>3,4,5</sup>:

Reasons for early transfer to HD:					
Infections / peritonitis	28.2%	Infections / peritonitis	35%	Infections / peritonitis	38%
Catheter related problems	23.2%	Catheter related problems	40%	Other medical / catheter	39%
Psychosocial problems	14.4%	Psychosocial / Other	25%	Psychosocial / Other	23%
Adequacy	21.5%				
Other medical problems	12.7%				
<b>Total</b>	<b>100.0%</b>	<b>Total</b>	<b>100.0%</b>	<b>Total</b>	<b>100.0%</b>
<b>Addressable</b>	<b>42.5%</b>	<b>Addressable</b>	<b>60.0%</b>	<b>Addressable</b>	<b>61.0%</b>
Data for 1 year		Data for 90 days		Data for 90 days	
<small>(Adequacy occurs probably less in the first 3 months)</small>					
<small>Data: Gua, 2003</small>		<small>Data: Kolesnyk, 2010</small>		<small>Data: Descoudre, 2008</small>	

An estimate of app. 60% of all early drop-outs could potentially be addressed by a patient assist device. The addressable problems are primarily infections and psychosocial reasons.

One data set<sup>4</sup> shows less addressable patients, probably due to a 1 year follow-up where UF/adequacy are more prominent.

Therapy steps potentially addressable for infections and psychosocial reasons :

No	CAPD Manual Handling steps (Baxter system)	Potential risks/ difficulties	Addressable by assist device
1	Prepare transfer set and dialysis bag	None	N/A
2	Remove protection cap from dialysis bag	Risk of touch contamination	Addressable
3	Hold dialysis bag connection/ pick up the transfer set	Risk of touch contamination	Addressable
4	Unscrew the transfer set cap (minicap)	Risk of touch contamination	Addressable
5	Remove the transfer set cap and discard it	Risk of touch contamination	Addressable
6	Connect dialysis bag to the transfer set	Risk of touch contamination	Addressable
7	Ensure tight connection	None	N/A
8	Open transfer set twist clamp and drain	Handling difficulty	Not addressable (not part of system)
9	When drain is finished, close drain line with clamp	Handling difficulty	Addressable
10	Close transfer set twist clamp before flushing	Handling difficulty	Not addressable (not part of system)
11	Brake green frangible and flush	Handling difficulty	Addressable
12	Reopen transfer set twist clamp and fill	Handling difficulty	Not addressable (not part of system)
13	After filling, add clamp to fill line and close transfer set twi	Handling difficulty	Addressable
14	Disconnect dialysis bag from transfer set	Risk of touch contamination	Addressable
15	Mount new iodone transfer set cap (minicap)	Risk of touch contamination	Addressable
16	Bolt transfer set tightly and finish therapy	None	N/A

10 out of 16 manual steps in CAPD are addressable in order to reduce peritonitis and also lack of confidence in therapy.

## DISCUSSION

The analysis showed that 60% of early drop-out events during the first 90 days could potentially be addressed by a patient connection device, because 35% of drop-outs are peritonitis related, and 25% psychosocial related.

The fact that with the patient aid, the catheter system is secluded from the patient might help to prevent drop-outs early in the therapy. However, more evidence is required through clinical data.

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