

Baxter

PERITONEAL DIALYSIS
PRESCRIPTION
MANAGEMENT

QUICK REFERENCE GUIDE

This quick reference guide will help serve as a reference tool for clinicians setting a patient’s Peritoneal Dialysis (PD) prescription.

Sample dialysis prescriptions are based on Volume of Urea Distribution (V_{urea}), Residual Kidney Function (RKF) and Peritoneal Membrane Type. The sample prescriptions are intended as an aid in achieving recommended clearance goals; however, other prescription options may also exist.

If a patient develops any of the following: uremic symptoms, decline in nutritional status and/or decreased measured clearances, then a more precise prescription based on patient-specific parameters and using prescription management software is recommended.

This prescription management tool is for informational purposes only and should not be considered medical advice. It contains sample PD prescriptions for average patients of various cohorts with specified ranges of V_{urea} peritoneal transport type and residual kidney function. These prescriptions are for initial and subsequent therapy, are provided for informational purposes only and should not be substituted for individual clinical judgement. This guide is not intended to be the practice of medicine, nor does it replace medical clinical judgment. By its nature, this guide cannot be considered to be exhaustive, and users are encouraged to pursue specific issues that may not be covered herein.

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Please see Indications and Important Risk Information, including Boxed Warning for EXTRANEAL (icodextrin) PD Solution on page 12. See www.baxterpi.com for Full Prescribing Information.

ADEQUACY AND ULTRAFILTRATION GOALS

- The minimum delivered weekly Kt/V_{urea} of 1.7 represents peritoneal clearance alone or peritoneal plus renal clearance¹
- While the Kidney Disease Outcomes Quality Initiative (KDOQI) guidelines do not recommend use of creatinine clearance to assess adequacy, creatinine clearance goals of 45 L/wk in APD patients are advocated by the International Society of Peritoneal Dialysis (ISPD) and other organizations¹⁻⁶
- Euvolemia is critical to improve patient outcomes¹
- While no recommendation regarding an ultrafiltration (UF) target exists in the United States, other countries recommend an arbitrary UF target of 750-1000 mL/day in anuric patients, based upon improved outcomes in observational studies^{4, 5, 7}

VOLUME OF DISTRIBUTION OF UREA (V_{UREA})

A simple method for determining the volume of urea distribution is to estimate the patient's total body water (TBW). It is important to note that different equations exist for estimating total body water, and using a different equation may give different values. The anthropometric volume of distribution of urea may be calculated by one of the following formulas based on age, height, weight and gender. These are derived from estimates of total body water in healthy subjects.

WATSON
AND
WATSON:⁸

Male TBW = $2.447 - (0.09156 \times \text{age} [\text{years}]) + (0.1074 \times \text{height} [\text{cm}]) + (0.3362 \times \text{weight} [\text{kg}])$

Female TBW = $-2.097 + (0.1069 \times \text{height} [\text{cm}]) + (0.2466 \times \text{weight} [\text{kg}])$

HUME-
WEYERS:⁹

Male TBW = $(0.194786 \times \text{height} [\text{cm}]) + (0.296785 \times \text{weight} [\text{kg}]) - 14.012934$

Female TBW = $(0.344547 \times \text{height} [\text{cm}]) + (0.183809 \times \text{weight} [\text{kg}]) - 35.270121$

VOLUME OF UREA DISTRIBUTION: 55-YEAR-OLD MALE*

*For every 10-year increase in age, decrease volume by 1L for males.
For every 10-year decrease in age, increase volume by 1L for males.

WEIGHT (KG)	HEIGHT (CM)																
	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200
36	22.2	22.7	23.3	23.8	24.4	24.9	25.4	26.0	26.5	27.0	27.6	28.1	28.6	29.2	29.7	30.3	30.8
38	22.9	23.4	24.0	24.5	25.0	25.6	26.1	26.6	27.2	27.7	28.2	28.8	29.3	29.9	30.4	30.9	31.5
40	23.5	24.1	24.6	25.2	25.7	26.2	26.8	27.3	27.8	28.4	28.9	29.5	30.0	30.5	31.1	31.6	32.1
42	24.2	24.8	25.3	25.8	26.4	26.9	27.4	28.0	28.5	29.1	29.6	30.1	30.7	31.2	31.7	32.3	32.8
44	24.9	25.4	26.0	26.5	27.0	27.6	28.1	28.7	29.2	29.7	30.3	30.8	31.3	31.9	32.4	32.9	33.5
46	25.6	26.1	26.6	27.2	27.7	28.3	28.8	29.3	29.9	30.4	30.9	31.5	32.0	32.5	33.1	33.6	34.2
48	26.2	26.8	27.3	27.8	28.4	28.9	29.5	30.0	30.5	31.1	31.6	32.1	32.7	33.2	33.8	34.3	34.8
50	26.9	27.4	28.0	28.5	29.1	29.6	30.1	30.7	31.2	31.7	32.3	32.8	33.4	33.9	34.4	35.0	35.5
52	27.6	28.1	28.7	29.2	29.7	30.3	30.8	31.3	31.9	32.4	33.0	33.5	34.0	34.6	35.1	35.6	36.2
54	28.3	28.8	29.3	29.9	30.4	30.9	31.5	32.0	32.6	33.1	33.6	34.2	34.7	35.2	35.8	36.3	36.8
56	28.9	29.5	30.0	30.5	31.1	31.6	32.2	32.7	33.2	33.8	34.3	34.8	35.4	35.9	36.4	37.0	37.5
58	29.6	30.1	30.7	31.2	31.7	32.3	32.8	33.4	33.9	34.4	35.0	35.5	36.0	36.6	37.1	37.7	38.2
60	30.3	30.8	31.3	31.9	32.4	33.0	33.5	34.0	34.6	35.1	35.6	36.2	36.7	37.3	37.8	38.3	38.9
62	30.9	31.5	32.0	32.6	33.1	33.6	34.2	34.7	35.2	35.8	36.3	36.9	37.4	37.9	38.5	39.0	39.5
64	31.6	32.2	32.7	33.2	33.8	34.3	34.8	35.4	35.9	36.5	37.0	37.5	38.1	38.6	39.1	39.7	40.2
66	32.3	32.8	33.4	33.9	34.4	35.0	35.5	36.0	36.6	37.1	37.7	38.2	38.7	39.3	39.8	40.3	40.9
68	33.0	33.5	34.0	34.6	35.1	35.6	36.2	36.7	37.3	37.8	38.3	38.9	39.4	39.9	40.5	41.0	41.6
70	33.6	34.2	34.7	35.2	35.8	36.3	36.9	37.4	37.9	38.5	39.0	39.5	40.1	40.6	41.2	41.7	42.2
72	34.3	34.8	35.4	35.9	36.5	37.0	37.5	38.1	38.6	39.1	39.7	40.2	40.8	41.3	41.8	42.4	42.9
74	35.0	35.5	36.1	36.6	37.1	37.7	38.2	38.7	39.3	39.8	40.4	40.9	41.4	42.0	42.5	43.0	43.6
76	35.7	36.2	36.7	37.3	37.8	38.3	38.9	39.4	39.9	40.5	41.0	41.6	42.1	42.6	43.2	43.7	44.2
78	36.3	36.9	37.4	37.9	38.5	39.0	39.5	40.1	40.6	41.2	41.7	42.2	42.8	43.3	43.8	44.4	44.9
80	37.0	37.5	38.1	38.6	39.1	39.7	40.2	40.8	41.3	41.8	42.4	42.9	43.4	44.0	44.5	45.1	45.6
82	37.7	38.2	38.7	39.3	39.8	40.4	40.9	41.4	42.0	42.5	43.0	43.6	44.1	44.7	45.2	45.7	46.3
84	38.3	38.9	39.4	40.0	40.5	41.0	41.6	42.1	42.6	43.2	43.7	44.2	44.8	45.3	45.9	46.4	46.9
86	39.0	39.6	40.1	40.6	41.2	41.7	42.2	42.8	43.3	43.8	44.4	44.9	45.5	46.0	46.5	47.1	47.6
88	39.7	40.2	40.8	41.3	41.8	42.4	42.9	43.4	44.0	44.5	45.1	45.6	46.1	46.7	47.2	47.7	48.3
90	40.4	40.9	41.4	42.0	42.5	43.0	43.6	44.1	44.7	45.2	45.7	46.3	46.8	47.3	47.9	48.4	49.0
92	41.0	41.6	42.1	42.6	43.2	43.7	44.3	44.8	45.3	45.9	46.4	46.9	47.5	48.0	48.5	49.1	49.6
94	41.7	42.2	42.8	43.3	43.9	44.4	44.9	45.5	46.0	46.5	47.1	47.6	48.1	48.7	49.2	49.8	50.3
96	42.4	42.9	43.5	44.0	44.5	45.1	45.6	46.1	46.7	47.2	47.7	48.3	48.8	49.4	49.9	50.4	51.0
98	43.0	43.6	44.1	44.7	45.2	45.7	46.3	46.8	47.3	47.9	48.4	49.0	49.5	50.0	50.6	51.1	51.6
100	43.7	44.3	44.8	45.3	45.9	46.4	46.9	47.5	48.0	48.6	49.1	49.6	50.2	50.7	51.2	51.8	52.3
102	44.4	44.9	45.5	46.0	46.5	47.1	47.6	48.2	48.7	49.2	49.8	50.3	50.8	51.4	51.9	52.4	53.0
104	45.1	45.6	46.1	46.7	47.2	47.8	48.3	48.8	49.4	49.9	50.4	51.0	51.5	52.0	52.6	53.1	53.7
106	45.7	46.3	46.8	47.3	47.9	48.4	49.0	49.5	50.0	50.6	51.1	51.6	52.2	52.7	53.3	53.8	54.3
108	46.4	46.9	47.5	48.0	48.6	49.1	49.6	50.2	50.7	51.2	51.8	52.3	52.9	53.4	53.9	54.5	55.0
110	47.1	47.6	48.2	48.7	49.2	49.8	50.3	50.8	51.4	51.9	52.5	53.0	53.5	54.1	54.6	55.1	55.7
112	47.8	48.3	48.8	49.4	49.9	50.4	51.0	51.5	52.1	52.6	53.1	53.7	54.2	54.7	55.3	55.8	56.3
114	48.4	49.0	49.5	50.0	50.6	51.1	51.7	52.2	52.7	53.3	53.8	54.3	54.9	55.4	55.9	56.5	57.0

■ V < 34 L (small) ■ 34 L ≤ V < 42 L (medium) ■ V ≥ 42 L (large)

VOLUME OF UREA DISTRIBUTION: FEMALE

Only one table is used for females because age has no effect on the calculations^{8,16}

WEIGHT (KG)	HEIGHT (CM)																
	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200
36	19.6	20.1	20.7	21.2	21.7	22.3	22.8	23.4	23.9	24.4	25.0	25.5	26.0	26.6	27.1	27.6	28.2
38	20.1	20.6	21.2	21.7	22.2	22.8	23.3	23.8	24.4	24.9	25.4	26.0	26.5	27.1	27.6	28.1	28.7
40	20.6	21.1	21.7	22.2	22.7	23.3	23.8	24.3	24.9	25.4	25.9	26.5	27.0	27.5	28.1	28.6	29.1
42	21.1	21.6	22.2	22.7	23.2	23.8	24.3	24.8	25.4	25.9	26.4	27.0	27.5	28.0	28.6	29.1	29.6
44	21.6	22.1	22.7	23.2	23.7	24.3	24.8	25.3	25.9	26.4	26.9	27.5	28.0	28.5	29.1	29.6	30.1
46	22.1	22.6	23.1	23.7	24.2	24.7	25.3	25.8	26.4	26.9	27.4	28.0	28.5	29.0	29.6	30.1	30.6
48	22.6	23.1	23.6	24.2	24.7	25.2	25.8	26.3	26.8	27.4	27.9	28.4	29.0	29.5	30.1	30.6	31.1
50	23.1	23.6	24.1	24.7	25.2	25.7	26.3	26.8	27.3	27.9	28.4	28.9	29.5	30.0	30.5	31.1	31.6
52	23.6	24.1	24.6	25.2	25.7	26.2	26.8	27.3	27.8	28.4	28.9	29.4	30.0	30.5	31.0	31.6	32.1
54	24.0	24.6	25.1	25.7	26.2	26.7	27.3	27.8	28.3	28.9	29.4	29.9	30.5	31.0	31.5	32.1	32.6
56	24.5	25.1	25.6	26.1	26.7	27.2	27.7	28.3	28.8	29.4	29.9	30.4	31.0	31.5	32.0	32.6	33.1
58	25.0	25.6	26.1	26.6	27.2	27.7	28.2	28.8	29.3	29.8	30.4	30.9	31.4	32.0	32.5	33.1	33.6
60	25.5	26.1	26.6	27.1	27.7	28.2	28.7	29.3	29.8	30.3	30.9	31.4	31.9	32.5	33.0	33.5	34.1
62	26.0	26.6	27.1	27.6	28.2	28.7	29.2	29.8	30.3	30.8	31.4	31.9	32.4	33.0	33.5	34.0	34.6
64	26.5	27.0	27.6	28.1	28.7	29.2	29.7	30.3	30.8	31.3	31.9	32.4	32.9	33.5	34.0	34.5	35.1
66	27.0	27.5	28.1	28.6	29.1	29.7	30.2	30.7	31.3	31.8	32.4	32.9	33.4	34.0	34.5	35.0	35.6
68	27.5	28.0	28.6	29.1	29.6	30.2	30.7	31.2	31.8	32.3	32.8	33.4	33.9	34.4	35.0	35.5	36.1
70	28.0	28.5	29.1	29.6	30.1	30.7	31.2	31.7	32.3	32.8	33.3	33.9	34.4	34.9	35.5	36.0	36.5
72	28.5	29.0	29.6	30.1	30.6	31.2	31.7	32.2	32.8	33.3	33.8	34.4	34.9	35.4	36.0	36.5	37.0
74	29.0	29.5	30.0	30.6	31.1	31.7	32.2	32.7	33.3	33.8	34.3	34.9	35.4	35.9	36.5	37.0	37.5
76	29.5	30.0	30.5	31.1	31.6	32.1	32.7	33.2	33.7	34.3	34.8	35.4	35.9	36.4	37.0	37.5	38.0
78	30.0	30.5	31.0	31.6	32.1	32.6	33.2	33.7	34.2	34.8	35.3	35.8	36.4	36.9	37.4	38.0	38.5
80	30.5	31.0	31.5	32.1	32.6	33.1	33.7	34.2	34.7	35.3	35.8	36.3	36.9	37.4	37.9	38.5	39.0
82	31.0	31.5	32.0	32.6	33.1	33.6	34.2	34.7	35.2	35.8	36.3	36.8	37.4	37.9	38.4	39.0	39.5
84	31.4	32.0	32.5	33.0	33.6	34.1	34.7	35.2	35.7	36.3	36.8	37.3	37.9	38.4	38.9	39.5	40.0
86	31.9	32.5	33.0	33.5	34.1	34.6	35.1	35.7	36.2	36.7	37.3	37.8	38.4	38.9	39.4	40.0	40.5
88	32.4	33.0	33.5	34.0	34.6	35.1	35.6	36.2	36.7	37.2	37.8	38.3	38.8	39.4	39.9	40.4	41.0
90	32.9	33.5	34.0	34.5	35.1	35.6	36.1	36.7	37.2	37.7	38.3	38.8	39.3	39.9	40.4	40.9	41.5
92	33.4	34.0	34.5	35.0	35.6	36.1	36.6	37.2	37.7	38.2	38.8	39.3	39.8	40.4	40.9	41.4	42.0
94	33.9	34.4	35.0	35.5	36.0	36.6	37.1	37.7	38.2	38.7	39.3	39.8	40.3	40.9	41.4	41.9	42.5
96	34.4	34.9	35.5	36.0	36.5	37.1	37.6	38.1	38.7	39.2	39.7	40.3	40.8	41.4	41.9	42.4	43.0
98	34.9	35.4	36.0	36.5	37.0	37.6	38.1	38.6	39.2	39.7	40.2	40.8	41.3	41.8	42.4	42.9	43.4
100	35.4	35.9	36.5	37.0	37.5	38.1	38.6	39.1	39.7	40.2	40.7	41.3	41.8	42.3	42.9	43.4	43.9
102	35.9	36.4	37.0	37.5	38.0	38.6	39.1	39.6	40.2	40.7	41.2	41.8	42.3	42.8	43.4	43.9	44.4
104	36.4	36.9	37.4	38.0	38.5	39.0	39.6	40.1	40.7	41.2	41.7	42.3	42.8	43.3	43.9	44.4	44.9
106	36.9	37.4	37.9	38.5	39.0	39.5	40.1	40.6	41.1	41.7	42.2	42.8	43.3	43.8	44.4	44.9	45.4
108	37.4	37.9	38.4	39.0	39.5	40.0	40.6	41.1	41.6	42.2	42.7	43.2	43.8	44.3	44.8	45.4	45.9
110	37.9	38.4	38.9	39.5	40.0	40.5	41.1	41.6	42.1	42.7	43.2	43.7	44.3	44.8	45.3	45.9	46.4
112	38.4	38.9	39.4	40.0	40.5	41.0	41.6	42.1	42.6	43.2	43.7	44.2	44.8	45.3	45.8	46.4	46.9
114	38.8	39.4	39.9	40.4	41.0	41.5	42.1	42.6	43.1	43.7	44.2	44.7	45.3	45.8	46.3	46.9	47.4

■ V < 34 L (small) ■ 34 L ≤ V < 42 L (medium) ■ V ≥ 42 L (large)

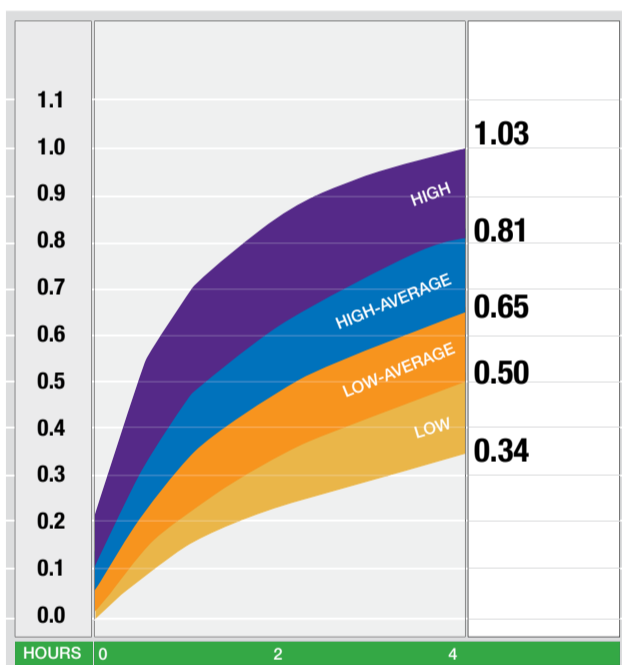
■ V < 34 L (small) ■ 34 L ≤ V < 42 L (medium) ■ V ≥ 42 L (large)

PET CALCULATIONS¹⁰

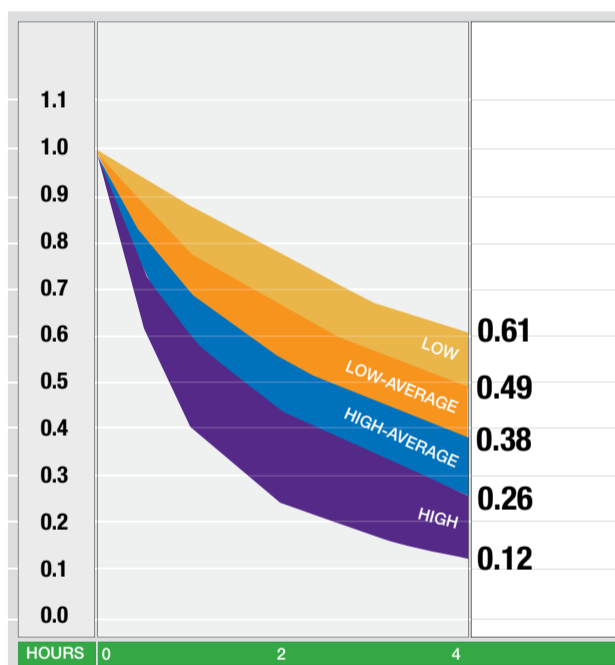
$\frac{D}{P} \text{ CREATININE} =$	$\frac{\text{*Corrected Dialysate Creatinine Concentration at 0-hr, 2-hr, 4-hr Dwell}}{\text{Plasma Creatinine Concentration at 2-hr Dwell}}$
$\frac{D}{D_0} \text{ GLUCOSE} =$	$\frac{\text{Dialysate Glucose Concentration at 2-hr and 4-hr Dwell}}{\text{Dialysate Glucose Concentration at 0-hr Dwell}}$

*If nonenzymatic method (i.e. picric acid assay) is used for analysis of creatinine, be sure to use correction factor to accurately estimate creatinine value.

D/P Creatinine



D/D₀ Glucose

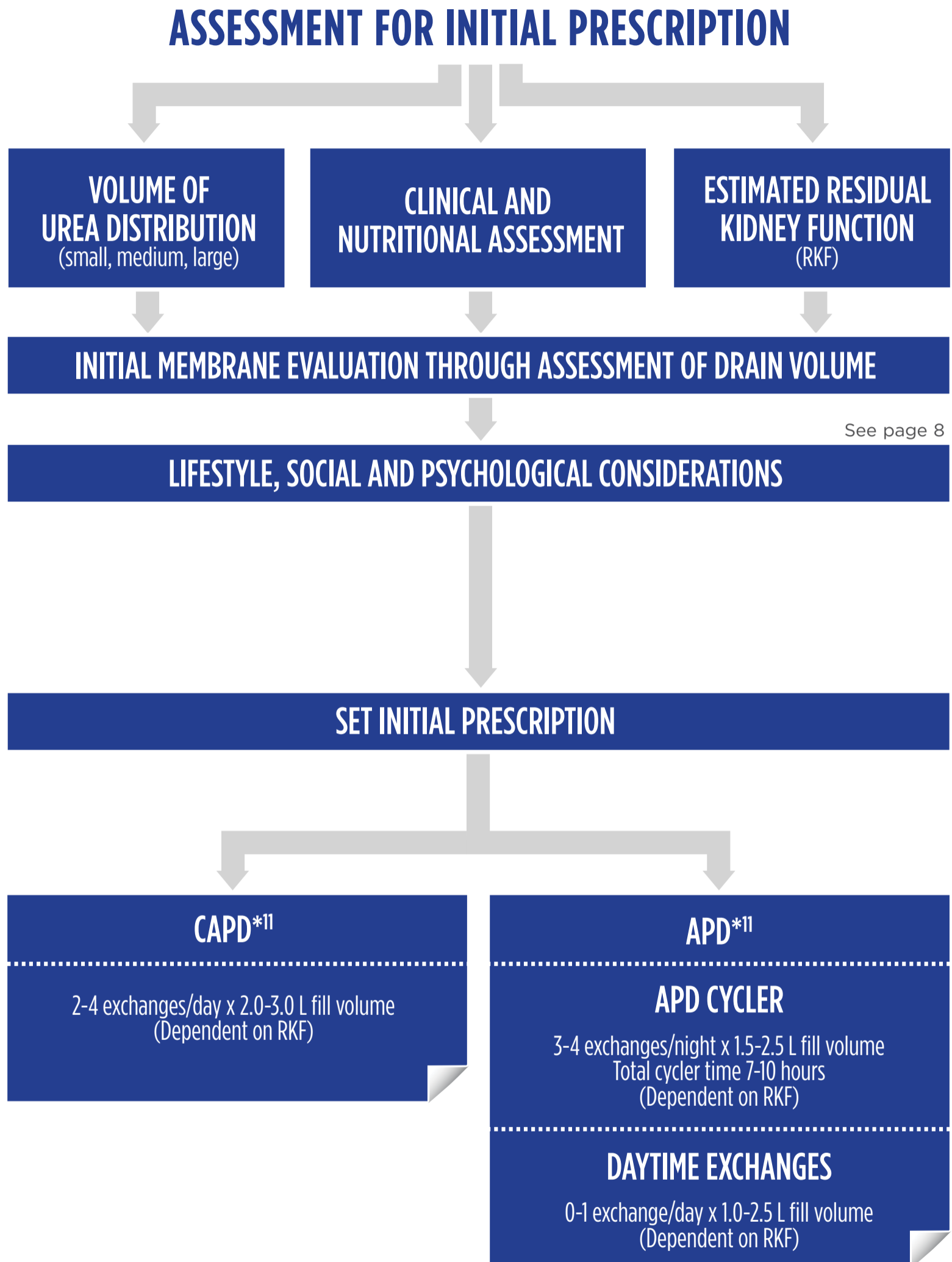


Membrane Transport Type	4-hour D/P Creatinine
HIGH	0.82 - 1.03
HIGH-AVERAGE	0.65 - 0.81
LOW-AVERAGE	0.50 - 0.64
LOW	0.34 - 0.49

If discordance in D/P creatinine and D/D₀ glucose is noted, it is recommended to repeat the PET. Clinical assessment must be taken into account if results remain discordant.¹⁰

Permission to use chart: Twardowski ZJ, Clinical Value of Standardized Equilibration Test in CAPD Patients, Current Concepts of CAPD, Blood Purif 1989;7:95-108.

ASSESSMENT FOR INITIAL PRESCRIPTION



See page 8

* If significant RKF, prescription requirements may be less.¹²

Unless a preliminary PET is performed, the initial prescription should be based on assumptions of average membrane type.

PRELIMINARY ASSESSMENT OF DRAIN VOLUME

Unless a preliminary PET is performed, the initial prescription should be based on assumptions of average membrane type. Initial membrane assessment and ultrafiltration response to dextrose:

Use 2.5% dextrose, 2.0 L fill volume and at **4 hours**, assess drain volume to crudely estimate membrane transport type.¹³

MEMBRANE TRANSPORT TYPE	DRAIN VOLUME*
HIGH	1580-2084 mL
HIGH-AVERAGE	2085-2367 mL
LOW-AVERAGE	2369-2650 mL
LOW	2651-3326 mL

*Mean for all transport types is 2368 mL

Note: In diabetic patients with high serum glucose levels (>300 mg/dL), the results of the drain volume are not useful for patient categorization and inconsistent with creatinine values.¹³

INDIVIDUALIZING THE THERAPY¹⁴

	L (D/P < 0.5)	LA (D/P 0.5-0.65)	HA (D/P 0.65-0.81)	H (D/P > 0.81)
Small ($V_{urea} < 34L$)				
Medium ($34L \leq V_{urea} < 42L$)				
Large ($V_{urea} \geq 41L$)				

The diagram features a large grey arrow pointing right across the middle of the table, labeled 'INCREASE NUMBER OF EXCHANGES'. Below it, a large black arrow points down from the LA and HA columns, labeled 'INCREASE FILL VOLUME'.

Figure illustrates the need to augment the number of exchanges as D/P creatinine increases and to increase fill volume with increase in V_{urea} .

ASSUMPTIONS ON WHICH MODELING IS BASED

Data from 1,006 randomly selected adult PD patients from 39 U.S. centers were analyzed and used to group patients according to their peritoneal membrane transport characteristics and V_{urea} . Based on four PET classifications and three V_{urea} categories, modeling was performed on PD ADEQUEST software to obtain prescriptions that would meet or exceed minimum adequacy and UF goals.¹¹

Clearance goals have been subject to multiple revisions. The sample prescriptions provided in this guide were designed to achieve a minimum weekly delivered Kt/V of 1.7 and to minimize patient burden. The sample prescriptions must not be considered medical advice and are not a substitute for clinical judgement.¹¹

Minimal Delivered Weekly Clearance Goal: $Kt/V \geq 1.7$ ¹¹

Continuous Therapy: Fluid in peritoneal cavity seven days/week¹¹

Ultrafiltration: ≥ 1.0 L/day. Adjustment of dialysis solutions including dextrose and EXTRANEAL (icodextrin) PD Solution to meet the patient's UF requirement is necessary. UF plays an important role in obtaining clearance. Increasing or decreasing UF also impacts clearance¹¹

Residual Kidney Function: For patients with ≥ 2 mL/min of RKF, prescriptions are based on kidney urea clearance¹¹

CAPD: 8-hour overnight exchange¹¹

APD: 9-hour cycler time^{11, 15}

A glucose-sparing strategy, using 1.5% and 2.5% dextrose solutions, was applied in modeling. Under these modeling assumptions, use of 4.25% was therefore precluded. However, 4.25% dextrose solutions can be used in situations of fluid overload¹¹

Please note: The following tables contain sample prescriptions based on patient categories. These are provided for informational purposes only and should not be considered medical advice nor should they be substituted for individual clinical judgement.

It is important that you obtain a 24-hour urine and dialysate collection so that the delivered dose is at your goal and adjust the prescription accordingly. If one were to model the prescription, there would be many other prescription options you may want to consider.

SUGGESTED PRESCRIPTIONS FOR PATIENTS WITH RESIDUAL KIDNEY UREA CLEARANCE < 2 ML/MIN*12

Kinetic modeling was performed using PD ADEQUEST software to create the tables below. Recommended dialysis prescriptions are intended to achieve a desired Kt/V_{urea} of 1.7 and a minimum ultrafiltration of 1000 mL/day. To illustrate that modeling can be designed around additional targeted objectives, use of 4.25% dextrose was omitted in these examples to avoid excessive glucose exposure. Only PD solutions containing dextrose concentrations of 1.5% and 2.5% were used in the modeling process while additional prescriptions were created using EXTRANEAL (icodextrin) PD Solution in the long dwell. An extra daytime exchange (in addition to the last bag fill) was also included in selected situations to help augment clearance and ultrafiltration results for motivated patients as needed. Nine hour overnight treatments periods were considered for the APD prescriptions.

- 1.5%/2.5% dextrose dialysis solutions
- 2.5% dextrose dialysis solutions
- EXTRANEAL (icodextrin) PD Solution used in the long dwell period

Irrespective of modeling, clinical judgment must always be employed in order to create individualized prescriptions that meet patients' specific urea clearance, ultrafiltration, medical and lifestyle needs.

	LOW TRANSPORT		LOW-AVERAGE TRANSPORT		HIGH-AVERAGE TRANSPORT		HIGH TRANSPORT					
	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY				
V1 <34L (SMALL)	APD	5x2L ■	2L ■	APD	4x2.5L ■	2L ■	APD	5x2L ■	2L ■	APD	4x2L ■	2x2L ■
		3x2L ■	2x2L ■		4x2L ■	2x2L ■		3x2L ■	2L ■		3x2L ■	2L ■
		4x2L ■	2L ■		3x2.5L ■	2x2L ■		3x2.5L ■	2.5L ■		3x2.5L ■	2.5L ■
	CAPD	2L ■	3x2L ■	CAPD	2L ■	3x2L ■	CAPD	2L ■	3x2L ■	CAPD	2.5L ■	3x2L ■
		1.5L ■	4x1.5L ■		1.5L ■	4x1.5L ■		1.5L ■	4x1.5L ■		2L ■	3x2L ■
								2L ■	3x2L ■			
V2 34 L ≤ V < 42 L (MEDIUM)	APD	3x3L ■	2x2.5L ■	APD	3x2.5L ■	2x2L ■	APD	4x2L ■	2x2L ■	APD	4x2.5L ■	2x2.5L ■
		4x2.5L ■	2x2.5L ■		4x3L ■	3L ■		5x2.5L ■	2.5L ■		5x2.5L ■	2x2.5L ■
					4x2.5L ■	2.5L ■		5x2L ■	2L ■		4x2.5L ■	2.5L ■
	CAPD	3L ■	3x3L ■	CAPD	2.5L ■	3x2.5L ■	CAPD	2.5L ■	3x2.5L ■	CAPD	3L ■	3x3L ■
		2.5L ■	4x2.5L ■		2.5L ■	3x2.5L ■		2.5L ■	3x2.5L ■		2.5L ■	4x2.5L ■
								2.5L ■	3x2.5L ■		2.5L ■	3x2.5L ■
V3 V ≥ 42 L (LARGE)	APD	3x3L ■	2x3L ■	APD	5x2.5L ■	2x2.5L ■	APD	4x2.5L ■	2x2.5L ■	APD	4x2.5L ■	2x2.5L ■
		4x3L ■	2x2.5L ■		3x3L ■	2x3L ■		4x3L ■	2x2.5L ■		4x3L ■	2.5L ■
					4x3L ■	2x2.5L ■						
CAPD	3L ■	4x3L ■	CAPD	3L ■	4x3L ■	CAPD	3L ■	4x3L ■	CAPD	3L ■	4x3L ■	
							2.5L ■	4x2.5L ■				

* Lower concentrations of dextrose and/or a fewer number of exchanges than indicated here may be needed to achieve total UF targets and euvolemia in the setting of substantial volume output by the kidneys.

Please see Indications and Important Risk Information, including Boxed Warning for EXTRANEAL (icodextrin) PD Solution on page 12. See www.baxterpi.com for Full Prescribing Information.

SUGGESTED PRESCRIPTIONS FOR PATIENTS WITH RESIDUAL KIDNEY UREA CLEARANCE ≥ 2 ML/MIN*12

Kinetic modeling was performed using PD ADEQUEST software to create the tables below. Recommended dialysis prescriptions are intended to achieve a desired Kt/V_{urea} of 1.7 and a minimum ultrafiltration of 1000 mL/day. To illustrate that modeling can be designed around additional targeted objectives, use of 4.25% dextrose was omitted in these examples to avoid excessive glucose exposure. Only PD solutions containing dextrose concentrations of 1.5% and 2.5% were used in the modeling process while additional prescriptions were created using EXTRANEAL (icodextrin) PD Solution in the long dwell. An extra daytime exchange (in addition to the last bag fill) was also included in selected situations to help augment clearance and ultrafiltration results for motivated patients as needed. Nine hour overnight treatments periods were considered for the APD prescriptions.

Irrespective of modeling, clinical judgment must always be employed in order to create individualized prescriptions that meet patients' specific urea clearance, ultrafiltration, medical and lifestyle needs.

- 1.5%/2.5% dextrose dialysis solutions
- 2.5% dextrose dialysis solutions
- EXTRANEAL (icodextrin) PD Solution used in the long dwell period

	LOW TRANSPORT		LOW-AVERAGE TRANSPORT		HIGH-AVERAGE TRANSPORT		HIGH TRANSPORT					
	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY				
V1 <34L (SMALL)	APD	3x1.5L ■ 3x2L ■ 4x2L ■	1.5L ■ 2L ■ dry	APD	4x2L ■ 3x2L ■ 2L ■	2L ■ 2L ■ 3x2L ■	APD	3x2L ■ 5x2L ■ 3x2L ■	2x2L ■ 2L ■ 2L ■	APD	4x2L ■ 3x2L ■ 2L ■	2x2L ■ 2L ■ 3x2L ■
	CAPD	1.5L ■ 3x1.5L ■	3x1.5L ■	CAPD	1.5L ■ 2L ■ 2L ■	3x1.5L ■ 3x2L ■ 3x2L ■	CAPD	2L ■ 2L ■ 3x2L ■	3x2L ■ 3x2L ■	CAPD	2.5L ■ 2L ■ 3x2.5L ■	3x2.5L ■ 3x2L ■
V2 34 L ≤ V < 42 L (MEDIUM)	APD	3x2.5L ■ 5x2L ■ 4x2.5L ■ 3x2L ■ 4x2L ■	2.5L ■ 2L ■ 2L ■ 2L ■ 2L ■	APD	3x2.5L ■ 3x2.5L ■ 3x2L ■	2L ■ 2x2L ■ 2L ■	APD	3x2L ■ 5x2L ■ 3x2L ■	2x2L ■ 2L ■ 2L ■	APD	3x2.5L ■ 3x2L ■ 2L ■	2x2.5L ■ 2L ■
	CAPD	2L ■	3x2L ■	CAPD	2L ■ 2L ■	3x2L ■ 3x2L ■	CAPD	2L ■ 2L ■ 3x2L ■	3x2L ■ 3x2L ■	CAPD	3L ■ 3L ■ 2.5L ■	3x3L ■ 4x3L ■ 3x2.5L ■
V3 V ≥ 42 L (LARGE)	APD	4x3L ■ 3x2L ■ 4x2.5L ■	2.5L ■ 2x2L ■ 2.5L ■	APD	3x3L ■ 4x3L ■ 3x2.5L ■ 4x2.5L ■	2x2.5L ■ 2x3L ■ 2x2.5L ■ 2.5L ■	APD	4x2.5L ■ 5x2.5L ■ 4x2.5L ■ 5x2.5L ■ 3x3L ■	2x2L ■ 2.5L ■ 2.5L ■ 2L ■ 2.5L ■	APD	3x2.5L ■ 4x2.5L ■ 3x3L ■	2x2.5L ■ 2L ■ 2L ■
	CAPD	2.5L ■ 2.5L ■	3x2.5L ■ 3x2L ■	CAPD	2.5L ■ 2.5L ■	3x2.5L ■ 3x2.5L ■	CAPD	2.5L ■ 2.5L ■ 3x2.5L ■	3x2.5L ■ 3x2.5L ■	CAPD	3L ■ 2.5L ■ 2.5L ■	3x3L ■ 4x2.5L ■ 3x2.5L ■

* Lower concentrations of dextrose and/or a fewer number of exchanges than indicated here may be needed to achieve total UF targets and euvolemia in the setting of substantial volume output by the kidneys.

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INDICATIONS

EXTRANEAL (icodextrin) is indicated for a single daily exchange for the long (8- to 16- hour) dwell during continuous ambulatory peritoneal dialysis (CAPD) or automated peritoneal dialysis (APD) for the management of end-stage renal disease. EXTRANEAL is also indicated to improve (compared to 4.25% dextrose) long-dwell ultrafiltration and clearance of creatinine and urea nitrogen in patients with high average or greater transport characteristics, as defined using the peritoneal equilibration test (PET).

IMPORTANT RISK INFORMATION

WARNING: UNRECOGNIZED HYPOGLYCEMIA RESULTING FROM DRUG-DEVICE INTERACTION

- Only use glucose-specific monitors and test strips to measure blood glucose levels in patients using EXTRANEAL (icodextrin) Peritoneal Dialysis Solution. Blood glucose monitoring devices using glucose dehydrogenase pyrroloquinolinequinone (GDH-PQQ) or glucose-dye-oxidoreductase (GDO)-based methods must not be used. In addition, some blood glucose monitoring systems using glucose dehydrogenase flavin-adenine dinucleotide (GDH-FAD)-based methods must not be used. Use of GDH-PQQ, GDO, and GDH-FAD-based glucose monitors and test strips has resulted in falsely elevated glucose readings (due to the presence of maltose). Falsely elevated glucose readings have led patients or health care providers to withhold treatment of hypoglycemia or to administer insulin inappropriately. Both of these situations have resulted in unrecognized hypoglycemia, which has led to loss of consciousness, coma, permanent neurological damage, and death. Plasma levels of EXTRANEAL (icodextrin) and its metabolites return to baseline within approximately 14 days following cessation of EXTRANEAL (icodextrin) administration. Therefore, falsely elevated glucose levels may be measured up to two weeks following cessation of EXTRANEAL (icodextrin) therapy when GDH-PQQ, GDO, and GDH-FAD-based blood glucose monitors and test strips are used.
- To avoid improper insulin administration, educate all patients to alert health care providers of this interaction particularly in hospital settings.
- The manufacturer(s) of the monitor and test strips should be contacted to determine if icodextrin or maltose causes interference or falsely elevated glucose readings. For a list of toll free numbers for glucose monitor and test strip manufacturers, please contact the Baxter Renal Clinical Help Line 1-888-RENAL-HELP or visit www.glucosafety.com.
- Because of the risk of unrecognized hypoglycemia that could result from a drug-device interaction, EXTRANEAL is available only through a restricted program.

- EXTRANEAL (icodextrin) is contraindicated in patients with a known allergy to cornstarch or icodextrin, in patients with maltose or isomaltose intolerance, in patients with glycogen storage disease, and in patients with severe lactic acidosis.
- EXTRANEAL is intended for intraperitoneal administration only. Not for intravenous injection. Aseptic technique should be used throughout the peritoneal dialysis procedure.
- Encapsulating peritoneal sclerosis (EPS), sometimes fatal, is a complication of peritoneal dialysis therapy and has been reported in patients using EXTRANEAL.
- Serious hypersensitivity reactions to EXTRANEAL have been reported such as toxic epidermal necrolysis, angioedema, serum sickness, erythema multiforme and vasculitis. Anaphylactic or anaphylactoid reactions may occur. If a serious reaction is suspected, discontinue EXTRANEAL immediately and institute appropriate therapeutic countermeasures.
- Overinfusion of peritoneal dialysis solution volume into the peritoneal cavity may be characterized by abdominal distention, feeling of fullness and/or shortness of breath. Drain the peritoneal dialysis solution from the peritoneal cavity to treat overinfusion.
- Patients with insulin-dependent diabetes may require modification of insulin dosage following initiation of treatment with EXTRANEAL. Monitor blood glucose and adjust insulin, if needed.
- Peritoneal dialysis may affect a patient's protein, water-soluble vitamin, potassium, sodium, chloride, bicarbonate, and magnesium levels and volume status. Monitor electrolytes and blood chemistry periodically. Monitor fluid status to avoid hyper- or hypovolemia and potentially severe consequences including congestive heart failure, volume depletion, and hypovolemic shock. Abnormalities in any of these parameters should be treated promptly under the care of a physician.
- In clinical trials, the most frequently reported adverse events occurring in $\geq 10\%$ of patients and more common in EXTRANEAL PD solution patients than in control patients, were peritonitis, upper respiratory infection, hypertension, and rash. The most common treatment-related adverse reaction for EXTRANEAL PD solution patients was skin rash.

Please see www.glucosafety.com or www.baxterpi.com for Full Prescribing Information.

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