Individualizing PD Prescription

2025 APCN X TSN

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Disclaimer

- I am a nephrologist
- Participate and lead investigator-initiated trials at the Australasian Kidney Trials Network, at the University of Queensland, Australia
- Received research grants and speaker's honoraria from Vantive (Baxter) Healthcare and Fresenius Medical Care
- Current recipient of NHMRC Emerging Leadership Level 2 Investigator Grant
- Home dialysis enthusiast - especially PERITONEAL DIALYSIS

Outline

- PD Prescribing Pattern: global trend
- Individualization of PD Prescription: Necessity vs. Luxury
- Elements to consider in prescribing PD
- Practical Application / Approach
- Summary

International comparison of peritoneal dialysis prescriptions from the Peritoneal Dialysis Outcomes and Practice Patterns Study (PDOPPS)

Peritoneal Dialysis International
2020, Vol. 40(3) 310–319

DOI: 10.1177/0896860819895356
journals.sagepub.com/home/ptd
SAGE

PDOPPS
Peritoneal Dialysis Outcomes and Practice Patterns Study

Table 1. Baseline patient characteristics by country.

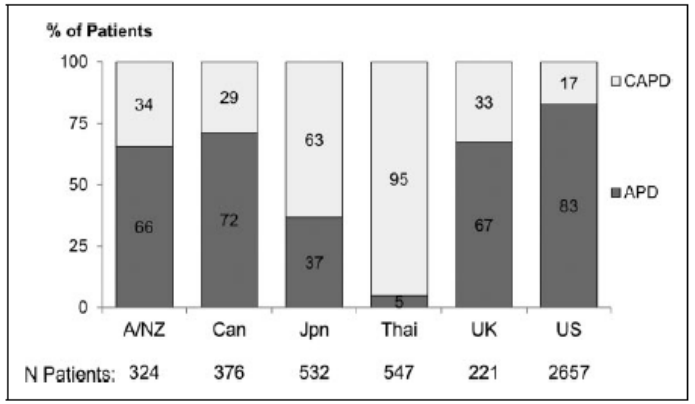
	A/NZ	Canada	Japan	Thailand	UK	US
Number of patients	324	376	532	547	221	2657
Patient age (years)	64.2 (13.7)	61.5 (14.7)	64.9 (13.1)	56.0 (13.8)	62.5 (15.2)	57.2 (15.1)
Female (%)	36%	42%	40%	49%	34%	45%
Black race (%)	0%	5%	0%	0%	4%	27%
Time on PD (years)	1.9 (1.9)	2.4 (2.7)	2.7 (2.5)	2.2 (1.9)	1.9 (2.3)	2.0 (2.0)
<3 months	11%	7%	9%	9%	13%	9%
3–11 months	30%	25%	21%	24%	31%	29%
12–23 months	26%	27%	20%	22%	24%	25%
≥24 months	34%	40%	51%	44%	31%	37%
Time on ESKD (years)	2.4 (2.8)	3.2 (3.7)	3.1 (3.3)	2.5 (2.0)	2.8 (4.1)	3.0 (3.3)
Body mass index (kg/m^2)	27.6 (4.9)	27.2 (5.8)	22.9 (3.6)	22.6 (4.1)	26.8 (5.4)	29.4 (6.3)
Body surface area (m^2)	1.88 (0.25)	1.88 (0.26)	1.61 (0.21)	1.59 (0.19)	1.91 (0.24)	1.98 (0.29)
Body weight (kg)	76.9 (18.0)	76.7 (18.9)	58.5 (12.6)	57.7 (12.5)	77.8 (16.9)	84.7 (21.8)
Total body water (L)	38 (8)	38 (8)	32 (6)	32 (6)	39 (7)	41 (9)
Caregiver(s) involved in PD exchanges (%)	17%	16%	13%	56%	24%	17%
Comorbidity prevalence (%)[a]						
Coronary artery disease	33%	30%	17%	9%	30%	21%
Cerebrovascular disease	11%	10%	15%	5%	9%	6%
Congestive heart failure	6%	11%	19%	13%	5%	14%
Peripheral vascular disease	23%	16%	7%	2%	15%	15%
Other cardiovascular diseases	17%	17%	15%	7%	18%	12%
Cancer (nonskin)	18%	13%	10%	2%	13%	8%
Diabetes	44%	45%	37%	47%	25%	52%
Gastrointestinal bleeding	1%	4%	2%	2%	2%	2%
Hypertension	89%	91%	94%	90%	72%	89%
Lung disease	6%	7%	4%	1%	4%	6%
Neurologic disease	7%	6%	7%	3%	2%	3%
Psychiatric disorder	10%	14%	3%	1%	7%	22%
Recurrent cellulitis/gangrene	2%	2%	1%	0%	1%	2%

55%-71% of patients pending country of treatment had been on PD for >12 months

Wang AYM et al, PDI 2020; 40(3): 310-9

PDOPPS
PERITONEAL DIALYSIS OUTCOMES AND PRACTICE PATTERNS STUDY

Varying proportion of APD prescription



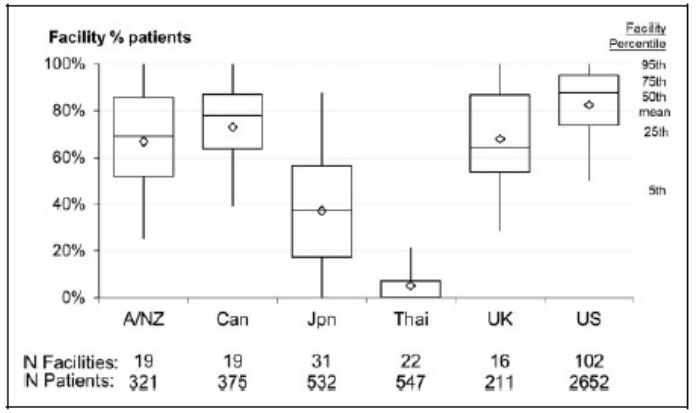


Table 2. CAPD prescription details by country.

	A/NZ	Canada	Japan	Thailand	UK	US
Number of CAPD patients	111	107	337	521	72	458
Number of exchanges, including the long or overnight exchange						
≤3	25%	21%	41%	10%	49%	17%
4	71%	73%	56%	82%	51%	75%
≥5	4%	6%	2%	9%	0%	8%
Prescribed total volume[a] (L)	7.2 (2.2)	7.2 (2.4)	5.5 (1.9)	7.9 (1.5)	6.5 (2.5)	8.1 (2.4)
Prescribed total volume per BSA[a] (L/1.73 m^2)	6.7 (2.1)	6.7 (2.2)	6.0 (2.1)	8.7 (1.9)	5.8 (2.2)	7.2 (2.2)
Dwell volume during daytime exchange (L)						
<2	18%	18%	70%	9%	20%	14%
2	71%	68%	29%	91%	68%	57%
>2	11%	14%	1%	0%	13%	28%
Dwell volume during nighttime exchange (L)						
<2	6%	1%	6%	2%	0%	3%
2	7%	14%	63%	4%	12%	10%
> 2	88%	85%	31%	95%	88%	87%

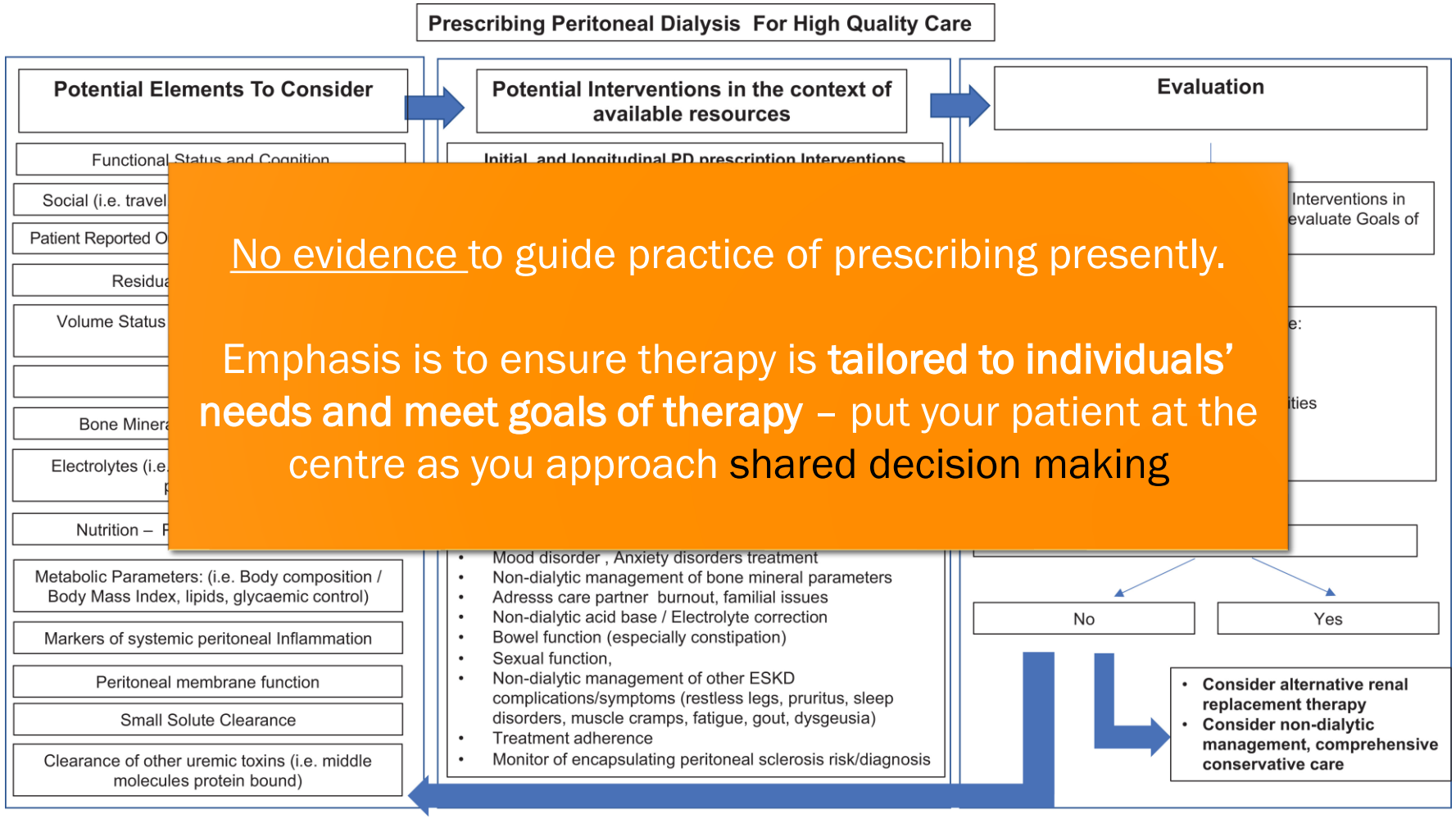
Table 3. APD prescription details by country.

	A/NZ	Canada	Japan	Thailand	UK	US
Number of APD patients	213	269	195	26	149	2199
Tidal APD (%)	19%	26%	39%	12%	46%	14%*
Total number of cycles						
≤3	7%	11%	40%	0%	11%	8%
4	34%	36%	32%	0%	32%	46%
5	34%	33%	16%	65%	26%	35%
≥6	25%	20%	11%	35%	32%	11%
Total cycler volume[a,b] (L)	10.2 (2.8)	9.98 (2.90)	6.39 (2.77)	10.1 (1.5)	10.1 (2.9)	10.4 (2.8)
Prescribed total volume[a,b] (L)	11.2 (3.0)	11.4 (3.7)	7.54 (3.09)	10.8 (2.4)	11.1 (3.7)	11.9 (3.6)
Total cycler volume per BSA[a,b] (L/1.73 m^2)	9.63 (2.63)	9.41 (2.57)	6.57 (2.90)	11.0 (1.9)	9.41 (2.89)	9.20 (2.56)
Prescribed total volume per BSA[a,b] (L/1.73 m^2)	10.7 (3.5)	10.8 (3.3)	7.81 (3.36)	11.9 (3.4)	10.4 (3.7)	10.5 (3.1)
Number of daytime exchanges						
Empty	43%	34%	42%	81%	50%	50%
1	48%	53%	44%	19%	47%	46%
>2	9%	13%	14%	0%	3%	5%
Dwell volume during daytime exchange (L)						
<2	62%	55%	70%	50%	46%	23%
2	30%	39%	29%	50%	47%	30%
2+	8%	6%	1%	0%	7%	47%
Dwell volume during nighttime cycles (L)						
<2	33%	27%	58%	46%	36%	11%
2	40%	36%	30%	50%	45%	25%
>2	27%	37%	12%	4%	19%	64%

Variation in modality; exchange number (from patient perspective) – more consistent for CAPD; whilst dwell volume/cycle number more heterogeneous

Wang AYM et al, PDI 2020; 40(3): 310-9

Individualization of PD Prescription: Necessity vs. Luxury



No evidence to guide practice of prescribing presently.

Emphasis is to ensure therapy is **tailored to individuals' needs and meet goals of therapy** – put your patient at the centre as you approach shared decision making

Brown EA et al, PDI 2020; 40(3): 244-53

What are the risks of not individualizing?

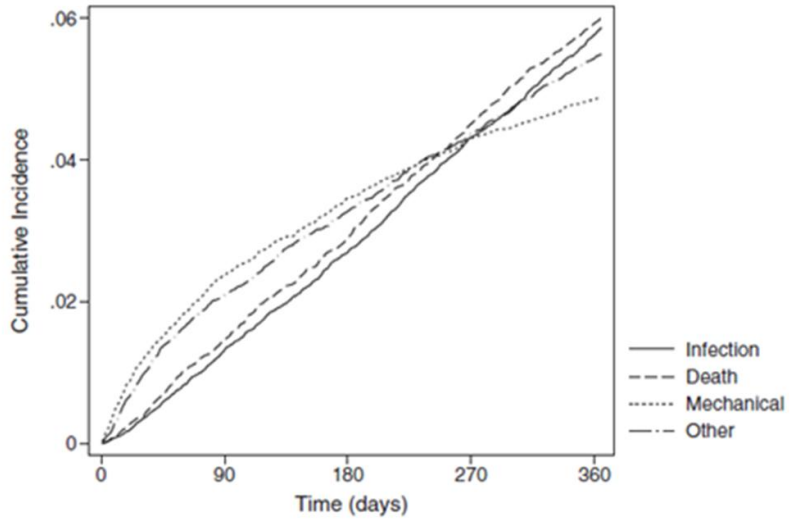


Figure 3. Cumulative incidence of cause-specific technique failure within the first year in 16,748 incident peritoneal dialysis patients. Curves represent the cumulative incidence of each cause of technique failure, with other causes (death, infectious, mechanical, or other) and transplantation examined as competing risks.

- What could be "Other" reasons for t/f to HD?
  - Burden of therapy
    - 1 exchange of CAPD = 40-50 minutes (set-up 5 min; drain out 20-30 mins; fill-in 7-10 mins; clean up 5 min)
    - For 1 year = >300 hours (12 days) can be saved from 1 less exchange/day
  - ? Impact on life participation / employment
  - Burnout

See EJ et al, AJKD 2018; 72(2): 188-97

One size fits all ≠ PD

1. Female in her 50s, new start PD, working up for deceased donor KTx. Works as a nurse unit manager in a tertiary hospital; grown up adult children.

2. Retired male in his 70s, background history of heart failure and ischaemic CM. Prior HD but had to switch due to poor haemodynamics.

3. Male in his 40s, sales representative and travels frequently for work (short-duration, mostly domestic), BMI 34kg/m^2

Elements to consider when tailoring therapy

Residual kidney function

Membrane status

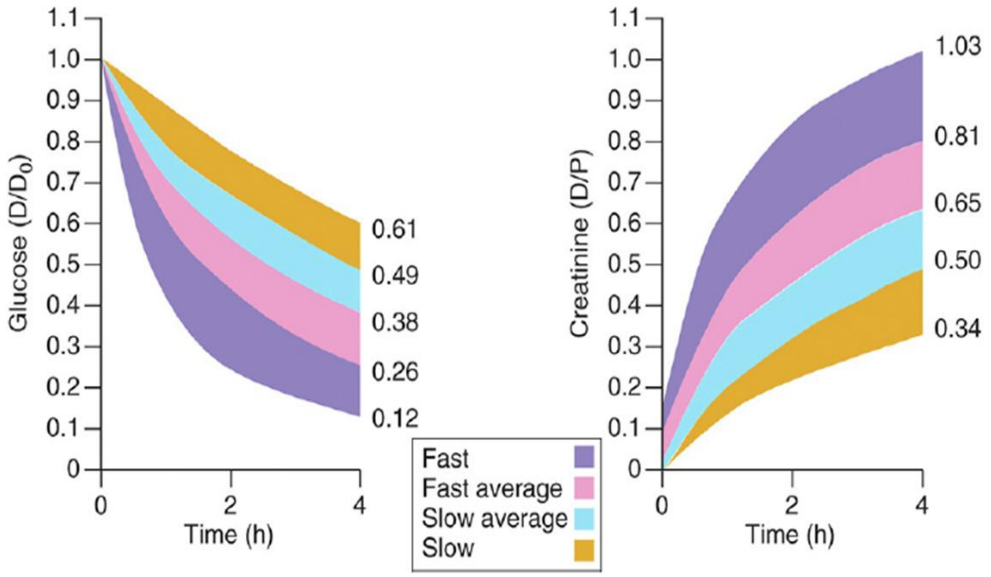
Social situation

Daily routine

Need for assistance?

Blood pressure
Volume
Symptom burden
Surrogate outcomes: Hb, small solute clearance, electrolytes

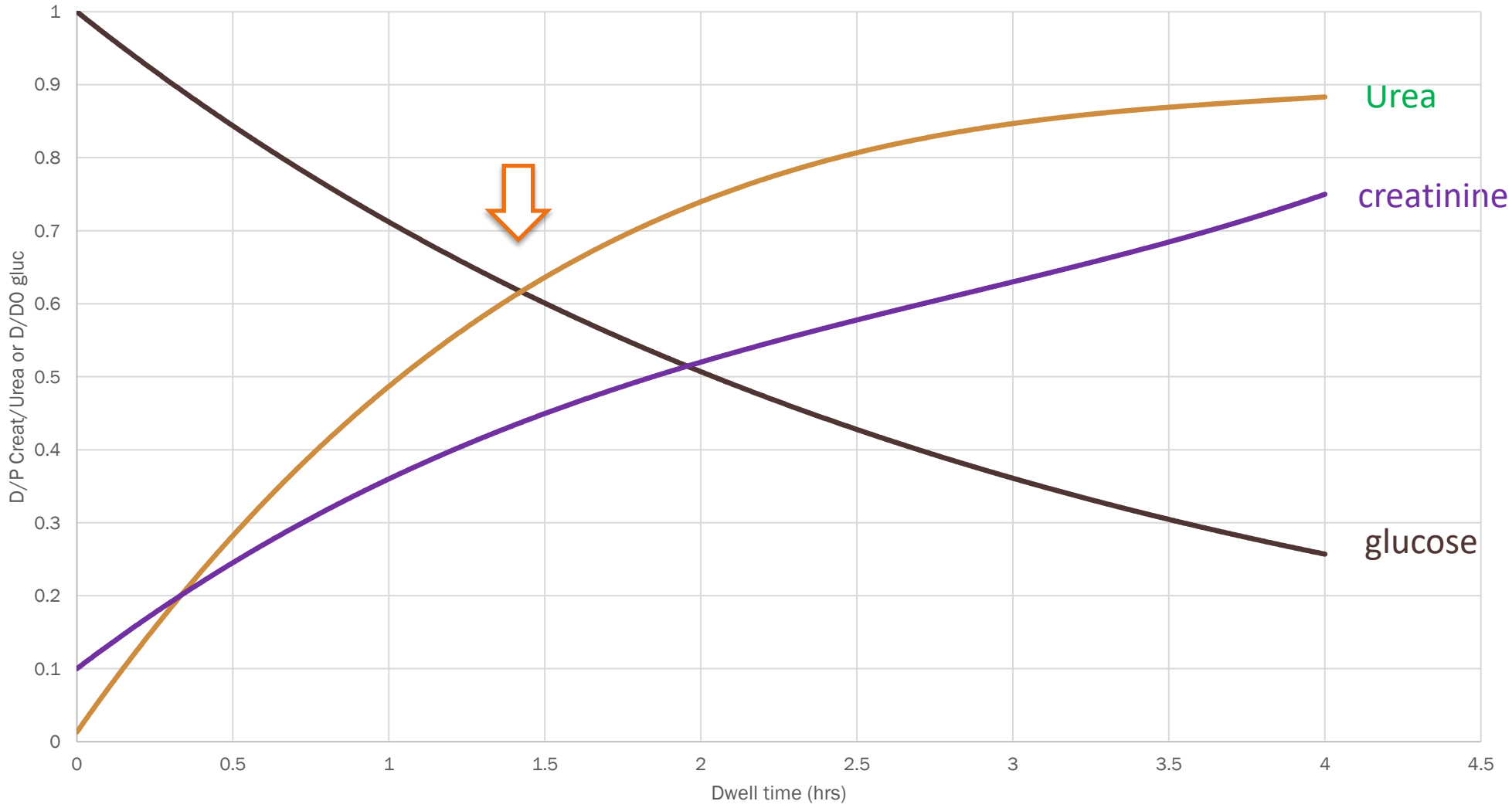
Understand your membrane



Fast (high) transporter	Slow (low) transporter
• Reach urea/creat equilibrium quickly • Reduction in dialysate volume after ~ 2 hours (glucose absorption) • Reduction in creat clearance after 4 hours (convection creatinine re-absorption) • Short dwells more effective • APD and icodextrin useful	• Solute D/P urea/creatinine increases progressively • UF continues late into dwell • Clearance continues to increase with longer dwell times • More suitable for CAPD (or.. APD with long-dwells)

Auguste BL & Bargman JM. AJKD 2022; 81(1): 100-9

PD Compromise between UF and Solute removal



Case 1: Female in her 50s, new start PD, working up for deceased donor KTx. Works as a nurse unit manager in a tertiary hospital; grown up adult children.

POTENTIAL ELEMENTS TO CONSIDER

- Social: full-time employment
- Symptoms: fatigue (chronic)
- Residual kidney function: excellent, new start to KRT
- Membrane status: uncertain yet, just starting
- No concerns for volume, electrolytes, small solute clearance in context of good RKF

POTENTIAL INTERVENTIONS IN THE CONTEXT OF AVAILABLE RESOURCES

- PD Modality: prefers APD (because of work)
- PD exchange volume/frequency/length: aim 2L fill volume; 3 cycles/day; 8 hours
- Treatment time / days per week: 6 days/week

Couldn't tolerate fill volume of 2L → reduced to 1.5L; but extended out treatment to 10 hours and 6-7 days/week of treatment

Key Points from Case 1

1. PD is often the first KRT

Table 2.8 Start and subsequent KRT modalities for adult patients incident to KRT in 2017 by time after start

Start modality	N	Later modality	Time after start (%) 90 days	1 yr	3 yrs	5 yrs
HD	5,811	HD	90.4	73.0	44.4	25.9
		PD	2.6	3.0	1.2	0.4
		Tx	1.3	6.1	15.1	17.9
		Other	0.9	2.1	2.6	2.5
		Died	4.8	15.8	36.7	53.3
PD	1,549	HD	6.1	17.4	20.3	14.1
		PD	88.4	58.9	18.7	6.0
		Tx	3.0	15.4	34.4	38.4
		Other	0.8	0.7	1.0	1.2
		Died	1.7	7.6	25.6	40.3
Tx	731	HD	0.3	1.1	1.8	2.2
		PD	0.1	0.1	0.4	0.1
		Tx	98.8	96.9	92.8	87.7
		Other	0.4	1.2	1.5	1.8
		Died	0.4	0.7	3.6	8.2

Shading indicates proportion of individuals maintained on their initial modality
HD included ICHD and HHD
Other is discontinued, recovered, moved away or currently transferring between centres

UK Kidney Registry

Table 5.3
Incidence, Cessation and Annual Prevalence of Peritoneal Dialysis Patients 2019 - 2023*

Country		2019	2020	2021	2022	2023
Australia	All patients who commenced PD					
	First dialysis treatment or returning after kidney recovery	767	919	912	838	883
	Transfer from HD (no prior PD)	263	258	222	233	266
	Transfer from HD (prior PD)	33	35	32	35	45
	Failed Transplant (no prior PD)	13	16	16	13	8
	Failed Transplant (prior PD)	12	27	12	17	19
	Total	**1088**	**1255**	**1194**	**1136**	**1221**
	All patients who ceased PD					
	Received kidney transplant	328	233	209	243	301
	Transfer to HD	489	542	558	551	565
	Kidney recovery	17	12	23	16	20
	Withdrawal from dialysis*	-	85	94	115	95
	Deaths	288	218	182	239	207
	Total	**1122**	**1090**	**1066**	**1164**	**1188**
	Total patients on PD at 31 December	**2394**	**2551**	**2680**	**2645**	**2674**
New Zealand	All patients who commenced PD					
	First dialysis treatment or returning after kidney recovery	241	271	249	239	214
	Transfer from HD (no prior PD)	77	79	81	72	79
	Transfer from HD (prior PD)	11	25	11	19	9
	Failed Transplant (no prior PD)	6	4	2	3	2
	Failed Transplant (prior PD)	4	6	6	3	2
	Total	**339**	**385**	**349**	**336**	**306**
	All patients who ceased PD					
	Received kidney transplant	72	54	69	69	55
	Transfer to HD	148	151	185	152	149
	Kidney recovery	5	4	8	5	5
	Withdrawal from dialysis*	-	36	27	46	41
	Deaths	156	113	90	107	78
	Total	**381**	**358**	**379**	**379**	**328**
	Total patients on PD at 31 December	**821**	**849**	**812**	**769**	**746**

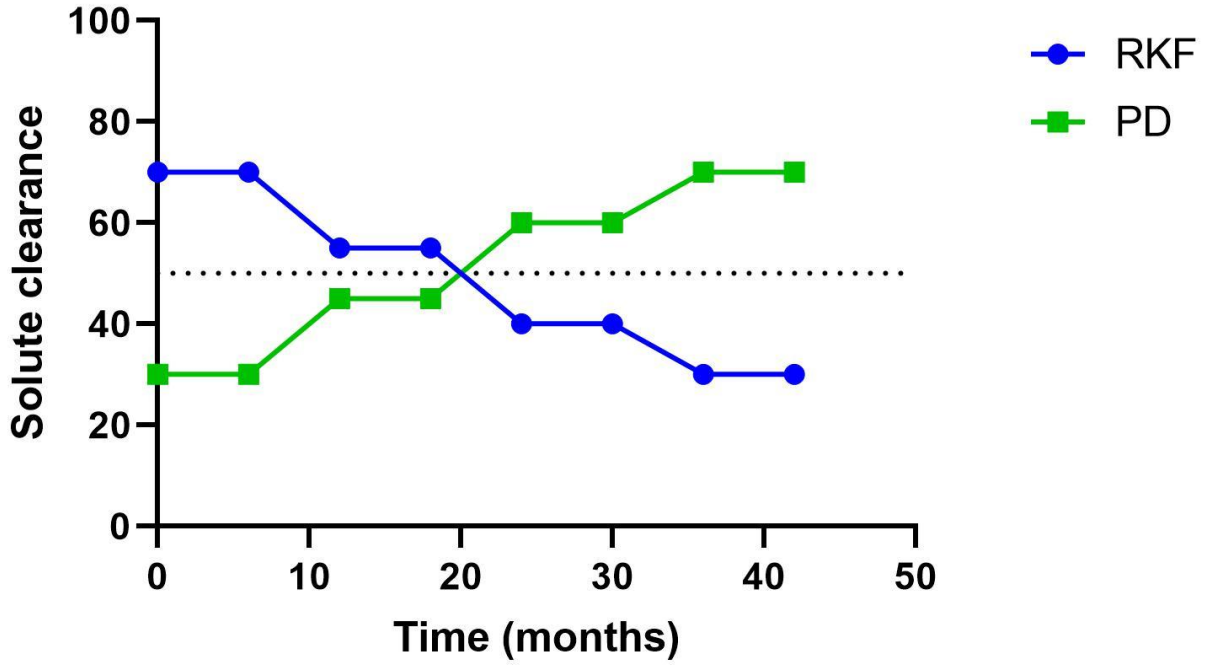
*Includes Hybrid Dialysis

>70%

https://www.ukkidney.org/sites/default/files/publication/file-attachments/UKKA%2026th%20Annual%20Report%202024-07-07.pdf

Decrease in Treatment Burden: Incremental PD

- Typically, in incident PD patients
- Relies on residual kidney function (RKF)
- As RKF declines, PD dose is incremented to maintain symptom control and individualised clearance goals[1]



[1]Blake PG et al *Perit Dial Int.* 2020;40(3):320-326

What does Incremental PD look like?

CAPD	APD
3 x 2 L daily	No day dwell
2 x 2 L daily (single or both icodextrin)	1.5 L dwell volumes
1 x 2 L icodextrin	6 h total duration
4 x 1.5 L daily	<7 days a week
<7 days a week	

Slide Courtesy of Louis Huang
Adapted from Blake P et al *Perit Dial Int.* 2020;40(3):320-326

Table 1 Details of included studies

Study	Location	Excluded patients	IPD definition	SPD definition	Duration of IPD	Follow-up	NOS score
Hayat 2023# [20]	Australia	NR	<56 L/week of PD fluid	≥56 L/week of PD fluid	NR	19.5 m	8
Naljayan 2023* [21]	USA	Body weight < 40 kg, prior limb amputation, or GFR > 20 mL/min/1.73m2 during the first 4 weeks on PD	CAPD: <4 daily exchanges, 3–7 days a week and <2 L dwell volume of 4 exchanges. APD: with last fill, 3–6 treatment days/week, without last fill 3–7 treatment days/week	Greater dose than IPD	NR	12 m	8
Liu 2023* [16]	China	Transferred from maintenance HD or kidney transplantation failure; withdrawal within six months after PD initiation; incomplete data on daily PD exchanges; failure to satisfy the definition of IPD or SPD; incomplete data	≤3×2 L daily exchanges during the six months of CAPD inception, seven days per week	≥4×2 L daily exchanges, seven days per week at the initiation of CAPD	12.2[4.8–30] m	59.6[32.4–90.3] m	8
Fernandes 2023 [26]	Portugal	NR	CAPD: less than 4 dwells daily, less than 2 L dwell volume, and/or treatment less than 7 days/week; APD: without a long dwell, less than 10 L daily delivered, and/or treatment for less than 7 days/week	Greater dose than IPD	NR	23 [15–35] m	6
Lee 2021* [25]	Korea	Started HD before the PD catheter insertion, had done PD with an automated cycler, or had a total duration of PD less than 6 months	Two or three manual exchanges per day	Initiation of CAPD with four exchanges with 2 L per day, seven days a week	24.1 [15.4–36.8] m	Up to 12 years	8
Huang 2021 [14]	Australia	PD technique failure within 30 days	CAPD < 8 L/day and APD without a last fill; no participants were prescribed a < 7 days/ week PD regimen	NR	NR	17–20 m	6
Lee 2019* [25]	Korea	Total duration of PD < 6 months, initiation of PD at another hospital, urine volume of < 200 mL per day at the time of initiating PD, previous HD, and incomplete data	1–2 dwells per day on CAPD, 7 days a week, and a peritoneal Kt/V < 1.7 per week, but a total Kt/V ≥ 1.7 per week	Initiation of PD with 3 or more exchanges per day for CAPD, 7 days a week	2.6 [1.6–4.5] years	5.9 [3.3–7.8] years	8
Yan 2016^ [24]	China	History of maintenance HD or kidney transplantation, anticipated life expectancy less than 6 months, active malignancy, acute infection, significant heart failure, or other severe diseases	CAPD 3 exchanges/day	CAPD 4 exchanges/day	NR	2 years	-
Sandrini 2016 [23]	Italy	Non-renal indication for PD, <6 months of follow-up	1–2 dwell times per day on CAPD	3–5 dwell times per day, 7 days a week for CAPD	17 [10–30] m	Up to 5 years	6
Jeloka 2013 [22]	India	HIV, hepatitis B, and hepatitis C patients	1 icodextrin exchange/day	3×2 L exchanges of glucose-based dialysate	18.8 ± 4.7 m	Up to 5 years	5

PD, peritoneal dialysis; APD, automated peritoneal dialysis; CAPD, continuous ambulatory peritoneal dialysis; DM, diabetes mellitus; IPD, incremental peritoneal dialysis; SPD, standard peritoneal dialysis; HD, hemodialysis; GRF, glomerular filtration rate; HIV, human immunodeficiency virus; NR, not reported; L, litres; Kt/V, K, dialyzer clearance of urea, t – dialysis time, V – volume of distribution of urea

*propensity matched

^ RCT

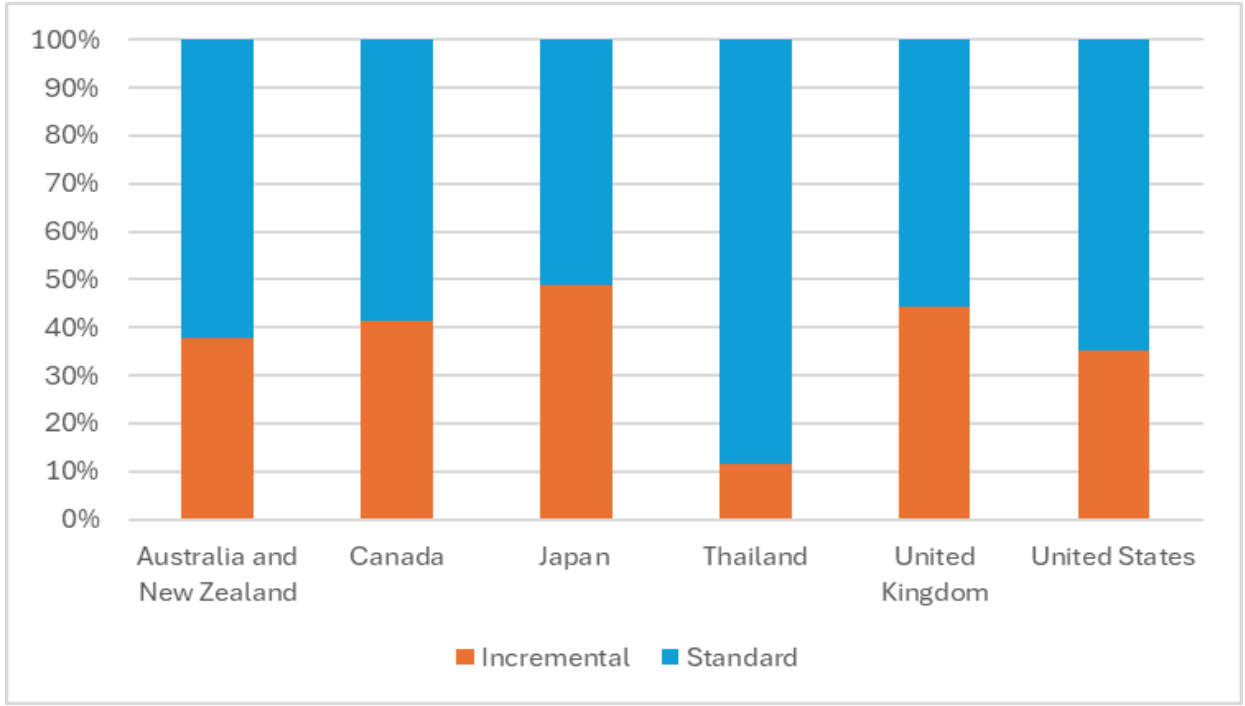
#secondary analysis of RCT

PDOPPS
Peritoneal Dialysis Outcomes and Practice Patterns Study

Current uptake of incremental PD

- 1365 incident adult patients from 128 facilities, 7 countries (Jan 2014-Dec 2017)

- Incremental PD defined as if prescribed <4 exchanges/day for CAPD or with dry days or having PD <7 days/week for APD



Uptake of Incremental PD is 50% at best in incident PD patients

Hayat A et al, PDI 2025 (in press)

Curren

Patients want a reduction in dialysis burden whilst NOT compromising on *symptom burden and QOL*

X Life

X Technique

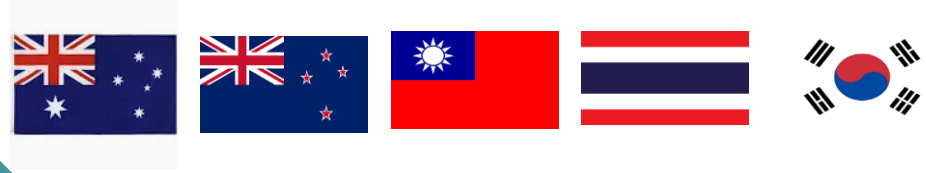
X Cardiovascular Events

AUSTRALASIAN KIDNEY TRIALS NETWORK

The STEP-PD Trial AKTN 24.01

STEP-PD Trial

Investigator-initiated, pragmatic, international, multi-centre, prospective, adaptive, randomised, open-label, parallel group, non-inferiority trial



Started Recruitment!

Population

Incident PD Patients
Aged ≥ 18 years
Able to provide informed consent

Randomisation (1:1)

"Incremental" PD (n=112)

"Full Dose" PD (n=112)

Intervention Control

Trigger criteria for increasing frequency:

1. Clinically significant fluid overload (Defined as ≥5% above ideal dry weight)
2. Potassium ≥6mmol/L, >1/month
3. Hospitalisation for fluid overload, hyperkalaemia, or uraemic symptoms
4. Physician or patient discretion

Outcomes

Primary outcome: difference in Symptoms and Problems of Kidney Disease (SPKD) component of KDQOL-36 at 6 months (non-inferiority)

Secondary outcomes:

- RKF and anuria at 3, 6, 12 & 18 months; time to anuria
- QOL measured by KDQOL-36
- Time to first peritonitis
- Safety: mortality rate; first major cardiovascular event; hospitalisation due to fluid overload, hyperkalaemia or uraemic symptoms – rate and total days
- Life Participation measured by SONG-LP

Exploratory outcomes:

- Nutritional status – Subjective Global Assessment
- Healthcare utilisation and costs
- Environmental impact measured by carbon costs
- Process evaluation
- Change in beta-2-microglobulin and uraemic toxins from baseline to 6 months

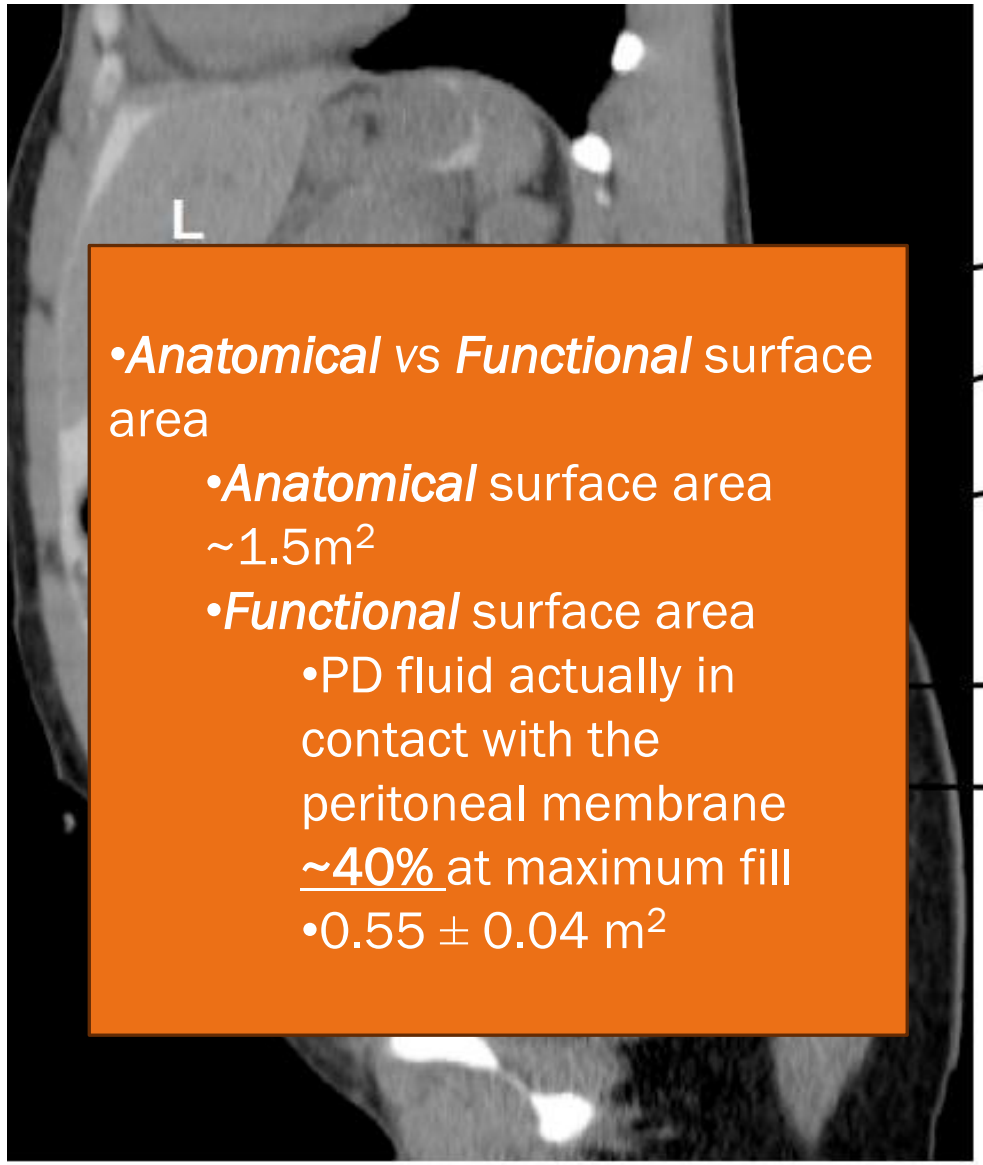
Key Points from Case 1
2. Set and Review (not forget)

- ✓ Identify Needs
  - ✓Clearance
  - ✓Volume management
- ✓Understand the Circumstance
  - ✓Work

SET - REVIEW

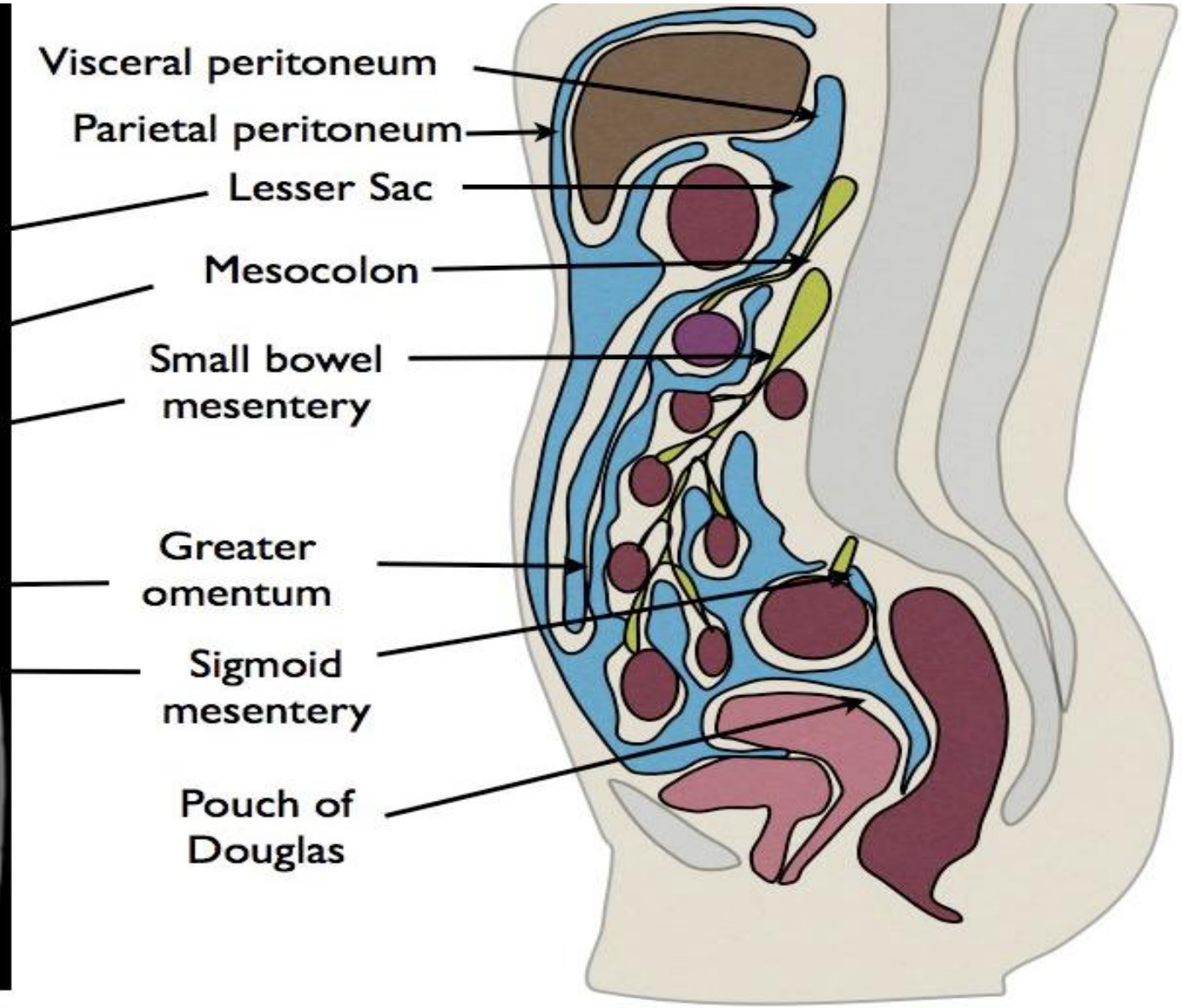
- ✓ Identify Problem – discomfort from fill volume
- ✓ Modify Prescription – if you are taking something away, you need to ask yourself how you can fill this 'void' – duration/days
- ✓ Assess progress – clinical (volume HRQOL, blood pressure), surrogate (solute clearance, electrolytes, Hb)

Involve Patient in this planning
Set an expectation that it may take trial-and-modify until you get it 'right' – and the expectation is that this is an evolutionary process



- ***Anatomical*** *vs* ***Functional*** surface area
  - ***Anatomical*** surface area ~1.5m^2
  - ***Functional*** surface area
    - PD fluid actually in contact with the peritoneal membrane **~40%** at maximum fill
    - 0.55 ± 0.04 m^2

L=Liver S=Stomach C= Colon



Sagittal CT peritoneogram with diagram Royal Free Hospital - London/UK

Case 2: Retired male in 70s, background heart failure (LVEF 15%) and ischaemic cardiomyopathy. Been on HD previously but could not tolerate due to haemodynamics.

POTENTIAL ELEMENTS TO CONSIDER

- Social: no regular commitments
- Symptoms: dyspnea on exertion
- Signs: mild volume overload
- Residual kidney function: 24h U 0.5L/day
- Membrane status: D/P_{creat} 0.68
- No concern for electrolytes/Hb

POTENTIAL INTERVENTIONS IN THE CONTEXT OF AVAILABLE RESOURCES

- PD Modality: CAPD – patient-prefers not to be attached to machine at night
- PD exchange volume/frequency/length: aim 2L fill volume; 4 exchanges (2Y, 2G)
- Treatment time / days per week: 7 days/week

Negative UF from long dwell exchange overnight
→ switch to 7.5% icodextrin on review

Key Points from Case 2

Modality Selection

- No clear clinical benefit
- Patient-centred choice

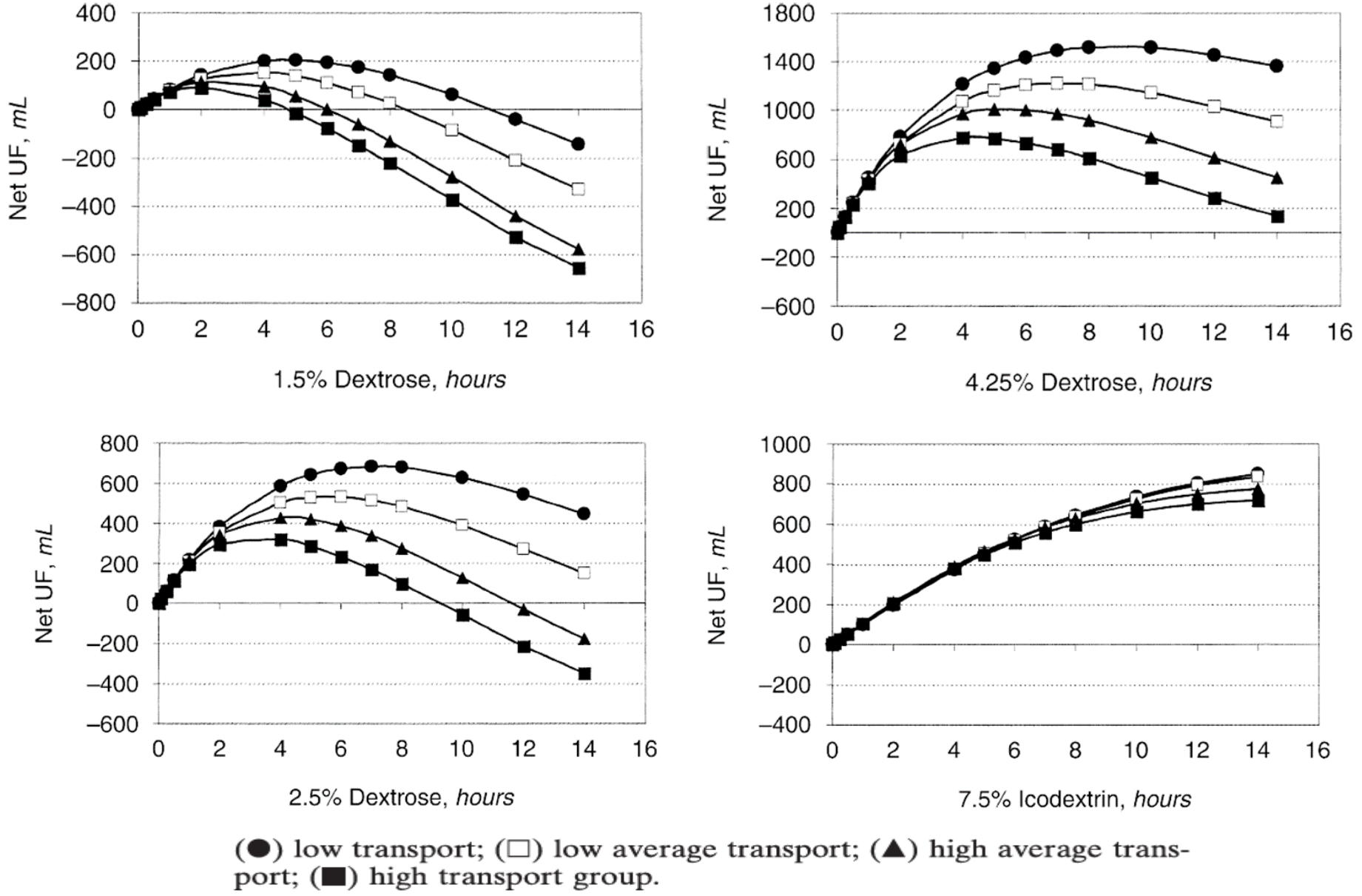
PD Dose

- Low RKF
- Low Cardiac function
- Needs ‘standard/full’ PD with further titration based on progress

Tailor to Key Goal

- Volume Management was the priority
- Accompanied by fluid/salt restriction, optimisation of diuretic use, anti-HF medications (including CRT)

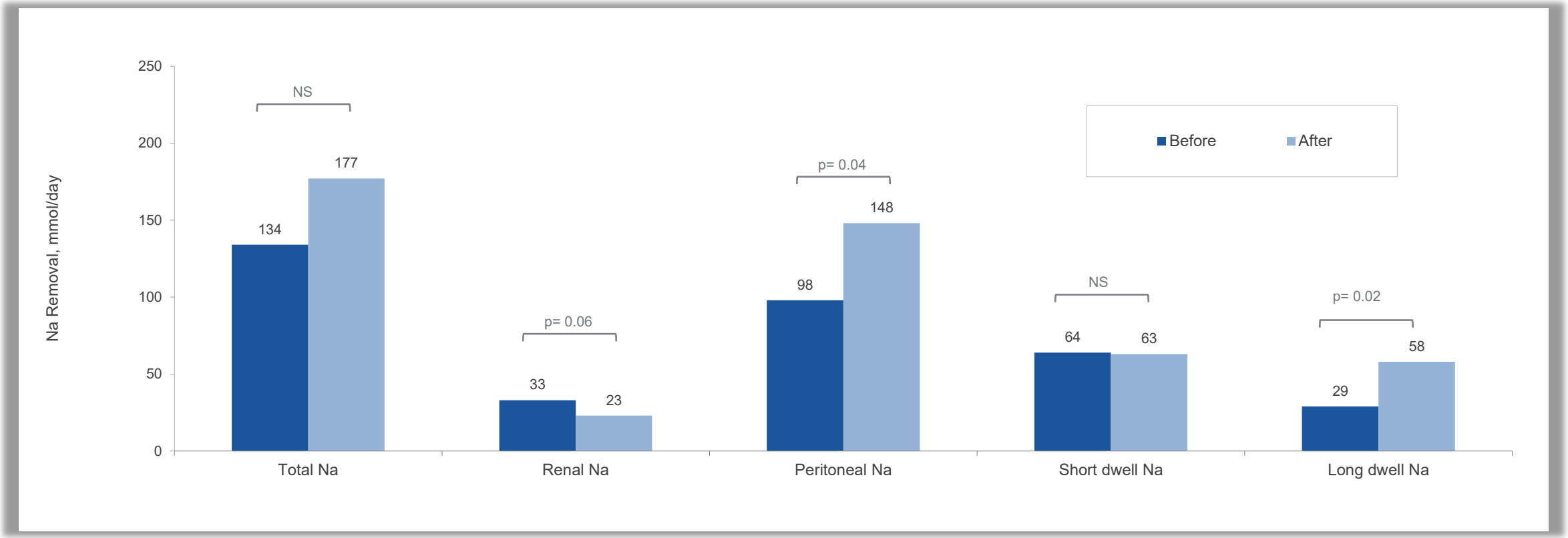
How much UF can you expect from PD?



(●) low transport; (□) low average transport; (▲) high average transport; (■) high transport group.

Mujais S & Vonesh E, KI 2002; 62 (81): S17-S22

Icodextrin can remove higher levels of sodium during the long dwell when compared to glucose



Sodium Removal before and after introduction of icodextrin in 16 CAPD and APD patients.

Rodríguez–Carmona, et al. Peritoneal dialysis international. 2002;22(6):705-713.

Case 3: Male in 40s, works as sales representative and travels frequently for work (short duration, mostly domestic); BMI 34kg/m^2.

POTENTIAL ELEMENTS TO CONSIDER

- Social: busy work (not always in one place)
- Symptoms: no concerns
- Residual kidney function: excellent, new start to KRT
- Membrane status: uncertain yet, just starting
- No concern for electrolytes/Hb/volume
- Calorie load from glucose in PD solutions need to be considered as patient working up towards transplant

POTENTIAL INTERVENTIONS IN THE CONTEXT OF AVAILABLE RESOURCES

- PD Modality: CAPD – easier with work
- PD exchange volume/frequency/length: aim 2L fill volume; 2 exchanges/day (start with 2Y)
- Treatment time / days per week: 7 days/week

On review – evidence of volume +ve state
Noted constipation -> aperients
Increase the dose of diuretic (rather than PD)

Why bother about glucose?

PD solution	Glucose concentration (mg/dL)	Glucose concentration (g/L)
1.5%	1360	13.6
2.5%	2250	22.5
4.25%	3860	38.6

Mehrotra R. Curr Opin Nephrol Hypertens 2013; 22: 663-8

Passive glucose absorption

- ~2/3 of glucose is absorbed during a 4-hour dwell (Average PSTR)

- Daily systemic glucose absorption depends on:
  - Glucose % of PD solution
  - Peritoneal solute transport rate
  - Dwell time
  - Total dialysate volume

We need 2000-2500 kcal/day

>10% from PD alone

T…			s instilled
Inst…			kcal absorbed
CAPD			
4 × 2.0	1.5% D	2.5% D	331.72
4 × 2.5	1.5% D	7.5% icodextrin	187.40*
4 × 2.5	1.5% D	2.5% D	386.29
4 × 3.0	1.5% D	2.5% D	431.57
CCPD			
3 × 2.0 and 2.0	2.5% D	1.5% D	298.75
3 × 2.5 and 2.5	2.5% D	1.5% D	350.19
3 × 3.0 and 3.0	2.5% D	1.5% D	395.66
3 × 2.5 and 2.5 + 2.5	Both 1.5% D	1.5% D	341.97
3 × 2.5 and icodextrin	7.5% icodextrin	1.5% D	144.32*

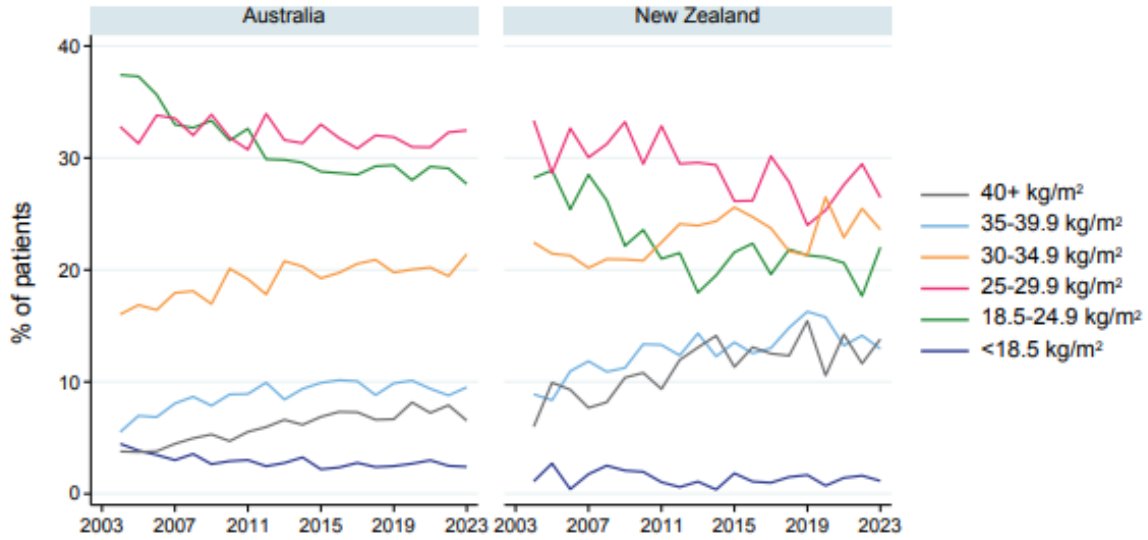
Burkart J. Semin Dial 2004; 17(6): 498-504

BMI category in advanced CKD

Characteristics	All (n = 1938)	BMI (kg/m²) 15.0–20.0 (n = 140)	20.1–22.5 (n = 319)	22.6–25.0 (n = 601)	25.1–27.5 (n = 482)	27.6–30.0 (n = 252)	30.1–35.0 (n = 144)	P (ANOVA)
Demographic and medical history								
Age (year)	63.5±13.4	65.3±16.2	65.1±13.7	64.1±12.7	62.7±13.0	63.2±13.2	59.3±13.5	< 0.001
Hypertension (%)	65.2	52.1	64.6	65.0	66.0	70.2	68.8	0.003
Diabetes mellitus (%)	43.7	37.9	39.8	43.1	45.2	47.2	48.6	0.008
Cardiovascular disease (%)	26.1	25.7	23.2	27.1	24.3	29.8	27.8	0.275
Current smoking status (%)	17.5	15.7	16.3	18.1	17.2	18.3	19.4	0.213
Cancer (%)	8.8	13.6	13.2	8.3	7.7	5.6	6.3	< 0.001
Examination findings								
BMI (kg/m²)	24.8±3.4	18.5±1.2	21.4±0.7	23.8±0.7	26.2±0.7	28.6±0.7	31.8±1.4	
MAP (mmHg)	100.3±13.9	94.8±12.8	98.1±13.7	99.9±13.5	101.2±13.2	103.3±15.2	103.2±14.2	< 0.001
Renal function status								
eGFR (ml/min/1.73 m²)	29.2±16.2	23.7±15.2	27.7±16.2	28.4±16.0	30.1±16.1	30.9±15.6	34.8±16.7	< 0.001
CKD stage								< 0.001
Stage 3 (%)	46.4	33.6	40.7	45.1	49.8	51.2	56.9	
Stage 4 (%)	26.9	27.8	30.1	25.8	24.7	27.4	29.9	
Stage 5 (%)	26.7	38.6	29.2	29.1	25.5	21.4	13.2	
Upcr (mg/g)	863 (292–2080)	972 (404–2188)	937 (299–2116)	892 (287–2375)	886 (329–1942)	728 (227–1829)	690 (230–1792)	0.011

45% with BMI >25

Figure 1.8
BMI Category at KRT Entry for Adult Patients



Huang JC et al, PLoS One, 2015; ANZDATA, 2024

Weight change on PD

- Single centre, prospective observational study in Hong Kong
- 444 incident PD patients
- Follow up for 12 months
- Outcome: weight change over time
- Mean weight change after 1 year on PD was 1.34 ± 3.27kg
- 109 patients (24.6%) gained >3kg

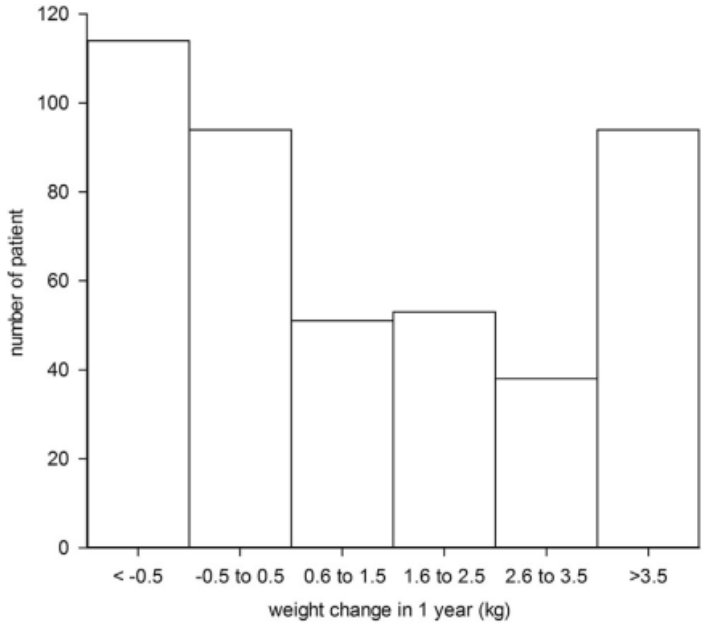


Figure 1 Distribution histogram of weight change after 1 year of peritoneal dialysis.

Choy ASM et al, HKJN 2015; 17, 28-35

Key Points from Case 3

Modality Selection

- No clear clinical benefit
- Patient-centred choice – fit around work commitment – CAPD supports need to work away from home

PD Dose

- Excellent RKF → incremental PD feasible

Tailor to Key Goal

- Avoid unnecessarily high glucose exposure – with efforts to weight loss (rather than gain) and work towards KTx

Summary on Individualizing PD Prescription

- PD prescription should be holistic, goal-directed and patient-centred (we need to fit PD around the patient's needs)

- Harness knowledge to ensure PD prescription is most efficient and effective.

- Do not be afraid to trial and error, flexibility and adaptability are strengths of PD – consider benefit, risk and outcomes

Quality of life is about thriving, not just surviving

- PATIENT ON PD, SONG-PD LIFE PARTICIPATION WORKSHOP

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