Guidelines

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International Society for Peritoneal Dialysis practice recommendations: Prescribing high-quality goal-directed peritoneal dialysis

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Lay summary

The International Society for Peritoneal Dialysis last published a guideline on prescribing peritoneal dialysis (PD) in 2006. This focused on clearance of toxins and used a measure of waste product removal by dialysis using urea as an example. This guideline suggested that a specific quantity of small solute removal was needed to achieve dialysis 'adequacy'. It is now generally accepted, however, that the well-being of the person on dialysis is related to many different factors and not just removal of specific toxins. This guideline has been written with the focus on the person doing PD. It is proposed that dialysis delivery should be 'goal-directed'. This involves discussions between the person doing PD and the care team (shared decision-making) to establish care goals for dialysis delivery. The aims of these care goals are (1) to allow the person doing PD to achieve his/her own life goals and (2) to promote the provision of high-quality dialysis care by the dialysis team.

Key recommendations

1. PD should be prescribed using shared decision-making between the person doing PD and the care team. The aim is to establish realistic care goals that (1) maintain quality of life for the person doing PD as much as possible by enabling them to meet their life goals, (2) minimize symptoms and treatment burden while (3) ensuring high-quality care is provided.

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2. The PD prescription should take into account the local country resources, the wishes and lifestyle considerations of people needing treatment, including those of their families/caregivers', especially if providing assistance in their care.
3. A number of assessments should be used to help ensure the delivery of high-quality PD care.
   a. *Patient reported outcome measures* – this is a measure of how a person doing PD is experiencing life and his/her feeling of well-being. It should take into account the person's symptoms, impact of the dialysis regimen on the person's life, mental health and social circumstances.
   b. *Fluid status* is an important part of dialysis delivery. Urine output and fluid removed by dialysis both contribute to maintaining good fluid status. Regular assessment of fluid status, including blood pressure and clinical examination, should be part of routine care.
   c. *Nutrition status* should be assessed regularly through evaluation of the patient's appetite, clinical examination, body weight measurements and blood tests (potassium, bicarbonate, phosphate, albumin). Dietary intake of potassium, phosphate, sodium, protein, carbohydrate and fat may need to be assessed and adjusted as well.
   d. *Removal of toxins.* This can be estimated using a calculation called Kt/V_{urea} and/or creatinine clearance. Both are measures of the amount of dialysis delivered. There is no high-quality evidence regarding the need or benefit associated with the achievement of a specific target value for these measures.
4. The amount of kidney function that continues to remove waste products and the remaining urine volume should be known for all individuals doing PD. Management should focus on preserving this as long as possible.
5. For some people who require dialysis and who are old, frail or have a poor prognosis, there may be a quality of life benefit from a reduced dialysis prescription to minimize the burden of treatment.
6. In low and lower middle-income countries, every effort should be made to conform to the framework of these statements, taking into account resource limitations.
7. The principles of prescribing and assessing delivery of high-quality PD to children are the same as for adults. In all cases, the PD prescription should be designed to meet the medical, mental health social and financial needs of the individual child and family

Keywords
Guideline, peritoneal dialysis prescribing, quality of life, small solute removal

Background

The International Society for Peritoneal Dialysis (ISPD) last published guidelines on prescribing peritoneal dialysis (PD) in 2006.[1] These focused primarily on targets for small solute removal (Kt/V_{urea} and creatinine clearance) and ultrafiltration. Even though the recommendations in that guideline started with the statement, 'Adequacy of dialysis should be interpreted clinically rather than by targeting only solute and fluid removal', the guideline has often been interpreted as stating that there must be a minimum small solute removal target. Indeed, in some healthcare settings, delivery of PD has focused on achieving the small solute targets suggested in the 2006 guideline without taking into consideration the impact of increasing dialysis exchanges or hours on a cycling machine on a person's quality of life.

Since 2006, those in need of dialysis have changed considerably with increasing multimorbidity associated with higher proportions of people with diabetes and/or in older age groups. There is therefore increasing realization that dialysis is only one component of care affecting outcomes (see Figure 1).

The need for a change in emphasis of care was the focus of discussion at the Kidney Disease Improving Global Outcomes Controversies Conference on Dialysis Initiation, Modality Choice & Prescription in January 2018. At this meeting, it was proposed that there should be a change in terminology from 'adequate' dialysis to 'goal-directed' dialysis defined as 'using shared decision-making between the patient and care team to establish realistic care goals that will allow the patient to meet his/her own life goals and allow the clinician to provide individualized, high quality dialyis care'.[2] This approach would require multiple measures and goals to be considered when assessing quality of dialysis, including symptoms, individual experiences and goals, residual kidney function, volume status, biochemical measures, nutritional status, cardiovascular function, small solute clearance and sense of well-being and satisfaction[2] (Table 1).

This goal-directed approach concurs with the findings from the Standardised Outcomes in Nephrology – PD initiative (https://songinitiative.org/projects/song-pd/), which identified core outcomes for PD chosen by patients, caregivers and healthcare professionals.[3] These core outcomes were PD infection, cardiovascular disease, mortality, PD failure and life participation.[4] There is no evidence that small solute clearance on its own directly affects these core outcome measures, except for a small proportion of individuals in whom transfer from PD to HD has been attributed to insufficient small solute removal.[5,6] Otherwise, PD infection and cardiovascular disease have already been addressed by recent ISPD guidelines.[7–10]

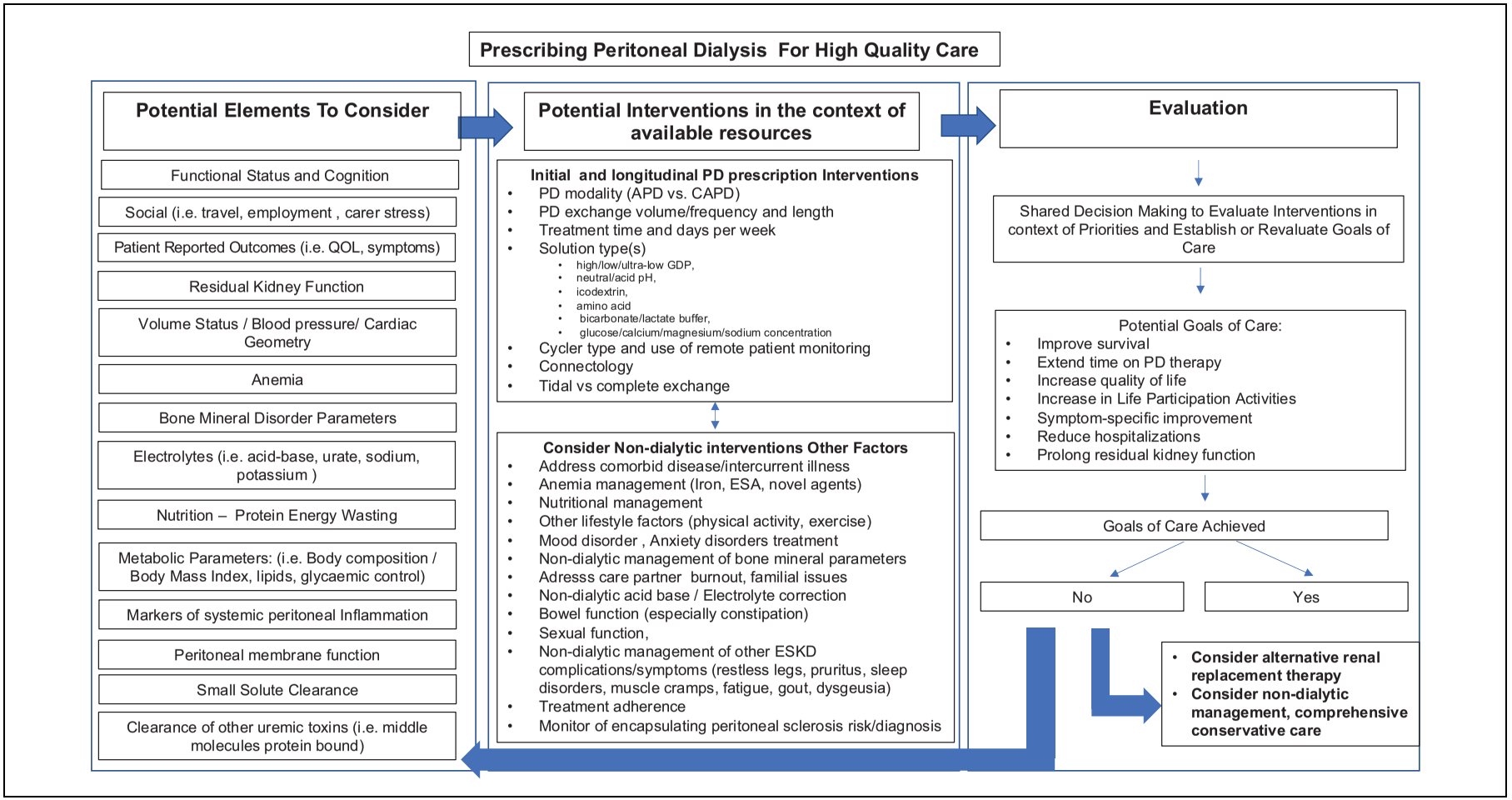

Figure 1. Complexity of care when prescribing high-quality peritoneal dialysis.

Table 1. Factors affecting outcomes of people on peritoneal dialysis.

Factor	Impact
Multimorbidity	Symptoms Polypharmacy Impaired physical function Impaired cognitive function Protein energy wasting
Age	Impaired physical function Impaired cognitive function Protein energy wasting Falls Dementia/Delirium Frailty
Dialysis-related	Symptoms Polypharmacy Volume status – potential volume overload or depletion Poor appetite Protein energy wasting Burden of dialysis Fatigue and malaise Pruritus Insomnia Infections
Psychosocial	Depression Anxiety Financial stress Social support Loss of employment Reduced time for life participation

Given these changes in clinical emphasis, the Guideline Committee of the ISPD invited a group of globally representative nephrologists to compose new practice recommendations for prescribing high-quality, goal-directed PD. These recommendations are summarized in this article with the underlying thought processes and/or evidence in the accompanying manuscripts in this PDI supplement. Evidence has been graded using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system for classification of the level of certainty of the evidence and grade of recommendations in clinical guideline reports.[11,12] Within each recommendation, the strength of the recommendation is indicated as Level 1 (We recommend), Level 2 (We suggest) or not graded, and the certainty of the supporting evidence is shown as A (high certainty), B (moderate certainty), C (low certainty) or D (very low certainty). We have taken the position to label statements with low certainty evidence (2C, 2D) as practice points

Headline recommendations

The aim of high-quality goal-directed dialysis is to provide the best health outcome possible for an individual on PD in terms of maintaining their clinical well-being, quality of life, ability to meet life goals and at the same time minimize treatment burden. The following headline recommendations are derived from the accompanying papers

1. PD should be prescribed using shared decision-making between the person doing PD/ their caregivers and the care team with the aim of achieving realistic care goals to maximize quality of life and satisfaction for the individual, minimize their symptoms and provide high quality care (**practice point**).
   Blake PG and Brown EA. Person-centered peritoneal dialysis prescription and the role of shared decision making. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893803
2. PD can be prescribed in a variety of ways and should take into account local resources, the person's wishes regarding lifestyle and the family's/caregivers' wishes if they are providing assistance (**practice point**).
   Wang AY-M, Zhao J, Bieger B, et al. on behalf of PDOPPS dialysis prescription and fluid management working group. International Comparison of Peritoneal Dialysis Prescriptions from the Peritoneal Dialysis Outcomes and Practice Patterns Study (PDOPPS). Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819895356
3. High-quality PD prescription should be guided by a number of assessments encompassing the person's well-being and life participation, volume status, nutritional status, anaemia management, small solute removal and bone and mineral management.
   3.1. Health-related quality of life
   The person's perception of their health-related quality of life should be assessed routinely. This should take into account assessment of symptoms, the impact of dialysis treatment prescription on life participation and psychosocial status. Appropriate adjustments in care should be made based on these assessments (**practice point**).
   Finkelstein FO and Foo MWY. Health-related quality of life and adequacy of dialysis for the individual maintained on peritoneal dialysis. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893815
   3.2. Volume status
   a) High-quality PD prescription should aim to achieve and maintain clinical euvolaemia taking residual kidney function and its preservation into account, so that both fluid removal from peritoneal ultrafiltration and urine output are considered and residual kidney function is not compromised (**practice point**).

b) Blood pressure should be included as one of the key objective parameters in assessing quality of PD prescription. However, there is currently no evidence for a specific blood pressure target in PD (**practice point**).

c) Regular assessment of volume status including blood pressure and clinical examination should be part of the routine clinical care (**practice point**).

Wang AY-M, Dong J, Xu X, et al. Volume management as a key dimension of a high-quality PD prescription. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819895365

3.3. Nutritional status

a) Nutritional status should be regularly assessed and monitored with attention to appetite and dietary protein intake to maintain a normal nutrition status with restriction of phosphorus, sodium and potassium as indicated (**practice point**).

b) Biochemical plasma markers including potassium, bicarbonate, albumin, phosphate should be regularly measured as markers of nutrition (**practice point**).

Glavinovic T, Hurst H, Hutchison A, et al. Prescribing high-quality peritoneal dialysis: moving beyond urea clearance. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893571

3.4. Small solute clearance

a) Small solute clearance should be routinely measured using Kt/V_{urea} or creatinine clearance to provide a quantitative measure of the amount of dialysis delivered. This can guide the amount of dialysis prescribed, while recognizing the limitations of accuracy of these measurements in individuals (**practice point**).

b) There is no specific clearance target that guarantees sufficient dialysis for an individual. Increasing small solute clearance to a $Kt/V \geq 1.7$ may improve uraemia-related symptoms, if present, but there is only low certainty evidence showing that increasing urea clearance has any impact on quality of life, technique survival or mortality (**practice point**).

c) The presence of residual kidney function at the start of PD may enable individuals to start on a low dose prescription that may be increased incrementally as residual kidney function declines or as clinically indicated. This may allow patients more time for life participation, less treatment burden and better quality of life (**practice point**).

d) If symptoms, nutrition and volume are all controlled, no PD prescription change is needed for the sole purpose of reaching an arbitrary clearance target (**practice point**).

Boudville N and Moraes TP. 2005 Guidelines on targets for solute and fluid removal in adults being treated with chronic peritoneal dialysis: 2019 Update of the literature and revision of recommendations. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819898307

Davies SJ and Finkelstein FO. Accuracy of the estimation of V and the implications this has when applying Kt/Vurea for measuring dialysis dose in peritoneal dialysis. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893817

Blake PG, Dong J, Davies SJ. Incremental peritoneal dialysis. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819895362

4. Residual kidney function should be determined for all individuals doing PD and management should focus on preserving this function (**practice point**).

Chen CH, Perl J and Teitelbaum I. Prescribing high-quality peritoneal dialysis: The role of preserving residual kidney function. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893821

5. For some individuals, particularly those who are old, frail or have a poor prognosis, there may be a quality of life benefit from a modified dialysis prescription to minimize the burden of treatment (**practice point**).

Brown EA and Hurst H. Delivering peritoneal dialysis for the multimorbid, frail and palliative patient. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893558

6. In low and lower middle-income countries or regions, every effort should be made to conform to the framework of these statements, taking into account resource limitations (**practice point**).

Liew A. Prescribing peritoneal dialysis and achieving good quality dialysis in low and low-middle income countries. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819894493

7. The principles of prescribing and assessing delivery of high-quality PD to children are the same as for adults. In all cases, the PD prescription should be designed to meet the medical, psychosocial and financial needs of the child and their family (**practice point**).

Warady BA, Schaefer F, Bagga A, et al. Prescribing peritoneal dialysis for high quality care in children. Perit Dial Int. Epub ahead of print 2020. DOI: 10.1177/0896860819893805

Table 2. Summary of key points.

Topic	Key points
Practice patterns from PDOPPS	
PD prescription	PD is prescribed in a variety of ways depending on local country resources, availability of PD solutions and devices, modalities, reimbursement, clinicians' preferences and other local constraints, as well as patients' characteristics and preferences regarding lifestyle and family/caregiver wishes if providing assistance. (**practice point**)
Problems with using small solute clearance targets as sole measure of quality of PD	
Critique of previous targets for small solute clearance	1. There is very low certainty evidence that residual kidney function may be more important than peritoneal clearance (**practice point**) 2. There appears to be no survival advantage in aiming routinely for a weekly Kt/V > 1.70 (**practice point**) 3. There is very low certainty evidence that a weekly Kt/V less than 1.7 may be associated with increased morbidity (**practice point**)
Estimation of V: implications for Kt/V	1. In setting a Kt/V target for the individual patient, defining an acceptable range that recognizes the uncertainty of the measurement, rather than applying a single cut-off value is more appropriate (**practice point**) 2. Given the uncertainty of the estimation of V, clinicians should be encouraged to alter the prescribed dialysis dose in response to patient's symptoms, biochemical parameters and treatment goals, rather than solely equating a single value cut-off value with adequate treatment. (**practice point**) 3. When reporting prescribed dialysis dose at the population level, this should be as population mean and range of Kt/V rather than as the proportion of patients who are above an arbitrary cut-off value (e.g. 1.7); this will allow comparison at the population level while recognizing limitations of the measurement (**practice point**)
Person-centred care	
Person-centred PD delivery and shared decision-making	1. The principles of person-centred care and shared decision-making should be applied to the care of people who are reaching end-stage kidney disease (**practice point**) 2. People doing PD should be educated and given choice as far as is possible concerning the PD prescription they receive (**practice point**) 3. People doing PD should be educated about their conditions and be informed about their prognosis and given the opportunity to define their goals of care (**practice point)** 4. Patient reported experience of care is a crucial measure of how effective person centred care is in PD and should be surveyed and used to improve the delivery of care (**practice point**)
Other dialysis-related factors that should be measured	
RKF	1. RKF is an important component of the overall well-being and survival of dialysis patients (**practice point**) 2. There is low certainty evidence demonstrating that different PD modalities may make little or no difference to preservation of RKF (**practice point**) 3. Caution should be taken to avoid volume depletion and hypotension based on low certainty evidence that this may adversely affect RKF (**practice point**) 4. Urine output is increased by a variable, but small, amount when using neutral pH, low glucose degradation product dialysate for the first 12–24 months after starting PD (**GRADE 1A**), though there is low certainty evidence of associated reduction in ultrafiltration
Volume status	1. High-quality PD prescription should aim to achieve and maintain clinical euvolemia while taking residual kidney function and its preservation into account, so that both fluid removal from peritoneal ultrafiltration and urine output are considered and residual kidney function is not compromised (**practice point**) 2. Blood pressure should be included as one of the key objective parameters in assessing quality of PD prescription. However, there is currently no evidence for a specific blood pressure target in PD. (**practice point**) 3. Regular assessment of volume status including blood pressure and clinical examination should be part of the routine clinical care. There is currently no clear evidence that bioimpedance-guided fluid management leads to clinical benefits (**practice point**)

(continued)

Table 2. (continued)

Topic	Key points
Other factors beyond urea clearance	1. Patients who remain symptomatic despite a Kt/V_{urea} > 1.7 should have other dialysis and non-dialysis-related factors considered as possible contributing factors. A trial of increasing dialysis dose may be indicated (**practice point**) 2. Hypokalemia is associated with poor nutritional intake and adverse outcomes including peritonitis. Dietary and/or oral potassium supplementation should be considered (**practice point**) 3. Hypoalbuminemia is more common in PD compared to HD and is associated with protein energy wasting and peritoneal protein losses. Interventions are of limited utility in increasing serum albumin alone (**practice point**) 4. Hyperphosphatemia is multifactorial and associated with adverse outcomes in PD. Dietary interventions, phosphate binders and modifying the PD prescription should be considered to control hyperphosphatemia (**practice point**) 5. Poor nutritional status and protein energy wasting should be evaluated when assessing the need to increase the dose of peritoneal dialysis (**practice point**)
Health-Related Quality of Life	1. Assessing the patient's perception of their HRQOL should be integrated into routine care assessments and taken into account when prescribing the optimal treatment regimen for each patient (**practice point**) 2. Utilizing PROMs to assess patients' experiences, symptoms and domains of difficulty requires that appropriate approaches be utilized, such as the incorporation of various questionnaires into routine patient care, addressing a wide variety of domains (**practice point**) 3. It is suggested that PD regimen should be adjusted and modified using a person-centred, shared decision-making individualized approach, based on patients' symptoms and medical/clinical needs, HRQOL, sense of well-being and satisfaction and life participation with clearly defined goals of care (**practice point**)
Non-standard PD delivery	
Incremental dialysis	1. Incremental peritoneal dialysis is a strategy by which less than standard 'full-dose' PD is prescribed in people initiating PD; it is done with the intention of increasing the peritoneal prescription if and when residual kidney clearance declines (**DEFINITION**) 2. Incremental PD strategies use less PD solution than standard full-dose PD prescription and so cost less (**GRADE 1A**) 3. Incremental PD strategies achieve outcomes that are at least as good as full dose PD prescription in patients with residual kidney function (**practice point**)
Frail and/or palliative patients	1. PD is only one component of overall care (**practice point**) 2. It is suggested that goals of care and care needs are determined after appropriate geriatric and palliative care assessments with shared decision-making approach (**practice point**) 3. Management should consider people's life goals, quality of life and symptom control (**practice point**) 4. Residual kidney function enables PD prescription to be reduced; this enables reduction in treatment burden in line with other existing multimorbidity guidelines (**practice point**)
Special situations	
Prescribing PD in children	1. In children, selection of the dialysis modality should be based upon the child's age and size, presence of co-morbidities, family support available, modality contraindications, expertise of the dialysis team and the child's and parents'/caregivers' choice. Preserving dialysis access, both peritoneal and vascular access, must be considered when selecting the optimal dialysis modality for a child (**practice point**) 2. While the goal of PD therapy is to optimize fluid management and solute clearance, this must be considered in the context of the child's and family's expectations of dialysis and quality of life, encouraging the child to participate at school and free time with family and friends as much as possible (**practice point**)
PD in low and low middle-income countries	1. The initial PD prescription should take into consideration the amount of residual renal function and be aimed at achieving clinical euvolemia, clinical and biochemical well-being of patients at the lowest cost, through the use of incremental PD with fewer bags and PD-free days (**practice point**)

(continued)

Table 2. (continued)

Topic	Key points
	2. All efforts should be made to preserve residual kidney function and peritoneal membrane function, and in so doing, maintain PD ultrafiltration for an extended period without the need to intensify PD prescription (**practice point**) 3. Greater emphasis be made to utilize low-cost adjunctive management strategies in low and low middle income countries (LLMICs), such as dietary and life-style modification, in reducing the generation of uremic toxins and achieving euvolemia, with the aim to minimize the need to intensify the PD prescription prematurely (**practice point**) 4. PET and weekly Kt/V should be encouraged if the cost of these tests do not compromise the affordability of PD treatment in LLMICs. Where facility-performed PET or Kt/V is unavailable or unaffordable, it is reasonable to assess quality and adequacy of PD prescription based on clinical, biochemical parameters and clinical well-being of patients (**practice point**) 5. PD programs should monitor the outcomes of these clinical interventions, focusing on inexpensive clinical indicators, to determine efficacy, trends and progression and for international comparison (**practice point**)

PDOPPS: Peritoneal Dialysis Outcomes and Practice Patterns Study; PD: peritoneal dialysis; RKF: residual kidney function; HRQOL: health-related quality of life; PROM: patient-reported outcomes measures; PET: peritoneal equilibration test.

Key points from literature review

These recommendations include sections on delivering PD to children and prescribing PD in lower income countries, so that they are relevant for all people doing PD. The discussions of the ISPD work group focused on the need for person-centred care with an emphasis on dialysis-related factors that impact on individual well-being, PD delivery approaches that have evolved since 2006 (incremental PD, PD delivery to older and frail individuals) and the problems associated with interpreting Kt/V. The summary points and key recommendations from each paper are summarized in Table 2.

Clinical use of recommendations

Which dialysis solution?

Peritoneal Diaysis Outcomes and Practice Patterns Study (PDOPPS) data[13] showed significant variations in the use of different strengths of hypertonic glucose PD solutions, icodextrin and neutral pH, low glucose degradation product (GDP) solutions depending on availability and reimbursement policies in different countries. Longer follow-up is needed to determine the association between the use of these solutions and patient outcomes. The ISPD cardiovascular guideline published in 2015[9] recently reviewed the evidence regarding icodextrin, neutral pH and low GDP solutions; this has been updated by a Cochrane review published in 2018.[14]

A. Once-daily icodextrin should be considered as an alternative to hypertonic glucose solutions for long dwells in people doing PD who are experiencing difficulties maintaining euvolemia due to insufficient peritoneal ultrafiltration, taking into account the individual's peritoneal transport state (**GRADE 1B**).

Table 3. Methods of recognising 'failing to thrive' patients on PD.

Factor	Assessment methods
Poor patient well-being	Ask the patient Body weight changes (loss) Clinical assessment Hospitalization rate Questionnaires to assess quality of life, symptoms, depression
Poor volume control	Clinical assessment Blood pressure control Recording of achieved ultrafiltration by patient Measurement of urine volume
Poor solute removal	Blood tests Small solute clearance (Kt/V_{urea}; creatinine clearance) Nutrition assessment
Non-dialysis factors: comorbidities, frailty, protein-energy wasting	Frailty assessment Cognitive function assessment Nutrition assessment Hospitalization rate

PD: peritoneal dialysis.

B. Use of neutral pH, low GDP PD solutions improves preservation of residual kidney function and urine output (**GRADE 1A**). There is low certainty evidence that use of these fluids may have little or no effect on technique survival or mortality.

Identification of individuals who are 'failing to thrive'

When prescribing person-centred high-quality PD, a challenge is to identify individuals who would benefit from an increase in dialysis prescription or change in dialysis

Table 4. Factors that may support an increase in dialysis delivery.

Factor	Suggests need to change dialysate type or increase prescription
Clinical features	Uraemic symptoms, such as increasing tiredness, loss of appetite, nausea, weight loss (recognising there could be other causes of individual symptoms) Symptomatic volume overload Poor nutritional status or clinical features of protein-energy wasting Hospitalization related to uraemia or volume overload Poor or worsening school performance Reduced energy level, physical activity or school attendance appropriate to child's age
Residual kidney function	Decline in urine volume and/or renal small solute removal
Biochemical features	Hyperkalaemia Hyperphosphataemia Low plasma bicarbonate Worsening uraemia (rising urea and creatinine)

modality while recognizing that some individuals are reluctant to do so. Furthermore, there may be limitations to dialysis delivery imposed by local healthcare structures and resources. It is therefore important that all units develop some local structures to identify individuals who are failing to thrive on PD and to recognize the symptoms, clinical features and biochemical markers that would support an increase in dialysis prescription or change in dialysis modality. Methods that could be used by care teams are suggested in Table 3.

The frequency of use of individual methods will depend on local healthcare resources, but it is recommended that all units develop some method of recognizing patients who have symptoms or clinical features and biochemical markers indicating failure to thrive (**practice point**).

A person's symptoms, clinical features and biochemical markers that would support an increase in dialysis prescription are shown in Table 4. We suggest that more than one of these should be present given the inherent inaccuracies in measuring small solute clearance and the potential multiple causes of a single 'uraemic' symptom or biochemical abnormality **(practice point)**.

Involvement of people on PD with guideline

Differences in healthcare resources and the heterogeneity in PD technology, dialysis solutions availability and holistic kidney care for people treated with dialysis have made it difficult to have them involved at the guideline development stage. The first version of this article was sent to people doing PD from the various countries represented by members of the guideline group. Feedback was given by 22 people on peritoneal dialysis or caregivers from 8 countries on 5 continents and will be presented as a separate accompanying paper. We have incorporated their wish that 'person' is preferable to 'patient' in the revision of this manuscript. We have also co-written a lay summary with a UK group of people on dialysis with the key contributor listed as an author.

Corbett RW, Fleisher G, Goodlet G, et al. International Society for Peritoneal Dialysis Practice Recommendations: The view of the person who is doing or who has done PD. Perit Dial Int. In press.

Implementation

It is not possible to embed an implementation plan into an international guideline as the process will vary from country to country depending on healthcare systems and resource availability. We recommend strongly that people doing peritoneal dialysis are involved with national, regional and local implementation plans based on this guideline.

Summary

Delivery of high-quality, goal-directed peritoneal dialysis requires a person-centred, individualized shared decision-making approach with tailoring of the prescription to the person's well-being, lifestyle and quality of life with adjustments dependent on residual kidney function, volume status and dialytic solute removal and to minimize treatment burden. Given the minimal high-quality evidence for the recommendations, it is essential to conduct further research with questions prioritized by healthcare providers and individuals with kidney disease.

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