

Optimal Dwell Time for maximal small solute clearances in Peritoneal Dialysis patients



METHODS





-Cohort study
-36 chronic PD patients





UF, Solute clearance & Removal rates of



- Urea
- Creatinine
- Sodium
- Potassium
- Phosphorus
- Uric acid

- 24 patients 
- 9 dwell time points (in minutes)
 - 0, 5, 10, 15 [Day1]
 - 20, 30, 40 [Day2]
 - 50, and 60 [Day3]
- Using 2 consecutive cycles x each dwell time 



- 12 patients 
- 6 dwell time points (in hours)
 - 2, 3, 4, 5, 6, and 7 hours
- Over 6 consecutive days
- Using 3 consecutive cycles x each dwell time 



RESULTS



- Urea and creatinine clearances (ml/min) were highest at dwell time of 20 mins
- p value <0.05



- Max Na removal - 0 mins (394.56 mEq/day; p 0.005)
- Max K, P, and Uric acid removal - 20 mins
- Max UF rate - 10 & 15 mins

No association between Solute removals and peritoneal membrane transport types

Conclusion: 20-minute dwell time, representing a daily dialysate flow rate of 28 L, demonstrated the highest small solute clearances in chronic peritoneal dialysis patients.

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