PROVINCIAL STANDARDS & GUIDELINES

BCRenal
an agency of the Provincial Health Services Authority

Best Practices: Peritoneal Dialysis Programs

Created 2018

Approved by the BCPRA Peritoneal Dialysis Committee

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IMPORTANT INFORMATION

This BCPRA guideline/resource was developed to support equitable, best practice care for patients with chronic kidney disease living in BC. The guideline/resource promotes standardized practices and is intended to assist renal programs in providing care that is reflected in quality patient outcome measurements. Based on the best information available at the time of publication, this guideline/resource relies on evidence and avoids opinion-based statements where possible; refer to www.bcrenalagency.ca for the most recent version.

For information about the use and referencing of BCPRA provincial guidelines/resources, refer to http://bit.ly/28SFr4n.

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1.0 Background and Purpose

Purpose and goals

The purpose of this document is to describe PD practices to promote standardized, consistent and integrated delivery of PD services throughout the province. The development of this document utilized PD literature in combination with the expertise and experience of PD programs in British Columbia.

Best practice guidelines:

- Incorporate evidence-based information and current practice to aid in clinical decision making specific to PD
- Explore relationships between practice patterns and patient outcomes to drive improvement in care
- Focus on accountability to patients, infrastructure research, innovation, and alignment of funding to quality patient centered care
- Develop standardized tools and practices that encourage self-management and jointly establish goals of care
- Establish provincial standards and accountabilities to streamline the transition process and access for those wanting PD.

Peritoneal dialysis (PD) is an option for renal replacement therapy in patients with end stage kidney disease. It is frequently selected by patients as their preferred initial mode of therapy and is an option for patients transitioning from hemodialysis (HD) and after transplant failure. PD is utilized as the preferred dialysis modality for pediatric patients as a bridge treatment to transplant. PD is an effective home-based therapy that provides flexibility and many quality of life advantages with equitable patient outcomes comparable to HD. PD eliminates the need for relocation to meet treatment needs, while providing much lower dialysis costs (19). Peritoneal Dialysis is the preferred type of dialysis for those with vascular access issues, and progressive cardiorenal syndrome. The key benefits of PD are preservation of residual renal function (27), lower hospitalization (23) and lower access intervention rates (22) when compared to hemodialysis.

Peritoneal dialysis has been recognized as a modality option which supports:

- self-management home therapy
- integration of dialysis with work, school, hobbies and social family activities
- flexible daily regimen
- patient autonomy
- flexibility in diet fluid intake
- ability to travel due to portability of equipment
- potential reduction in some medications

The BC Ministry of Health endorses a strong home therapy mandate with a provincial target of over 30% peritoneal and home hemodialysis combined rate since 2010. The BC renal agency supports

provincial strategies to maximize the use of home dialysis therapies. British Columbia has adopted a PD first approach that advocates PD as the initial dialysis modality of choice. Current patient numbers are available on the BC Renal Agency website (www.bcrenalagency.ca) Care for patients is provided in 13 PD programs across 5 health authorities in BC.

2.0 Target population and goals of PD programs

The target population for Peritoneal Dialysis are those patients who have:

- been identified as requiring dialysis
  - ↳ BC recommendation for PD catheter placement is when the GFR is between 10-12ml/min/1.73m^2
- demonstrated an interest in peritoneal dialysis as a home option
- been assessed as being suitable candidates for home therapy PD

PD programs work collaboratively with patients to provide home evidence-based, multidisciplinary PD care. A successful PD program is patient-centred to:

- support and educate patient and family to perform PD independently, effectively and safely in the home environment
- maximize confidence and abilities of patients and families to adjust to and manage their health and peritoneal dialysis therapy
- provide ongoing monitoring, support and follow up of patients to assist in early identification and treatment of PD related problems
- support planning and preparation for transition to other renal related modalities

3.0 Requirements for a successful PD program

The success of a PD program is dependent on the development of:

- a robust and effective CKD education program that offers and encourages PD as a therapy option
- a standardized assessment process to identify and triage appropriate patients to PD
- transition guidelines designed to support the care and preparation of patients to PD
- multidisciplinary patient centered support systems inclusive of but not limited to: patients and families, physicians, nursing, social work, dietitians, pharmacists, occupational therapy, surgery, radiology, comorbidity clinics (diabetic, cardiology, hypertension), community support services. (PDA, LTC, assisted living)
- access to timely PD catheter procedures
- standardized patient training program incorporating adult learning principles
- clinical practice based on current international

standards

- continuous quality improvement work to monitor a variety of domains at a program, health authority and provincial level
- structured training and continuing education for members of the multidisciplinary PD clinical team

4.0 PD milestones and patient flow algorithm

The major milestones and associated time lines for patients transitioning to Peritoneal Dialysis are outlined in Figure 1.

5.0 Transition to PD

5.1 Patient transition: adult and pediatric

Transitions are common for patients with kidney failure. Patients can change from one treatment modality to another, whether by choice or necessity. This requires the healthcare team to anticipate and prepare patients for these transitions. The transition from one renal replacement therapy (RRT) can appear routine to providers and healthcare team members, however, patients often express that they feel insecure and vulnerable when they need to make a change (26). Transitions to PD can follow an urgent/ acute episode

Figure 1. PD Patient Flow Algorithm

of kidney failure, from kidney care clinic or from another modality such as transplant or hemodialysis. Responsibilities for a safe and successful transition to and from PD fall to both the multidisciplinary renal health care team and the patient.

Successful transitions to PD are dependent on:

- identification of the various phases of transition experienced by the patient starting PD
- identification of roles and responsibilities of the multidisciplinary PD team and patient during key phases of transition
- clear communication between all team members and patient and family
- provision of consistent standardized information and practices which focusses on patient centered care, education, goal setting, care planning and self-management

See Appendix A For: Staff Transition Guide and PD Patient Transition Guide

Pediatric transitions

Transition phases for the pediatric patient, while like those of the adult population, are also inclusive of:

- phases of growth and development
- transition from pediatric to adult renal care programs

Transfer to adult care occurs at the end of a transition process that is individualized for each patient considering all aspects of growth and development. The transition process is multifaceted in nature involving preparation of the adolescent/young adult and the receiving adult PD program. Development of skills focusing on self management and assertion of autonomy begins in the early adolescent years for the patient on PD. Open communication with sharing of skills and information between the pediatric and adult nephrology provider is imperative for a successful transition as is the development of support structures and services for both programs. The International Society of Nephrology and the International Pediatric Nephrology Association have developed recommendations for clinical practice for transitions.

The consensus statement can be found at: https://doi.org/10.1038/ki.2011.209

See Appendix C for On Trac Clinical Pathways Forms For Transitioning A Pediatric Renal Patient To Adult Renal Care.

Additional strategies that contribute to successful transitioning to adult care for patients/families and health professionals can be found at: http://www.bcchildrens.ca/our-services/support-services/transition-to-adult-care

5.2 Patient assessment for PD suitability and referral

Upon demonstration of interest by the patient for PD, the **referring team** conducts an initial assessment to determine PD suitability. Contraindications for PD referral are traditionally classified as medical or social (*see Figure 2)*. If there are no absolute contraindications, the PD team is made aware of the patient's choice and the patient is referred to the PD program. The patient is commonly referred to the PD program by a nephrologist but may also be referred from the current modality care team or nurse navigator. The method (referral form, modality rounds, PROMIS) used to refer patients to PD is program-specific.

Referrals should include the following information:

- Patient name
- Referring clinic
- Patient aware of referral (yes, no)
- Current GFR (if pre-dialysis)
- Currently on dialysis (type)
- Previous abdominal surgery
- Comorbidities
- Modality medical contraindications
- Barriers to PD

On receipt of the referral, a suitability assessment is completed by the PD team. This is an integrated assessment incorporating the perspectives of all PD team members: physician, RN, dietitian, social worker and pharmacist.

Figure 2. Contraindications to PD

Medical Contraindications for PD

Absolute Contraindications to PD

- Documented loss of peritoneal membrane function or extensive abdominal adhesions that limit dialysate flow
- Uncorrectable mechanical defects that prevent effective PD or increase the risk of infection (e.g. surgically irreparable hernia, stomas/ conduits, suprapubic G tubes, omphalocele, gastroschisis, diaphragmatic hernia and bladder extrophy, active diverticulitis)

Relative Contraindications to PD

- New intra abdominal foreign bodies (abdominal vascular prosthesis, recent ventricular peritoneal shunt)
- Intolerance to PD volumes necessary to achieve adequate PD dose
- Inflammatory or ischemic bowel disease
- Severe malnutrition
- Frequent episodes of diverticulitis

Social Contraindications for PD

- Unmanaged active psychiatric disorders and social problems
- Patient lives in a residence that does not permit PD
- Patient's spouse or family is not supportive of PD in the home
- Patient's residence has insufficient storage space for PD supplies and equipment

Patients are assessed in the following domains:

- Physical
- Cognitive
- Functional
- Comprehension

The PD program suitability assessment includes the identification of:

- potential barriers for successful PD and appropriate solutions to address
- appropriate PD modality: CAPD, APD, PD Assist
- location for PD to be performed: home, assisted living, long term care.
- PD catheter placement location: Referral for catheter insertion
- patient's ability and readiness to learn
- individualized training plan inclusive of learning objectives, content, teaching methods and aids, and evaluation phases
- training schedule

The following potential barriers require an in depth assessment by the PD team. It is important to be aware that some of these barriers can be addressed by providing multidisciplinary specific supports:

- Limited mobility or manual dexterity, limited use of hands
- Poor vision
- Obesity (may be candidate for pre-sternal catheter)
- Multiple previous abdominal surgeries
- Colostomy (may be candidate for pre-sternal catheter)
- Active chemical dependency
- psycho-emotional capacity (e.g., lack of judgement, cognitive decline, issues with caregiver being unable to take on more)
- See Appendix D: Home Therapy Patient Assessment and Home Therapy Functional Assessment

6.0 PD modality options

6.1 CAPD, APD, IPD

Prescribing peritoneal dialysis begins with the identification of a PD modality. Both continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD) are available options in British Columbia. The decision of PD modality choice is determined by the patient and family. Most patients start on CAPD and transition to APD at a later date if deemed medically appropriate and if desired by the patient. APD is the preferred PD modality for pediatric patients.

Evidence to date suggest that the choice of PD modality should primarily be based on patient preference while providing a medically optimal PD prescription. In some situations, medical suitability may override preference, but in all other situations the team will try to respect the patient's preference.

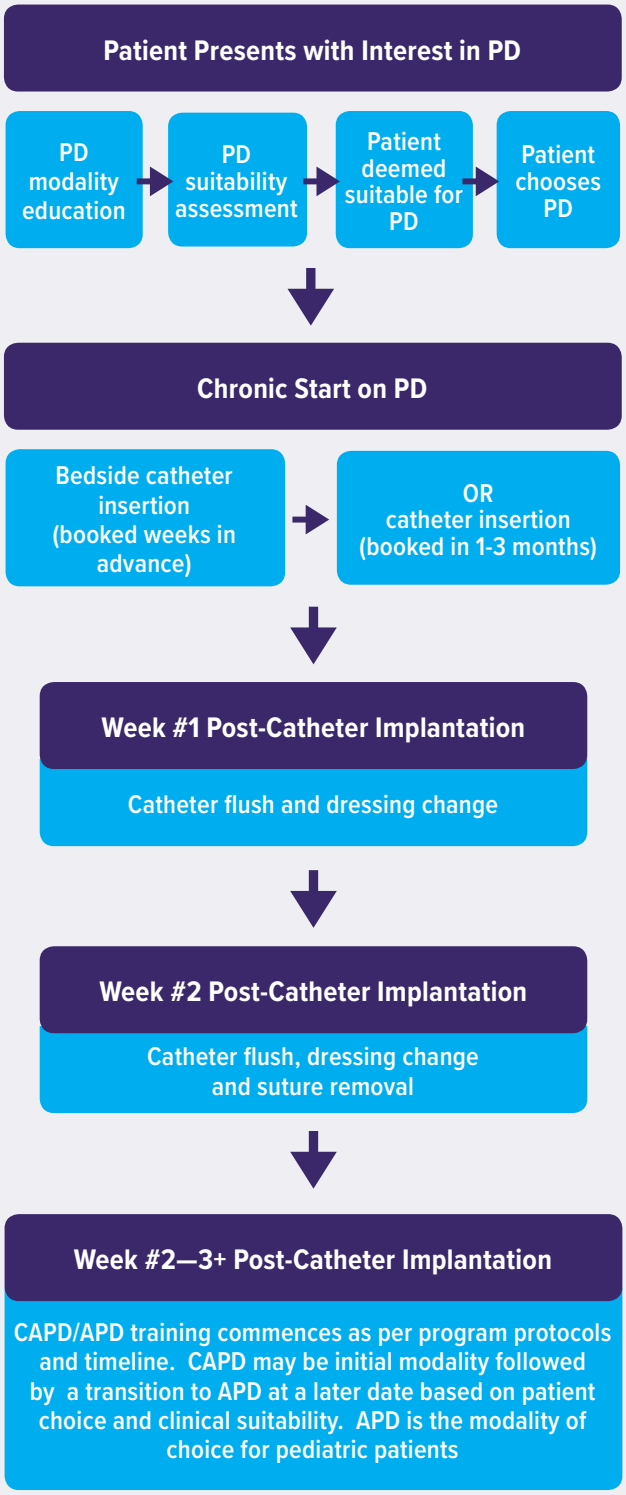
Patient preferences based on lifestyle, employment, home environment, family and social support, and the ability to perform PD procedures should be considered. Research indicates that there is no significant difference between PD modalities for outcomes related to health, quality of life, mortality, preservation of renal function, technique failure, adverse events, risk of peritonitis, adequacy outcomes, nutritional status, and anemia. (8) APD has been associated with lower risk of transfer to HD during renal replacement. Earlier data suggested that APD may have a higher survival advantage over CAPD in high transporters; however, recent data suggest that the peritoneal protein clearance and not the peritoneal membrane transport status may predict survival outcomes. (8)

Intermittent Peritoneal Dialysis

Intermittent peritoneal dialysis (IPD) offered daily or every other day is available in some programs as:

- a bridge treatment between catheter insertion and commencement of CAPD or APD if training is delayed
- break in procedure for 1 week prior to PD training
- urgent start treatment for the end stage renal disease patient who does not have an access in place for dialysis.
  - IPD is performed for the pediatric in-patient requiring acute PD for volume control
- temporary treatment for PD related complications (i.e. leaks)

Figure 3. Clinical pathway for CAPD and APD patients



Prescription management process

The primary goal of PD prescription management, regardless of modality, is to optimize patient outcomes and quality of life. *See figure 4.*

6.2 Acute PD

Urgent start PD is defined as initiation of PD in the unplanned incident end stage renal disease patient before the traditional waiting period of 2 or more weeks after PD catheter placement. Research indicates that PD is a viable option for the late presenting patient with advanced kidney disease requiring urgent dialysis. *Figure 5 on page 10 identifies the clinical pathway for urgent start PD.*

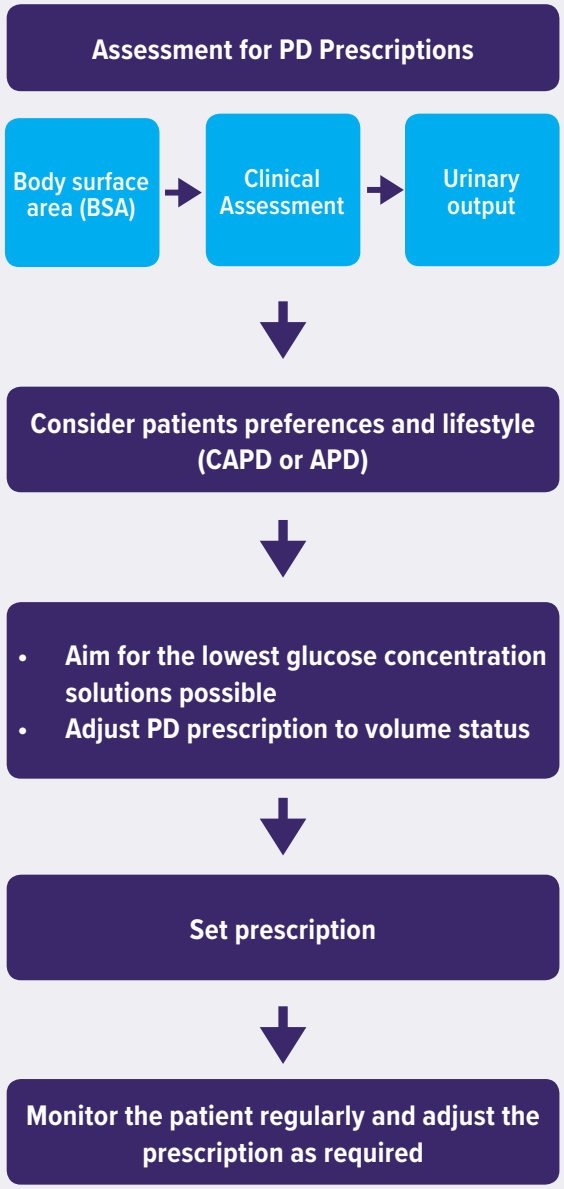
Patients suitable for Urgent/Acute PD

- Advanced CKD without a plan for dialysis
- Patients who choose home dialysis as a long term modality option but do not have an access in place
- Volume overload with cardiovascular compromise
- Acute kidney injury (AKI)
- Problematic vascular access
- Hemodynamically unstable
- Elderly with complex comorbidities

Patients requiring special consideration for Urgent/ Acute PD

- Patients requiring hernia repair

Figure 4. Assessing for PD prescriptions



- Active intra-abdominal infection (i.e. acute diverticulitis)
- Recent abdominal surgery (within the past 6 weeks)
- Recent cardiovascular thrombotic event requiring ongoing anti-platelet therapy or anti-coagulation (that cannot be safely interrupted for PD catheter insertion).

Advantages of urgent start PD

- Avoidance of temporary vascular catheters
- Requires a single procedure for both urgent and long term access
- Provides the patient with the lifestyle opportunities of home dialysis
- Allows for a gentle, incremental dialysis initiation
- Technically simpler than HD or Continuous Renal Replacement Therapy (CRRT)
- Can be initiated quickly
- More cost effective
- Less complex equipment
- Avoids vascular problems: infection, hemorrhage, thrombosis, embolism, stenosis
- Provides time to achieve fluid electrolyte balance and toxin removal before training
- Opportunity to meet and develop relationships with the PD team before self managing
- Facilitates patient/family learning by observing staff performing PD therapy
- Does not require anticoagulation
- Reduced risk of acquiring Hepatitis B and C
- Less hypotensive episodes
- Helps preserve residual kidney function longer than conventional HD
- Facilitates discharge from hospital

Urgent start PD program requirements

The success of an urgent start PD program is dependent on infrastructure requirements such as:

- Objective method of patient selection
- Urgent PD catheter placement
- Nursing support (training and staffing)
- Hospital and dialysis unit administrative support
- Developed policies and procedures
- Space for IPD
- Clinical team flexibility for rapid orientation to kidney disease and peritoneal dialysis
- Engaged patient and family

6.3 Provincial PD assist program

Peritoneal Dialysis Assist (PDA) is available in all health authorities for PD patients who meet eligibility criteria. PDA is defined as the provision of assigned PD cycler tasks in the home setting utilizing trained Caregivers (CG). Caregivers are provided training and are given responsibilities for each visit which include completing specifically assigned PDA tasks inclusive of cycler machine set up and dismantling. PDA can be provided on a long term basis or as a respite/ short term service in patients with temporary changes in their ability to perform PD.

Patient eligibility for PDA is assessed by the Nephrologist, PD nurse and PD social worker. Input

from other members of the multidisciplinary team such as occupational therapy may be included as deemed appropriate.

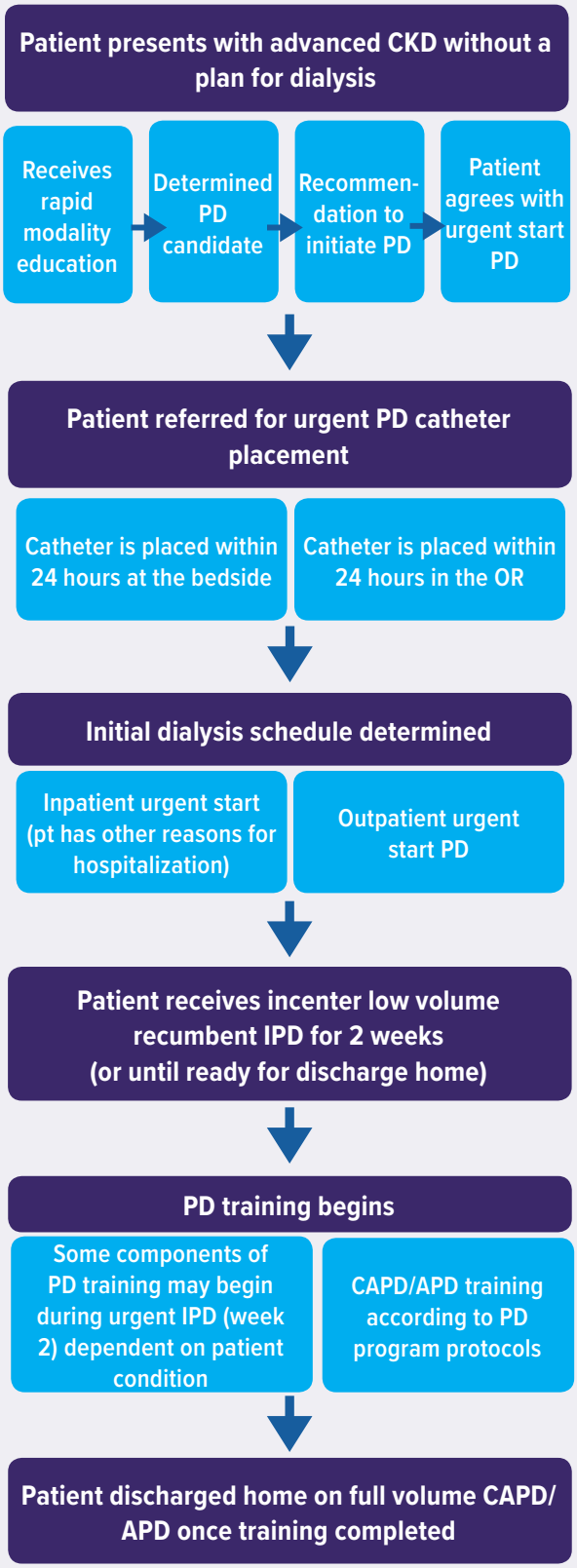
The PD client and/or support must:

- Complete PD training
- Be able to perform the procedures related to connecting and disconnecting from the cycler and associated troubleshooting of cycler complications that may occur during the therapy.
- Be able to manage all non-cycler aspects of their PD care inclusive of but not limited to fluid management, access care, effluent assessment, supply ordering.
- Be able to contact the PD program to communicate any identified concerns or problems associated with their health status or PD therapy.
- Be unable to perform the cycler set up and dismantling procedure due to physical, cognitive, psychological and or social reasons. See Appendix E: PD Assist eligibility criteria.

6.4 PD in long-term care facilities

Some PD patients may require continuous, skilled nursing care available in long-term care (LTC) facilities. PD in a long term care facility is currently available in Vancouver Coastal Health Authority and Fraser Health Authority. PD education content for long-term care facility staff is similar to PD patient and family education. (PD procedures, fluid balance, infectious and non-infectious complication management) Ongoing follow up for the patient receiving chronic PD in the

Figure 5. Urgent start clinical pathway



long term care facility is provided by the PD program. Continuing education and support are also provided to the facility staff by the PD program.

Advantages of PD in LTC

- Permits patients to remain on PD in their home environment
- Prevents costly and inconvenient transportation to and from HD three times/week
- APD at night allows the patient to remain social with other residents and participate in activities and rehab during the day.

Operational Considerations

- Identify potential LTC facilities within each HA to proactively provide PD
- Ensure that the location of the facility meets the population need
- Determine number of patients for sustainability of program
- Determine number of beds required for short/long term needs
- Requires adequate storage to ensure adequate capacity for supplies
- Determine benefits of union vs non-union environment
- Train the trainer to implement a 'train the trainer' approach for staff training
- Clarify roles and responsibilities of the PD program and the LTC facility
    - Supply ordering
    - Billing of supplies
    - Staff training
    - Patient follow up
    - CQI initiatives
    - Communication system

6.5 Pediatric PD support services

PD nursing support service is accessible to patients between 0-19 years of age based on eligibility criteria through the Ministry of Children and Family Development for 12-24 hours/week. Nursing services covering all aspects of PD care inclusive of CAPD and APD treatment is available to any pediatric patient/ family living within the province for respite care.

7.0 PD catheter implantation

Reliable Peritoneal Dialysis access is essential to high quality patient outcomes. Referrals for PD catheter should be considered when the glomerular filtration rate (GFR) is approximately 15 mL/min/1.73m2(23) while factoring local PD program catheter placement options, timelines and patient needs. Minimal expectation is that surgical catheter insertion should be performed at least 2 weeks before starting peritoneal dialysis (3). The access should be placed early to ensure the patient can train for peritoneal dialysis while residual renal function is adequate to avoid the need for urgent hemodialysis and a central venous catheter insertion. Repeated hospitalizations for procedures related to the urgent need for dialysis or potential uremic

complications because of this delay should be avoided (23).

Randomized control trials do not exist to support one method of implantation (3). The method of catheter insertion is therefore determined by a variety of factors inclusive of patient and program circumstances. It is suggested that positive clinical outcomes for PD catheter insertion are dependent on appropriate patient selection, preparation, perioperative care and training. The 2010 ISPD Clinical Practice Guidelines for Peritoneal Access recommend that local expertise at individual centres should govern the choice of method of PD catheter insertion (8).

In BC, chronic PD catheters are inserted in three ways:

a) As a surgical procedure in the operating room performed by a vascular or general surgeon. May be done using an open incision and surgical dissection (laparotomy) or a laparoscopic technique. Both are done as same day or short stay (1 – 2 day post-operative stay) procedures and under a general anaesthetic. The need for surgical method involving direct vision with open insertion is determined by patient characteristics, such as history of significant abdominal surgeries, the need for hernia repairs, vascular access failure or severe liver disease (22). In some parts of the province, surgical catheter insertion is the only available option for PD patients. Surgical PD catheter insertions may include buried catheter and pre sternal implantation as determined appropriate for the patient and the program.

See appendix F: Provincial Guideline: Indications and urgency criteria for surgical peritoneal dialysis catheter access: Procedures on Adults

b) As a "bedside" (non-surgical) procedure in a non-surgical setting performed by a nephrologist who has had specialized training in this technique. This is completed as an outpatient procedure and may involve an overnight stay. Procedures are done using a local anaesthetic +/- an anti-anxiety medication, narcotics or conscious sedation.

See BCPRA website for Bedside catheter insertion guideline: www.bcrenalagency.ca ➡ Health Professionals ➡Clinical Resources ➡Peritoneal Dialysis

c) As a radiological procedure in a fluoroscopic radiology setting performed by an interventional radiologist.

Regardless of the method of insertion, the exit site should be allowed to heal for approximately 2-3 weeks before commencing PD exchanges. Special considerations of using small volumes with the patient in the supine position should be implemented if the catheter is required immediately following insertion.

8.0 Patient goal setting, training/ education and treatment planning

In British Columbia, initial patient PD training and

ongoing education will be provided by a PD trained registered nurse with experience in teaching and learning. Ideally, the timing of PD teaching will be coordinated with the healing of the exit site post catheter insertion. The International Society for Peritoneal Dialysis (ISPD) recommends that all nurses new to nephrology should receive at least 12 weeks experience within a PD unit with observation of procedures, patient education, and clinical care. PD nurse trainers should be supported by continued education to ensure skills remain up-to-date and they continue to have the ability to apply the principles of adult learning.

Patient training for PD is an essential activity in PD programs involving the multidisciplinary team adopting evidence based practice with PD guidelines, protocols and care standards. Individualizing patient training involves:

- Family members and or significant other may be included in the training to provide support for the patient
- Modifying the length of the training sessions to accommodate the patient's ability to concentrate and assimilate information without feeling overwhelmed
- Evaluating the patients progress and readiness to assume responsibility for home PD activities

The success of a PD training program is dependent on:

- Multidisciplinary team approach
- A dialysis modality education program and pre training assessment that prepares patients for PD training
- Supportive counseling and effective communication that enhances patient acceptance of and compliance with PD treatment
- A focus on learning objectives and training tailored to the unique needs of each patient
- Incorporation of goal setting and adult learning principles
- Prompt management of dialysis related complications
- Consistent monitoring of PD training
- Continuous patient education and retraining of patients when necessary

Goal-setting and treatment planning are important components of self-management in PD with the patient in the centre of the collaborative process. Important concepts to teach patients in relation to goal-setting/ treatment planning/self-management include:

- Strategies to incorporate goal setting into treatment planning
- Stages of change and the relationship to setting and achieving goals
- Setting SMART goals and action plans
- Available resources to support self-management and goal setting

PD training should be developed to meet the patient's individual needs by implementing a multifaceted approach with content based on learning principles.

Learners:

- need to be free to direct themselves about what to learn.
- appreciate an educational program that is organized and has clearly defined elements and goals.
- learn better when convinced of the need for knowing the information
- focus on the aspects of a lesson most useful to them in their everyday lives.
    - Educators must then relate theories and concepts which match the learner's own experience and knowledge of the topic
- need to be shown respect and treated as equals.

8.1 PD teaching support and tools

Teaching tools and strategies should be incorporated into the PD training plan to meet specific individual learning styles:

- written materials, manuals, printed handouts, posters
- demonstrations incorporating a hands on approach
- online eLearning PD modules www.bcrenalagency.ca ➡ Health Professionals ➡Clinical Resources ➡Peritoneal Dialysis
- videos, audio recordings of procedures
- role playing
- situational scenarios
- PowerPoint presentations
- abdomen practice mannequins: dummy tummy
- discussion, follow up phone contact, web chats
- peer support as deemed appropriate

8.2 Training location

The key to a suitable teaching environment is one that is physically and psychologically comfortable for the learner. The dedicated space should be well lit, free from minimal external distractions, large enough for supplies, teaching aids, patient, family and PD nurse. Appropriate locations for training may take place in:

- PD clinic
- Patient's home
- Hospital room
- Any location set up for specific dedicated PD training

8.3 Length of training

Preferably a 1:1 nurse to patient approach is utilized for initial training. The same PD RN should be involved for the duration of training for consistency. A primary care or case management approach should be incorporated post training for patients ongoing care.

The length of training is based on several factors; patient's attention span, current uremic symptoms and ability to process information. On average, training for CAPD is usually completed in 4-5 days with an

additional 1-2 days for APD training. Research has not demonstrated a correlation between length of training and outcomes therefore it is suggested that training should continue until the PD RN determines that the patient can meet the following training objectives:

- Able to safely perform all required procedures
- Recognizes contamination and infection
- Able to identify appropriate responses to specific complications/situations
- Understands when and how to communicate with the PD dialysis clinic

Training sessions should be held on consecutive days with frequent breaks scheduled according to the patients learning style and pace. Minimizing new concepts to no more than 4 new concepts/hour is recommended.

8.4 Training content

A teaching plan should include the following:

- Overview of PD
- Aseptic technique, handwashing, masking
- Steps in the exchange procedure
- Emergency measures for contamination
- Exit site care
- Complications of PD
  - Peritonitis
  - Exit site infections
  - Fluid balance
  - Inflow/outflow problems
  - Constipation
  - Fibrin
  - Leaks
  - Pain
- Troubleshooting
- Record keeping
- Supply ordering
- Clinic visits, labs

8.5 Follow-up and retraining

Follow up multidisciplinary care is a key requirement of PD care. Clinic visits, telephone contacts, home visits, continuing education, community support and patient record keeping assist in the reassessment of patient learning needs and/or teaching.

Ongoing education following initial training may be provided using:

- an individual or group format
- discussed as part of a PD clinic appointment(s)
- during home visits
- during phone, web chat contact

Retraining of PD patients results in potential prevention or reduction of PD associated complications with root cause analysis to prevent recurrence. Periodic review of hand washing technique, steps of an exchange, connection procedures and exit site care helps to identify adherence to protocols while determining if the patient's abilities to perform procedures and understanding of PD concepts has changed over time.

PD retraining is suggested following:

- Initial training on an annual basis and/or as identified
- Change in dialysis modality
- Equipment changes
- Home setting changes
- Dialysis partner changes
- Change in medical condition
- Infection (peritonitis, exit site, tunnel)
- Prolonged hospitalization
- Any interruption in PD

8.6 Home visits

While research is limited in drawing correlations between home visits with clinical outcomes; it is recommended that home visits be scheduled as part of patient care when deemed necessary and possible to achieve. Benefits of home visits provide visualization and insight into the adaptation of PD into the patient's daily life permitting the ability to alter or modify treatment parameters to achieve positive clinical outcomes.

Considerations for home visits include:

- Post lengthy hospitalizations
- Post peritonitis episodes
- Identified changes in patients/family's ability to self manage, and/or cope with aspects of care
- Evidence of care giver burn out

9.0 PD patient follow up

PD patients require frequent monitoring, assessment, guidance and support as they dialyze independently at home. Frequency and type of follow up is tailored to the patient's specific needs.

9.1 Clinic appointments

Stable adult PD patients are followed at multidisciplinary clinic appointments at a minimum of every 3-4 months. Pediatric patients are seen every 4-6 weeks. Frequency of clinic appointments are determined by the multidisciplinary team based on patient care needs and preferences, ability of patient to self-manage and geographic distance to the clinic. Clinic appointments are a collaborative process. The patient assessment includes but is not limited to:

- Medical
  - Comprehensive physical assessment/change in physical status/ comorbidity and symptom review
    - SOB, Chest pain, muscle cramps, constipation, diarrhea, pruritus, appetite changes, nausea/vomiting, insomnia, restless legs, pain, falls
  - Vital signs
  - PD regimen and current prescription
  - Exit site assessment
  - Catheter function
  - Volume status

    - Peritoneal ultrafiltration, solute transport (Adequacy/PET/ 24 hour urine)
- Peritonitis/exit site and tunnel infections
    - Culture results
- Foot assessment
- Review of recent hospitalizations
- Exercise routine
- Transplant status
- Chemistry and hematology review
- Diagnostic testing
- Psycho social review (patient and family support)
- Nutritional assessment and management
- Medication review
- Patient goal setting
- Learning needs and continuing education when indicated
    - PD technique review

9.2 Laboratory testing

The following tests are recommended; however, type of test and frequency is at the discretion of each PD program and health authority and the need of the patient.

ADULT PD PATIENT	INITIATION OF PD	MONTHLY	EVERY 3 MONTHS	EVERY 6 MONTHS	ANNUALLY
CBC, Na, K+, Cl-, Ca2+, PO4, HCO3-, BUN, Albumin, RBS, Creatinine					
HbA1C (diabetics), Ferritin, Fe, TIBC, %Sat., PTH					
AST, Alk Phos					
TSH, HbsAg, AntiHBs,AntiHBc, HCV					
Lipid profile					
Transplant antibodies (if applicable)					
Peritoneal equilibration test (PET): performed 4-6 wks. post training and then PRN					PRN
24 hour adequacy collection: (dialysate and urine) performed 4-6 wks. post training and PRN following					PRN
24 hour urine collection (if applicable)					
ARO testing					
Viral Hepatitis B, C, HIV					
TB screening (questionnaire, chest x ray, interferon gamma release assay)					

PEDIATRIC PD PATIENT	INITIATION OF PD	MONTHLY	EVERY 3 MONTHS	EVERY 6 MONTHS	ANNUALLY
BUN, Cr, Na, K, Cl, HCO3, Mg, glucose, Ca, iCa PO4, alk phos, albumin, CRP, PTH, CBC, diff, platelets, retic count, Fe, ferritin, transferrin sat	■	■			
Uric acid, Vit B12, TSH, total protein, 1,25 dihydroxy, 0,25 hydroxy			■		
Hep C, Hep A, HSV, CMV, EBV, VZV, MMR, cholesterol (HDL/LDL), triglycerides, selenium, zinc, AST, ALT, GGT, billirubin (conj/unconj)				■	
Anti-HBs, HBsAg, Total Anti-HBc, HIV					■
Transplant antibodies (if applicable)		■			
Peritoneal equilibration test (PET): performed when patient reaches optimal fill volume (4-8 weeks post PD initiation)	■			■	
24-hour adequacy collection: (dialysate and urine) with PET and every 6 months following	■			■	
24-hour urine collection (if applicable) performed with PET and every 3 months following	■		■		

10.0 PD guidelines and protocols

Evidence based practice is a principal element in achieving positive clinical outcomes. The availability of PD guidelines, protocols and standards at a local, provincial and international level are to be implemented to provide standardized, safe, efficient, cost effective, and quality care for the patient on PD.

10.1 International Society for Peritoneal Dialysis (ISPD) Guidelines

The International Society for Peritoneal Dialysis (ISPD) has developed several adult and pediatric guidelines that support best practice in PD. Guidelines can be found on the ISPD website (ispd.org) for the following guidelines:

- Acute Kidney Injury
- Cardiovascular and Metabolic guidelines
- Encapsulating peritoneal sclerosis
- Infection recommendations (adult and pediatric)
- Peritoneal access
- Solute and fluid removal
- PD training
- Assessment of growth and nutritional status in children
- Elective chronic peritoneal dialysis in pediatric patients

10.2 Provincial standardized PD protocols

BC standardized protocols and procedures are developed by the BCPRA PD committee and the PD RN group. These procedures are based on current evidence and experience. PD procedures for the adult population can be found at: www.bcrenalagency.ca ➡ Health Professionals ➡Clinical Resources ➡Peritoneal Dialysis

Pediatric PD procedures can be found at: www.bcrenalagency.ca ➡ Health Professionals ➡Clinical Resources ➡Peritoneal Dialysis

http://policyandorders.cw.bc.ca

10.3 PD provincial and program evaluation and recommended outcome indicators

Key performance indicators in three primary categories of recruitment, retention and maintenance are evaluated at a Provincial and program level. An annual gap analysis identifies quality improvement opportunities and supports the development of associated action plans to support quality PD care.

Clinical practice changes over time. Monitoring, surveillance and regular analysis are an integral part of informing that change. Quality or performance indicators can be monitored at a higher level (e.g. PD

committee, BCPRA executive, PHSA/MoH Board) to facilitate the design and funding of programs, as well as to ensure effectiveness and efficiency of overall PD care delivery. More importantly, these same indicators should be used at the program level to create and maintain PD programs that meet patient needs, promote excellence in clinical care and explore ways to improve all aspects of the health care system for patients and providers.

These processes ask questions such as:

- Is what I am doing right now worthwhile? Is it improving patient care?
- What should we be doing to improve patient care that we are not currently doing?
- How effective is our program?
- How do we compare to other programs?
- What are we doing that is unique and we could share with other programs?
- Do we meet local, national and international standards?
- What is missing from our program that we believe will improve care? How can we demonstrate that?

10.3.1 Provincial key performance indicators

Provincial indicators are to be summarized with BC as a whole. The report will be generated and maintained by the Provincial Renal Agency and will be disseminated to PD programs at predetermined intervals. A selected set of indicators are reported to PHSA Board (Peritonitis Rate, % dialysis patients on PD or Home HD) and Ministry of Health (% dialysis patients on PD or Home HD). They will be reviewed by the Provincial PD Committee. These are often "background" program statistics that may not be acted on at the program level however, are necessary to ensure consistency and monitor trends over time

Recruitment

- Number of PD referrals - % PD intake
  - GFR at referral
  - GFR at start of dialysis
- % pts starting PD as preferred modality choice
  - Reasons for pts who did not initiate PD as preferred modality choice:
    - Changed mind
    - Change in eligibility
    - Acute deterioration of GFR and started HD
      - Number of patients who transferred to PD after HD start
      - Timing of transfer to PD after HD start
    - Recovered renal function
    - Transplant
    - Death

Retention/maintenance

- % prevalent patient
- Unexpected early attrition
  - PD exits at 6 months post commencement of PD therapy
  - PD exits at 1 year post commencement of PD

therapy
- Cause specific PD attrition rates by reasons
  - all PD exits
- # patients having temporary HD annually--reason
- # PD exits each year by reasons
  - Death / dialysis withdrawal
  - Death within 1 month of PD initiation
  - Transplantation:
    - PD not suitable (Transfer to HD)
    - Infection
    - Catheter related problems
    - Inadequate dialysis
    - Catheter unrelated Abdominal complications
    - Psychosocial
  - Comorbidities
  - Move
  - Lost to follow up
  - Recovered function
- 1 year PD survival rate (length of time on therapy)
- Infection rates
  - Peritonitis
  - Exit site
  - Tunnel
  - Causative organism
- Catheter insertion
  - Bedside
  - Surgical
    - GFR at time of catheter insertion
- Catheter removal rates by reason
  - Infection
  - Catheter related problems
  - Inadequate dialysis
  - Catheter unrelated abdominal complications
  - Psychosocial
  - Comorbidities
  - Transplant
  - Recovered function
- Hospitalizations
  - Reason
  - Length of hospitalization
  - Modality discharge status
- PD assist outcomes
  - Number of referrals
  - Long term
  - Respite
- Number of PD patient using PDA service
  - Demographics (compared to provincial PD population):
    - Age
    - Gender
    - Diagnosis
  - Length of time on PDA
  - Reasons for exiting long term care PDA:
    - Death
    - Conservative management
    - Technique failure
    - Social reasons
    - Returned to independent home pd
    - Long term care placement
  - Hospitalizations
    - Reason
    - Length of hospitalization
    - Modality discharge status

10.3.2 PD program key performance indicators

Program indicators may be collected by the PRA and/or the PD programs. It is recommended that each program review quality indicators twice yearly or if a clinical question/event indicates that a review may be needed (i.e.: a sudden change in exit site infections for example).

These indicators could also be used to identify quality improvement projects that would guide practice and clinical guidelines in the future. These can be shared with all the programs across the province and at international meetings.

The following key performance indicators are listed as potential considerations for review by each PD program.

Recruitment

- Total number of referrals to PD
- Time from access referral to access creation
- Time from referral for dialysis initiation to initiation of training
- Acute vs planned start
- Number of patients starting on PD as a preferred modality
- Number of patients transitioning to PD from other modalities
- Total number of PD starts (PD uptake)

Maintenance/Retention

- Number of prevalent PD pts
  - Number of patients at Home
  - Number of patients on PD in Long term care
  - Number of patients receiving PD assist
- Number of patients meeting ISPD guideline targets
  - Solute and fluid removal
  - PD specific infection rates
    - Peritonitis
    - Exit site
    - Tunnel
    - Causative organisms
  - Anemia management
  - Bone mineral metabolism
- Hospitalization rates and reasons
- Temporary transfer to HD—reasons and time
- Quality of life
  - A suggested measure of Quality of Life (QoL) is the use of a modified version of the Edmonton Symptom Assessment System (ESAS) which is well-accepted for assessing the physical and psychological symptoms of patients with End Stage Renal Disease. When administered on a regular basis, the ESAS tracks changes in the severity of symptoms, which will trigger an action plan on the part of the PD team. This tool can be found at: www.bcrenalagency ➔Health Info ➔Managing My Care ➔Symptom Assessment and Management
- Unexpected early attrition
  - PD exits at 6 months post commencement of PD therapy
  - PD exits at 1 year post commencement of PD therapy

- Cause specific PD attrition rates by reasons
  - All PD exits
    - Death / dialysis withdrawal
    - Death within 1 month of PD initiation
    - Transplantation
      - PD not suitable (permanent transfer to HD)
      - PD Infection
      - Catheter-related problems
        - Initial nonfunction
        - Migration
      - Solute/water clearance
      - Abdominal complications
      - Psychosocial
        - Loss of caregiver,
        - Unable to cope
      - Medical reasons—comorbidities
        - Move
        - Lost to follow up
        - Recovered function
- 1 year PD survival rate (length of time on therapy)
- Infection rates
  - Peritonitis
  - Exit site
  - Tunnel
- Catheter insertion
  - Bedside
  - Surgical
  - Radiology
  - GFR at time of catheter insertion
- Catheter removal rates by reason
  - Infection
  - Catheter related problems-
  - Solute/UF clearance
  - Abdominal complications
  - Psychosocial
  - Medical reasons
  - Transplant
  - Recovered function
- Catheter insertion complications
  - Perioperative complications
    - Bowel perforation and/or significant hemorrhage
  - Early infections within 2 weeks of catheter insertion
  - Dialysate leak
  - Catheter dysfunction at the time of first use requiring catheter manipulation or replacement
- Number of patients requiring temporary HD
  - Percentage and timing of patients who return to PD following temporary HD
- Number of patients trained on PD
- Number and reason of patients initiating training but not completing
- Length of PD training
- Number and reason of patients retrained on PD
- Number and indications for home visits

11.0 Advance Care Planning

In September 2011, legislation came into effect to provide British Columbians with *improved options for expressing their wishes about future health care decisions. This legislation allows capable adults to put plans into place that outline the health care treatments they consent to or refuse based on their beliefs, values and wishes.*

The province of British Columbia and the BC Ministry of Health, in partnership with BC health authorities and health care providers, developed and published a resource for British Columbians to help with advance care planning (ACP).

The advance care planning guide can be found at: My Voice: Expressing My Wishes for Future Health Care Treatment

To assist patients, use the My Voice planning guide: My Voice companion

The BCPRA has prioritized the advance care planning process as an essential part of renal care. ACP discussions should take place throughout the patient journey and be revisited every time a patient's medical condition changes.

The primary goals of ACP are:

1. To enhance patient and family understanding of their End Stage Renal Disease (ESRD) and End of Life (EOL) issues, including prognosis and likely outcomes of renal replacement therapies and alternative plans of care.
2. To define the patient's key priorities in EOL care and develop a care plan that addresses these issues. Advance care planning is an effective tool for facilitating communication among patients, their families and the health care team and is integral to providing high quality dialysis care.
3. To enhance patient autonomy by shaping future clinical care to fit the patient's preferences and values.
4. To improve the health care decision process generally, including patient and family satisfaction.
5. To identify a substitute decision-maker for future medical decision-making (as appropriate).
6. To help the substitute decision-maker understand their role in future medical decision-making.
7. To promote a shared understanding of relevant values and preferences among the patient, substitute decision-maker and health care providers.

Visit the BCPRA website for more information: www.bcrenalagency.ca → Health Professionals → Clinical Resources → Palliative Care

Advance Care Planning Documentation

Documentation is an essential component to ACP. Documented discussions will improve the care of patients entering the final stages of their lives through:

- Gathering information about ACP activities that have occurred throughout the life of the renal

patient
- Track activities as the patient interact with any BC renal program and modality (i.e. CKD, HD, HHD, PD, Transplant)
- Offer a report that may assist programs identify patients who may need focus on ACP activities based on GFR levels

Documenting ACP discussions must be entered in PROMIS. The diagram on page 27 will help the user navigate the PROMIS module for ACP. The ACP module in PROMIS is not a comprehensive charting tool for ACP- it is a tracking tool for patient and program planning purposes. Entering this information will later assist in identifying which PD patients still need conversations as well as help improve the services offered to all patients.

Symptom Assessment and Management

The symptom burden of PD patients can be extensive, severe and with significant impact on quality of life. The Modified Edmonton Symptom Assessment System (mESAS) has been recognized in the literature as and effective tool for assessing symptoms in ESRD patients and is recommended to be completed on a routine basis with all renal patients.

The mESAS can be found on the BCPRA website at: www.bcrenalagency ➔Health Info ➔Managing My Care ➔Symptom Assessment and Management

Guides to assist with symptom burden for both health care professionals and patients can be found at: www.bcrenalagency ➔Health Info ➔Managing My Care ➔Symptom Assessment and Management

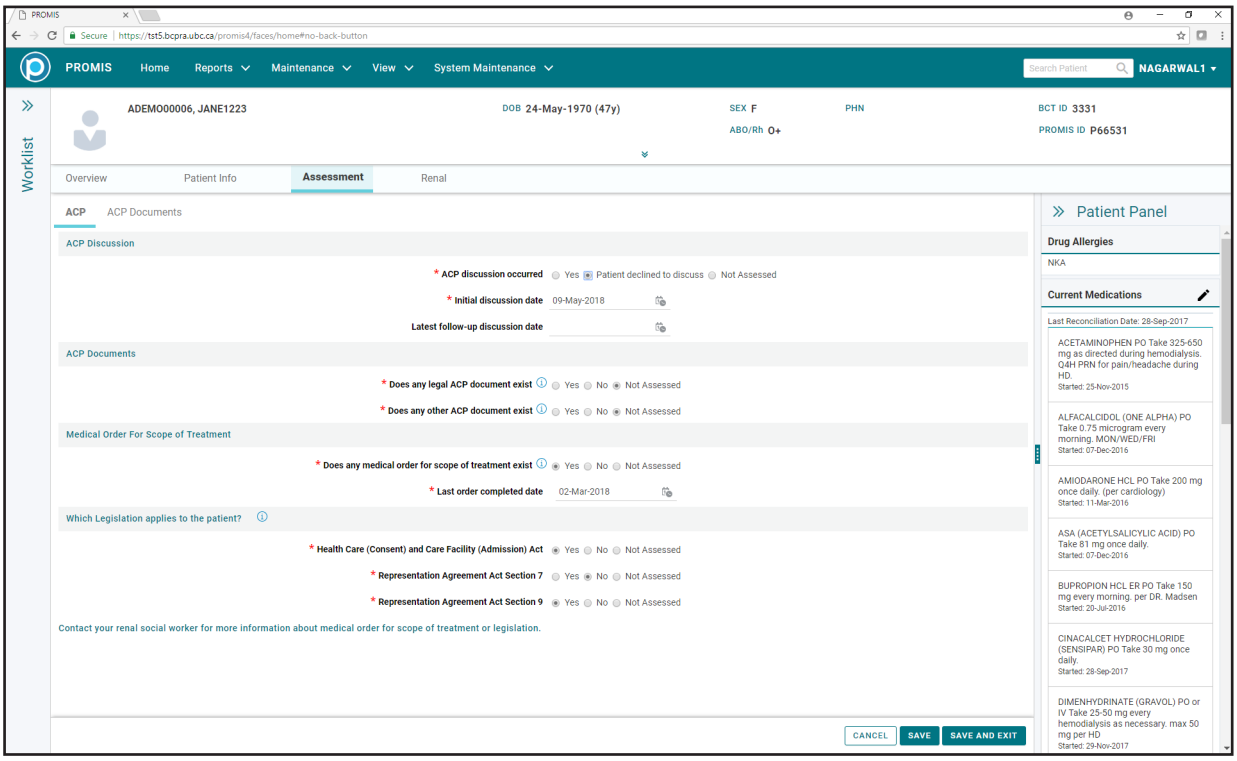
11.1 Pediatric considerations for the appropriate choice of conservative care or renal replacement therapy

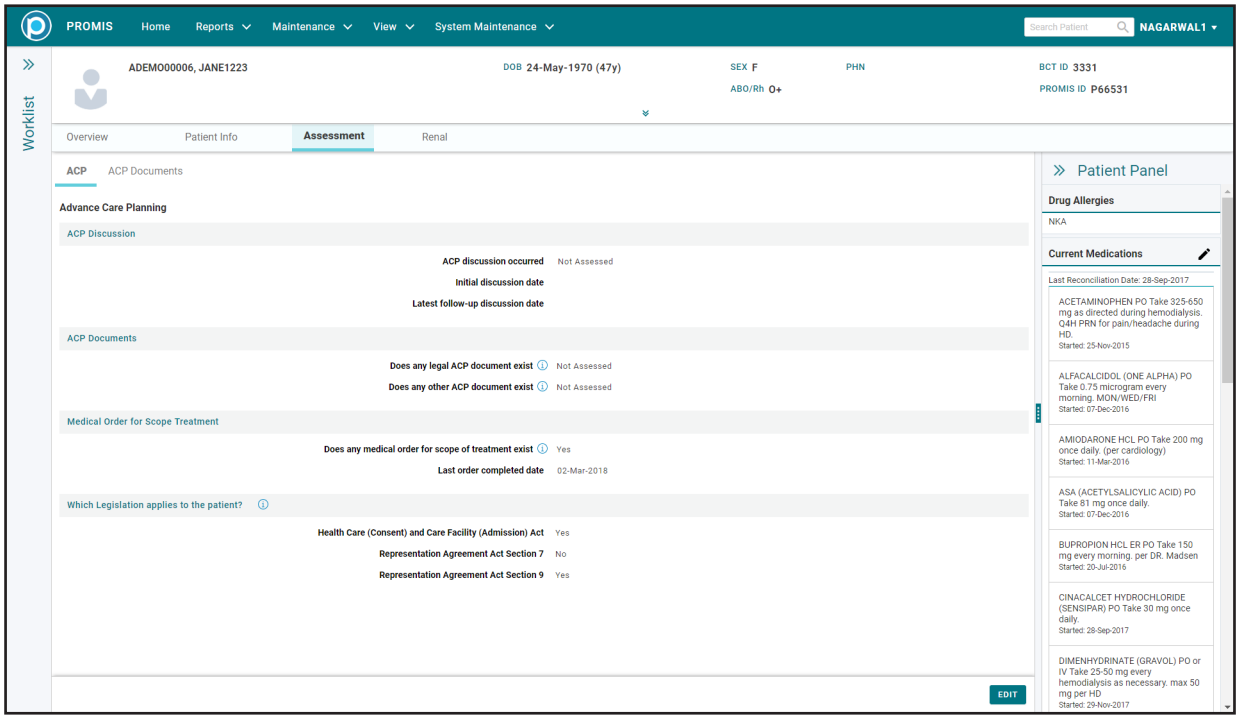
An ethical decision-making framework for the appropriate choice of conservative care or renal replacement in infants and children with ESRD has been developed to help determine if the burdens of dialysis outweigh the benefits for a pediatric patient and family. The framework helps guide the discussion between the healthcare team and family factoring medical considerations, quality of life determinants, patient and family preferences and contextual features. Summary recommendations for shared decision-making regarding the withholding and withdrawing of dialysis in pediatric practice: (5)

Recommendation 1: Develop a patient–physician relationship that promotes family-centered shared decision-making for all pediatric patients with AKI, CKD, and ESRD.

Recommendation 2: Fully inform patients with AKI, stage 4 or stage 5 CKD, or ESRD and their parents about the diagnosis, prognosis, and all appropriate treatment options. Inform children and adolescents in a developmentally appropriate manner, and if feasible, seek their assent about treatment decisions.

Advance Care Planning Module (PROMIS)





Recommendation 3: Facilitate informed decisions about dialysis for pediatric patients with AKI, CKD, or ESRD, discuss prognosis, potential complications, and quality of life with the patient, parents and/or legal guardian.

Recommendation 4: Establish a systematic due process approach for conflict resolution if disagreements occur about dialysis decisions. Use conflict resolution interventions when family members disagree with one another, when children disagree with their parents, when families disagree with the health care team, or when the health care team disagrees about initiating, not initiating, or withdrawing dialysis.

Recommendation 5: Institute family-centered advance care planning for children and adolescents with AKI, CKD, and ESRD. The plan should establish treatment goals based on a child's medical condition and prognosis.

Recommendation 6: Forgo dialysis if initiating or continuing dialysis is deemed to be harmful, of no benefit, or merely prolongs a child's dying process. The decision to forgo dialysis must be made in consultation with the child's parents. Give children and adolescents the opportunity to participate in the decision to forgo dialysis to the extent that their developmental abilities and health status allow.

Recommendation 7: Consider forgoing dialysis in a patient with a terminal illness whose long-term prognosis is poor if the patient and family are in agreement with the physician that dialysis would not be of benefit or the burdens would outweigh the benefit.

Recommendation 8: Consider the use of a time-limited trial of dialysis in neonates, infants, children, and adolescents with AKI or ESRD to allow for the assessment of extent of recovery from an underlying disorder.

Recommendation 9: Develop a palliative care plan for all pediatric patients with ESRD from the time of diagnosis and for children with AKI who forgo dialysis. The development of a palliative care plan is a continuation of the process of advance care planning and should be family-centered.

12.0 PD multidisciplinary healthcare team: roles and responsibilities

The PD multidisciplinary health care team includes:

- Nephrologist
- Registered nurse
- Registered dietitian
- Registered social worker
- Pharmacist/pharmacy tech
- Licensed practical nurse (LPN)
- Unit clerk

Additional team members for pediatric programs includes:

- Psychologist
- Child life specialist

12.1 Peritoneal dialysis team functions

A successful PD program is dependent on the expertise of all members of the multidisciplinary team, thereby maximizing the utilization as well as quality of PD. All members should work in collaboration with patients and their families to develop patient-centered management plans, goal setting and advanced care planning. To ensure effective and cohesive teamwork among PD team members, definition and understanding of individuals' roles is important.

12.2 Nephrologist

Nephrologists may be involved with the patients' transition to PD from pre- dialysis care or from an alternative modality of renal replacement therapy. Often, the nephrologist specializing in PD care can differ from the patient's primary nephrologist, and transition of care should occur between physicians once the patient has undergone PD catheter insertion. Nephrologists work in partnership with the multidisciplinary team to establish therapeutic relationships which focus on delivering patient centred care. They play important roles in pre-dialysis counselling, catheter insertions, patient treatment, and quality management, among others.

12.3 Registered Nurse

The PD nurse has many important roles, including that of a patient caregiver, educator, and care coordinator. The PD nurse provides ongoing education and support for patients throughout their PD journey and ensures continuity of care between the patient and wider healthcare team incorporating a case management approach. The RN is integral at maintaining and managing relationships and communication between PD product vendors and the PD program and patients. Patients often rely on their PD nurse as the principal source of advice on many aspects of treatment.

12.4 Registered Dietitian

The significant role of nutrition in the care of dialysis patients is well documented. The registered dietitian provides education and clinical guidance to assess patients' nutritional needs, develop and implement individual nutrition programs and monitor and evaluate the patients' response.

12.5 Registered Social Worker

The registered social worker is essential to the wellbeing of patients as they transition and adjust to all phases of renal care. They work collaboratively with the healthcare team to develop a plan of care inclusive of assessment, support, consultative and direct

services to address patient needs related to high social determinants of health and risk factors in adaptation to chronic illness, self-care and self-management.

12.6 Pharmacist

Peritoneal dialysis patients often require multiple pharmacotherapies and complicated drug regiments to manage their condition. The pharmacist works in collaboration to provide medication compliance counseling, drug interaction screening, medication reconciliation, evaluation and interpretation of drug level assays, education for staff and patients and enhanced overall medication management.

12.7 Licensed practical nurse (LPN)

The LPN works collaboratively with the RN to perform procedures for PD patients with stable and predictable states of health. The LPN can work in PD programs after successfully completing unit specific training in peritoneal dialysis.

12.8 Unit Co-ordinator (Unit Clerk)

The unit clerk provides administrative support to ensure day to day operations of PD programs are seamless and efficient.

Description of specific roles and responsibilities can be obtained by contacting the lead chairperson for each discipline. Information can found by contacting: bcrenalagency.ca

13.0 Health care clinician training

Initial and ongoing training and education is a key component of a successful PD program. A variety of educational support opportunities are available for all members of the multidisciplinary team at a local, provincial, national and international level. Resources to consider are structured training programs, continuing education opportunities, mentorship from senior members of the multidisciplinary team, conferences and literature/internet resources.

13.1 Resources

- Advanced nursing online PD course offered by BC Institute of Technology (BCIT) PD education. Funding is provided by the BCPRA for the newly hired nurse working on a PD unit and/or current PD nurses seeking additional professional development training. Course content and objectives can be sourced at: https://www.bcit.ca/
- A full discussion of adult learning can be found in the ISPD guidelines - ISPD and the University of Pittsburgh -Teaching Nurses to Teach: Peritoneal Dialysis Training: https://ispd.org/teaching-nurses/

- ISPD Guidelines- Peritoneal Dialysis Patient Training -2006: https://ispd.org/NAC/education/pd-curriculum/
- CANNT nursing standards: https://www.cannt.ca
- Industry provided specific training programs and information.
- Baxter- PD University: http://kidneycampus.ca
- Baxter- Home Therapies Institute/Team PD: http://www.homebybaxter.com
- Introduction to PD Catheter Insertion Course- Kidney Campus, McMaster University is suggested: http://www.cmas.ca/pd-insertion
- PD University for Interventionist Nephrologists and Interventionist Radiologists is another option for Nephrologists: http://www.ispd.org
- Canadian Society of Nephrology (CSN): https://www.csnscn.ca
- ISPD Home dialysis University: www.ispd.org
- You Tube: www.ispd.org
- The Kidney Research Scientist Core Education and National Training Program (KRESENT): www.krescent.ca
- American Society of Nephrology (ASN) Education and Meetings: http://www.asn-online.org
- Royal College of Physicians- CPD Program Accreditation- Provider of continuing professional development for the maintenance of certification (MOC) https://www.cpsbc.ca/library/cpd
- The ISPD Fellowship Courses: http://www.ispd.org
- Peritoneal Dialysis Curriculum: http://ispd.org/NAC/education/pd-curriculum
- Renal Fellow Network-National Kidney Foundation: http://www.nkf.com
- American Society of Nephrology- Career Resource Videos: http://www.asn-online.org
- American Society of Nephrology - Dialysis Virtual Mentor https://www.asn-online.org/education/training/mentors/
- Peritoneal Dialysis Academy: http://www.uab.edu/medicine/nephrology/
- Tools for Detection, Monitoring and Referral of CKD: https://www.csnscn.ca
- Continuing medical education (CME) individual activities for **family physicians:** https://www.kidney.org/professionals/physicians
- Chronic Kidney Disease Education webinars to General Practitioners are offered on a quarterly basis: https://bcrenalagency.ca

13.2 Conferences

Annual conferences are designed to provide continuing education on relevant renal subjects targeting the multidisciplinary team. The following recommended renal conferences include:

British Columbia

- Western Canada PD Days bcrenalagency.ca
- BC Kidney Days bcrenalagency.ca/bc-kidney-days

National

- Canadian Society of Nephrology (CSN) csnscn.ca

- Canadian Associations of Nephrology Nurses and Technicians (CANNT) cannt.ca

North American

- Annual Dialysis Conference annualdialysisconference.org
- American Nephrology Nurse Associations (ANNA) annanurse.org

International

- International Society of Peritoneal Dialysis (ISPD) ispd.org
- European Renal Association-European Dialysis and Transplant Association (ERA-EDTA) http://web.era-edta.org/

14.0 Recommended allocation of resources for PD

14.1 BCPRA PD Funding Model

The funding for PD service delivery is provided by the ministry of Health and allocated based on patient volumes. The mandate of BCPRA is to advocate for funding to support delivery of services in an equitable manner throughout the province. Operation and delivery of services is the responsibility of the health authority renal programs. In 2003, BCPRA developed an activity-based funding approach for kidney patients with the overarching objective of establishing a sustainable model for renal services. BCPRA is accountable for the entire provincial renal budget in partnership with the health authority renal programs. Once renal funding is delivered to a health authority, the funds can be used at the discretion of its renal program, allowing the ability to address regional targets in view of local circumstances. By accommodating both province-wide and regional targets, the BCPRA funding model ensures that health authorities can address local needs, while also meeting provincial objectives for renal care. The transparency of the funding model enables the direct comparison of patient outcomes by location across the province and the fair evaluation of non-standard approaches to care. (17)

Funding provided to a Peritoneal Dialysis program is based on projections of patient volumes for:

- Entry into treatment (per new case),
- Maintenance care (per patient year) and
- Exit from program (per discharge)

Funding provided for new, discharged and/or maintenance cases is based on:

- Task/activities required by patients under each case category (the intensity of medical care depends on acuity level)
- Most appropriate type of staff to do each task
- Amount of time to complete each task
- Frequency of completing the task (e.g. every month, upon entry, upon discharge etc.; and
- Probability that the task will be required for the patient population

See Appendix G, table 1 and 2 for examples of the tasks related to peritoneal dialysis. Table 3 provides an example of the Acuity Level tool to determine the amount of work required.

14.2 Application of the BCPRA PD funding model

BCPRA's Activity Based funding model is founded on the concept of:

- funding follows the patient
- funding is based on outcomes

The funding model covers the costs of delivering multidisciplinary care for all patients with kidney disease in British Columbia, regardless of their location or treatment modality. The BCPRA's activity model describes each care activity required, identifies the staff needed to complete the activity, estimates the time required for completion (validated by time motion studies), defines the frequency of the activity and estimates the probability of the activity being required for patients in each treatment modality. The number of direct patient care hours required for each category of care provider was determined. Hours were then converted to FTE requirements and corresponding labour costs after adjusting for fatigue and delay factors, indirect patient care activities, sick time, statutory holidays, vacation time and professional development time.

14.3 PD staffing/patient funding ratios

Programs are to use a multidisciplinary approach to identify patient needs and to overcome barriers to PD in the home. Programs in the province have comparable multidisciplinary clinical and administrative staffing needs. These include clinical and operational leadership, nephrology consult services and access to a team of nurses, dietitians, pharmacists, social workers and clerical staff. An average staffing mix is determined by the current activity based funding model, but individual programs can tailor it as they see fit. See chart on page 34.

15.0 PD supply and service delivery

15.1 Roles and responsibilities

15.1.1 Vendor

- For home patients, the vendor will assume responsibility for the integration of products, supplies, and PD services according to a negotiated provincial contract. Services include full service delivery of all PD related equipment and supplies for home patients. The vendor will assume that all delivered supplies are:
- Within shelf life ranging from 12-24 months.
- Rotate and put away stock in patient's designated dialysis or storage area
- Products are as specified, and that the products

Funding Ratios: Total FTES per 100 new cases for HD, HDD, PD and pre-dialysis

Appendix E: This table summarizes the total FTEs required by each of the treatment modalities and subtypes described in Appendixes A to D

	Facility-Based Hemodialysis							Pre-Dialysis		
	Independent self-care (L1)	Low dependence (L2)	Medium dependence (L3)	High dependence (L4)	Total dependence (L5/6)	Home Hemodialysis	Peritoneal Dialysis	Category 1 (>30 ml/min)	Category 2 (15-30 ml/min)	Category 3 (<15 ml/min)
Funded FTEs per 100 New Cases										
Clerk	0.083	0.083	0.083	0.083	0.083	0.049	0.277	0.131	0.131	0.131
Dietitian	0.196	0.098	0.098	0.098	0.098	0.196	0.245	0.245	0.245	0.245
Pharm	0.071	0.071	0.071	0.069	0.069	0.082	0.082	0.071	0.071	0.071
RN	5.436	2.718	0.121	0.121	0.121	24.279	4.621	0.055	0.055	0.055
SW	0.061	0.061	0.061	0.061	0.061	0.346	0.000	0.147	0.147	0.147
Tech	5.436	2.718	0.000	0.000	0.000	2.680	0.000	0.000	0.000	0.000
Funded FTEs per 100 Discharged Case										
Clerk	0.045	0.045	0.045	0.045	0.045	0.098	0.098	0.037	0.037	0.037
Dietitian	0.049	0.049	0.049	0.049	0.049	0.000	0.000	0.000	0.000	0.000
Pharm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RN	0.113	0.113	0.113	0.113	0.113	0.105	0.072	0.131	0.131	0.131
SW	0.087	0.087	0.087	0.087	0.087	0.000	0.000	0.000	0.000	0.000
Tech	0.000	0.000	0.000	0.000	0.000	0.315	0.000	0.000	0.000	0.000
Maintenance per 100 Patient Years										
Clerk	2.356	2.356	2.356	2.356	2.356	0.587	0.647	0.105	0.158	0.315
Dietitian	0.255	0.510	0.850	1.276	1.276	0.707	0.589	0.098	0.194	0.294
Pharm	0.086	0.172	0.286	0.429	0.858	0.676	0.263	0.071	0.141	0.214
RN	5.871	11.743	19.571	29.357	58.714	1.346	2.950	0.251	0.369	1.093
SW	0.597	0.597	0.597	0.597	0.597	0.494	0.398	0.294	0.294	0.294
Tech	2.356	4.712	11.779	11.779	11.779	2.586	0.000	0.000	0.000	0.000
Biomed	0.858	0.858	0.858	0.858	0.858	0.000	0.000	0.000	0.000	0.000

are clearly labelled, are new and have not been used, demonstrated or reconditioned

- Delivered in a timely manner in accordance within the patient schedule
- Notify the patient and training centre of any inabilities to meet undeliverable time lines.

The vendor will support home patients by:

- Providing delivery and customer service to all home PD patients
- The vendor will offer easy to access customer care for assistance with supply ordering

15.1.2 PD program

Ideal supply stock levels for PD programs are maintained by the hospital stores departments in most hospital-based PD programs. PD staff may be required to use a dedicated inventory system to determine the amount of stock required for a functioning PD clinic. In community-based clinics, the training nurse may be responsible for ordering all PD training supplies and ancillaries through the vendor.

To ensure efficacy in PD supply and delivery, the PD RN /supply coordinator will be responsible to:

- Order and coordinate arrangements for initial home dialysis patient supply order
- Order unique, or patient specific supplies, from the hospital purchasing department or vendor

- Rotate stock and noting expiry dates if not done by hospital stores departments
- Store all supplies according to vendor recommendations
- Ensure all patient prescription changes are communicated to vendor in a timely manner

15.1.3 Patient

- The PD team will determine the patient's supply order based on prescription and ancillary needs. Upon completion of training, the patient will be responsible to:
  - Order supplies according to delivery schedule. A minimum of 5 business is required for orders to be placed.
  - Store all supplies according to vendor recommendations
  - Sort supplies and note expiry dates
  - Use products accordingly to prescription
  - Ensure availability of someone in the home to receive supply deliveries.
  - Allow 60 days' notice for travel. Discuss travel plans with PD team.

15.1.4 BCPRA

The BCPRA is responsible for:

- Coordination of the provincial PD program in collaboration with all peritoneal programs
- PD provincial contracts
- Financial costs for all peritoneal dialysis supplies and products.
- Coverage of travel costs for PD patients

15.1.5 Purchaser

Each Health Authority is responsible for purchasing PD training supplies and ancillaries. Orders are to be placed directly with the vendor.

15.2 Contract

15.2.1 Process

The provincial contract provides supplies to patients with financial coverage by the BCPRA. The Peritoneal Dialysis Committee, BCPRA and BCCSS reviews evidence-based products using specific evaluation criteria to identify the product that delivers the greatest overall clinical, technical and financial value.

15.2.2 Expectations

A set of quantifiable key performance indicators are used to ensure efficiency, capability and effectiveness of various operational aspects of the contract.

15.2.3 Monitoring

The BCPRA will manage, and monitor the Provincial PD contract, and facilitate the contract with BC Clinical and Support Services (BCCSS). Key performance indicators will be reviewed at quarterly business meetings

16.0 Appendices

Appendix A: Transition to Peritoneal Dialysis

PD can be performed as self-care or care by companion/caregiver in a patient's home or care facility.
Note: *identifies tasks that may be done by the **referring Team or PD Team or link/transition/navigator nurse or designated other**. Division of duties is arranged locally.

Phase	Major Tasks		
	Referring Team (TX, HD, HDD)		PD Team
1. Identifies patients interest and eligibility for PD	Identifies patients who are interested and eligible for PD using basic eligibility criteria. • *See Best Practices for PD Programs-Figure 2, page 5 for basic PD eligibility criteria* • *See www.bcrenalagency.ca/health-professionals/clinical-resources/modality-choices and www.bcrenalagency.ca/health-info/managing-my-care/chronic-kidney-disease-(ckd) for information on Modality Choices*		
2. Patient referral to PD	Refers eligible PD candidates to PD for PD suitability assessment. Updates PROMIS.	➔ ➔	Receives patient referral. Books appointment for: • PD suitability assessment • Meeting with PD training nurse Communicates dates and details of appointments with patient and referring team.
3. PD suitability assessment and modality education			*Conducts PD suitability assessment • *See Appendix D of Best Practices for PD programs for example of PD assessment tool* *If assessed as suitable, provides a basic overview/ education of PD • *See Best Practices for PD programs page 12-15 for examples of PD modality education topics for review* • *See http://www.bcrenalagency.ca/health-professionals/clinical-resources/pd-patient-training-modules for PD e-learning modules* Advises patient & referring team of PD assessment outcome. Updates assessment outcomes in PROMIS. Maintains current list of patients suitable for PD.
	⬇		⬇

continued...

4. PD start anticipated within 6 months	Regularly reviews status of patients with PD as planned modality.		Develops PD patient care plan outlining expectations and planning for catheter insertion, PD training, self-management responsibilities.
	↓		↓
	If status or home situation changes that may impact suitability for PD[1], notifies PD team.	→ ←	Reviews PD care plan with patient if concerns flagged by referring team. Advises referring team of changes in care plan.
	↓		↓
	Provides ongoing patient care and follow up re: hemodialysis, home hemodialysis, medications, lab results, diagnostic imaging, comorbid management, psycho social support until the commencement of PD training. Updates PROMIS accordingly.		
	↓		↓
	Ensures advance care planning discussion has been initiated & documented.		
	↓		↓
5. PD catheter insertion referral and patient preparation	*Refers patient for PD catheter insertion **GOAL:** if bedside insertion, 2 wks. prior to starting PD; if OR insertion, at GFR 12 – 15 mL/min[2]. Advises patient & PD team	→ ←	Liaises with referring team re timing & arrangements for PD catheter insertion as required
	↓		↓
			*Prepares patients for PD catheter insertion, including the provision of information on: • location and time of catheter implantation • pre-implantation preparation • marking of PD catheter placement • implantation procedure • transportation • post implantation medications • post implantation complications and management - *See http://www.bcrenalagency.ca for patient education/care for PD catheter implantation* Books appointments for post catheter implantation care. Advises patient and referring team. Updates PROMIS
	↓		↓

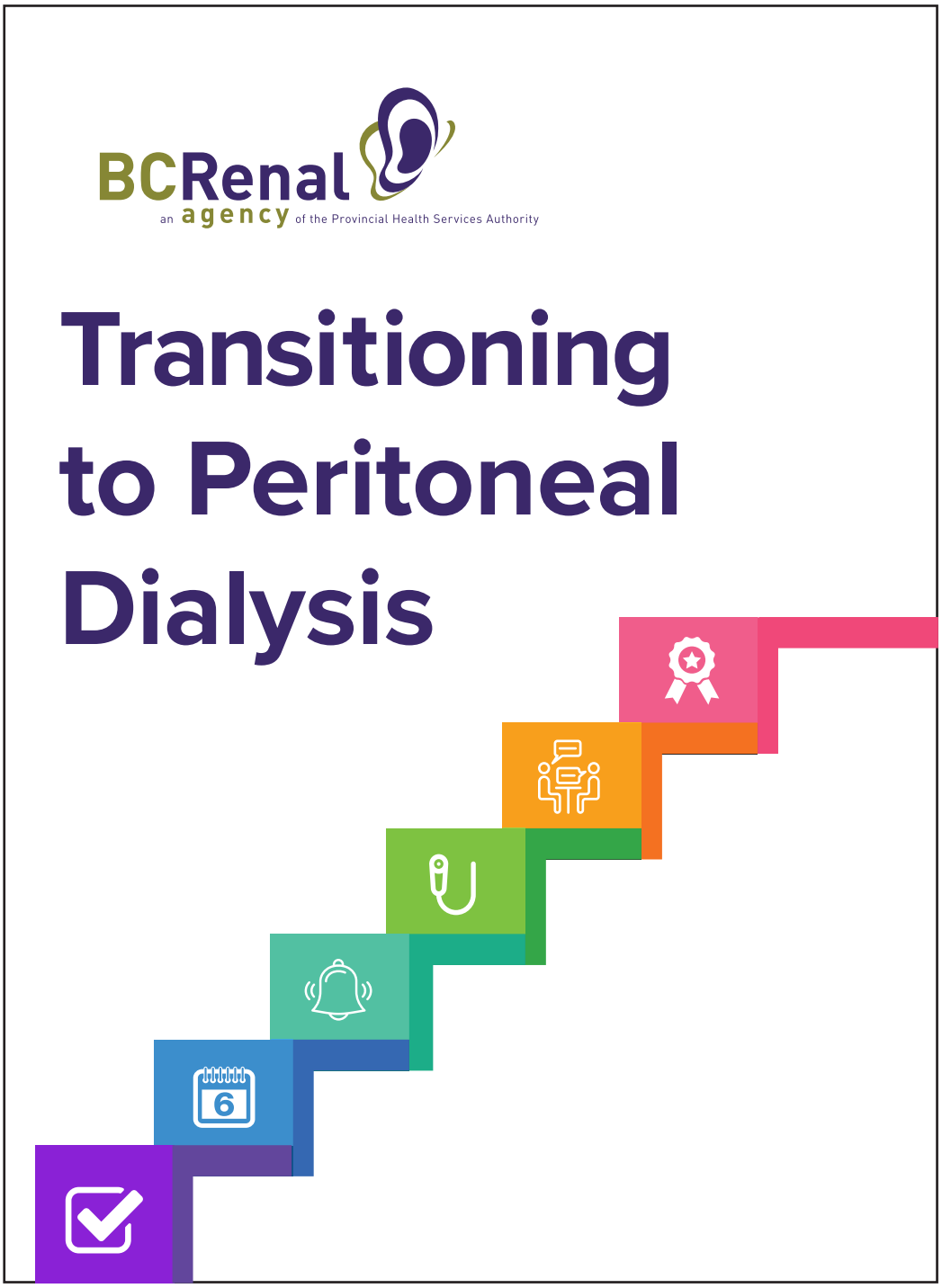
continued...

[1] Changes in: living status/accommodation, availability of support to assist with PD, ability to self-manage, physical status, cognitive status, decision to do PD, awareness of knowledge to comprehend and carry out responsibilities associated with PD.

[2] Timing of bedside insertion is more flexible and is decided between the patient, nephrologist and PD team.

6. Post-PD catheter implantation management			* Assumes responsibility to perform or designate post implantation catheter care and associated patient education inclusive of: • Catheter flushes • Exit site care/dressing changes • Exit site assessments • Suture removal - *See http://www.bcrenalagency.ca for applicable policy and procedures* Updates PROMIS. Books PD training: • Start date • Location • Length of training • Training objectives and expectations Updates PROMIS.
	⬇		⬇
7. Transfer of care to PD team	Completes transfer of care documentation: • Transition package • Arranges for relevant sections of chart to be copied • Reviews mobile labs Advises patient & patient's primary care physician re next steps. Updates PROMIS.	➔	Assumes responsibility for all ongoing care on commencement of first day of PD training inclusive of: • HD catheter care and removal • Arranges for back up HD treatments as required. Initiates PD training. Advises primary care physician re PD plans. Updates PROMIS.

Appendix B: Transitioning to Peritoneal Dialysis-Patient guide



View/download the full booklet on the BCPRA website:
BCRenalAgency.ca ➡Health Info ➡ Managing my Care ➡ Peritoneal Dialysis ➡ Resources for Current Patients

Appendix C: Pediatric transition to Adult Care

On Trac Transition Clinical Pathway (Complex) Renal/Dialysis/Transplant

ONTRAC TRANSITION CLINICAL PATHWAY (COMPLEX)
RENAL/DIALYSIS/TRANSPLANT

DATE INITIATED ___/___/_____ DATE LAST CLINIC VISIT ___/___/_____
DD MM YYYY DD MM YYYY

Preferred Name_____

Date of Birth _____PHN#_____

Initiating Clinic_____

Diagnosis Primary_____

Secondary _____

Youth Email_____

Youth Cell #_____

Mailing Address_____

Contacts

Preferred Contact _____

Phone _____

Emergency Contact (if different) _____

Phone _____

Special Considerations

Need Interpreter Yes___ Language_____ Non-verbal _____

Safety_____

Mobility_____

Behavior_____ Aggressive____

Current School_____

Cognitive Level at grade level Yes ❑ No ❑

Individual Education Plan (IEP) Yes ❑ No ❑

Psycho-educational/Cognitive Assessment (Month/Year)_____

Post-secondary Plans School_____ Work _____ Other_____

First Nations Status Yes ❑ No ❑

Financial/Medication Assistance Yes ❑ No ❑

Contact_____

MSP❑ Fair Pharmacare❑ Non-Insured Health Benefits (NIHB)❑

Extended Health Benefits _____

Advanced Directives _____

Eligibility CLBC❑ CSIL❑ PWD❑

Transfer Information Checklist

*These people have been sent the **most recent attachments** (where applicable):*	Youth/ Family	Family Practitioner	Adult Specialist
Medical Transfer Summary			
Adult Clinic/ Office Information			
Relevant recent Lab Reports and Flow sheets Urinalysis, ACR or proteinuria			
Radiology Reports (Eg. nGFR, Renal U/S)			
Biopsy Reports (if available)			
ECHOs, ECG			
All relevant Consult Letters			
Psychology Assessment			
Social Work Assessment			
Nutritional Reports			
Individual Care Plans (Nursing Support)			
Transition Care Management Plans			
C&W Authorization for Release of Information Consent Form			

Consents

I agree to be contacted about my transition experience up to five years after leaving BC Children's Hospital

Youth Signature _____ _____

Date _____

Or Guardian/Representative Signature_____

Youth's strengths and concerns on transfer (to be completed by youth, parent/family and/or health care team)

_____

_____

_____

ON TRAC Transition Clinical Pathway (Complex)
RENAL/DIALYSIS/TRANSPLANT SEPTEMBER, 2015 1/7

On Trac Transition Clinical Pathway (Simple) Renal/Dialysis/Transplant

BC Children's Hospital · Provincial Health Services Authority (Province-wide solutions. Better health.) · Vancouver Coastal Health · Providence Health Care (How you want to be treated.) · fraserhealth (Better health. Best in health care.) · island health · northern health (the northern way of caring)

ON TRAC TRANSITION CLINICAL PATHWAY (SIMPLE)
RENAL/DIALYSIS/TRANSPLANT

DATE INITIATED ___/___/_____ DD MM YYYY DATE LAST CLINIC VISIT ___/___/_____ DD MM YYYY

Preferred Name_____

Date of Birth _____PHN#_____

Initiating Clinic_____

Diagnosis Primary_____

Secondary _____

Youth Email_____

Youth Cell # _____

Mailing Address_____

Contacts

Preferred Contact _____

Phone _____

Emergency Contact (if different) _____

Phone _____

Education

Post-Secondary Plans School_____ Work _____ Other_____

College/University _____

Location/City _____

Special Considerations

Need Interpreter Yes___ Language_____

First Nations Status Yes ❑ No ❑

Financial/Medication Assistance Yes ❑ No ❑

Contact_____

MSP❑ Fair Pharmacare❑ Non-Insured Health Benefits (NIHB)❑

Extended Health Benefits_____

Transfer Information Checklist

*These people have been sent the **most recent attachments** (where applicable):*	Youth/ Family	Family Practitioner	Adult Specialist
Medical Transfer Summary			
Adult Clinic/ Office Information			
Relevant recent Lab Reports and Flow sheets Urinalysis, ACR or proteinuria			
Radiology Reports (Eg. nGFR, Renal U/S)			
Biopsy Reports (if available)			
ECHOs, ECG			
All relevant Consult Letters			
Psychology Assessment			
Social Work Assessment			
Nutritional Reports			
C&W Authorization for Release of Information Consent Form			

Consents

I agree to be contacted about my transition experience up to five years after leaving BC Children's Hospital

Youth Signature _____ Date _____

Adult Health Care Team & Recommendations

Family Practitioner _____ Phone _____ Frequency of visits _____

Address _____

Adult Specialist _____ Phone _____ **Date of First Visit** _____

Address _____ Frequency of visits _____

Purpose _____

Recommended Tests (How often?) _____

Youth's strengths and concerns on transfer (to be completed by youth, parent/family and/or health care team)

_____

_____

_____

ON TRAC Transition Clinical Pathway (Simple)
RENAL/DIALYSIS/TRANSPLANT SEPTEMBER, 2015 1/4

Renal/Dialysis/Transplant – Medical Transfer Summary

RENAL/ DIALYSIS - Medical Transfer Summary Transcription Code **#102**

Patient Identification **Enter Encounter # to populate:** **Patient Name** **Provincial Health Number** **Medical Record Number** **Patient location of visit** **Date of birth** **Gender** **Date of Service/ Discharge**	**Using BC Transcription Services** **Dial 1-855-666-3240 or x4799 (internal)** **Then enter:** **Unique ID (MSP# or assigned) + # key** **Facility Code 58 + # key (BC Children's)** **Work Type 102 + # (Medical Transfer Summary)** **Patient 7 digit visit # + # key** **Voice prompt – verify Patient Name** **Press 2 to begin Dictation using MTS outline below** **End with "Please send copies of report to…"** **Press 5 to end dictation and log off**	**Please send copies to** ❑ **Family Physician** First and Last Names Phone_____ Fax_____ ❑ **All Adult Specialist(s) List all known** First and Last Names Specialty Phone_____ Fax_____ ❑ **Patient – Copy to ehealth viewer** First and Last Names ❑ **Author** First and Last Names

Topic	Content
Transfer of Specialty Care	***Timing when Specialist(s) will take over care (suggested within 6 months). This document requests transfer of care. Please send confirmation of acceptance of transfer of care and date of first appointment. Please send copy of letter after first visit.***

Condition Specific Information	• **Primary Renal Diagnosis and other diagnoses**
	  ○ Date of diagnosis and significant investigations
	  ○ **Renal Biopsy (if applicable)**
	  ○ **GFR Category (CKD Stage), Level of Albuminuria**
	  ○ Co-morbidities (Renal and Non-renal)
	  ○ **Dietary Restrictions or Supplements**
	  ○ **Dialysis Prescription (if applicable)**
	• Preferred Treatment Modality

Major Events	• **Birth History** • Date, event, outcome and plan
Medications	• Name, dose, rationale, plan • Previous medications - Rationale for changing medication protocols • Indications and contraindications for medications • Specific drug interactions and alerts
Results	• **Most recent lab work and imaging with important trends**
****Alerts**	• Allergies, clinical warnings, other risks in ongoing care • Red Flag condition specific and unresolved transition related issues
Immunizations	• Flag any condition-specific immunizations, protocols, alerts and future requirements • Rationale for non-completion of recommended schedule
****Psychosocial/ Special Considerations**	• Psychosocial information pertaining to success of primary/specialist care, eg.) cognitive level, communication strategies/barriers, family dynamics and compliance, **finances and travel issues (outside lower mainland)** • **Need for an interpreter**
****Overview/Plan**	• Flag restrictions: activity/ work • Youth strengths/concerns for discharge/transfer
Anticipatory Guidance and Recommendations for Future Care	• Condition-specific and potential complications/ late effects • Monitoring of medications and suggested tests and lab work • **BC Ministry of Health Guidelines: Chronic Kidney Disease: Identification, Evaluation & Management of Patients (www.bcguidelines.ca)**

Appendix D: Home Therapies: Patient Assessment

Home Therapies
Patient Assessment

The following assessment questions may be useful as a guide to develop an effective plan of care for the home therapy patient.

Patient responses will guide the plan of care to:

- Be individualized
- Specify the services necessary to address the patients needs identified in the assessment
- Include measurable and expected outcomes
- Include estimated timetables to achieve outcomes
- Contain outcomes consistent with current evidence base professionally accepted clinical practice standards

ASSESSMENT	COMMENTS	CONSIDERATIONS
COGNITIVE ABILITY		
EMPLOYMENT • Full time • Part time • Retired • Unemployed » **Occupation** » **Hobbies**		
LEVEL OF INDEPENDENCE • Independent • Needs assistance • In what? • Totally dependent		• May require open discussion with pts family and/or support person to identify their commitment level to assist. • May consider PD Assist if patient meets eligibility criteria.
LEVEL OF EDUCATION • No education • Elementary • High school • College/university		• May need to consider training material and methods to match education level. If illiterate, pictures and return demonstrations may be required for training.

LANGUAGE
• English
• Other
  • Spoken
  • Written
  • Read
		• May need to consider training material and methods to match education level. If illiterate, pictures and return demonstrations may be required for training.

continued...

Home Therapies Patient Assessment

ASSESSMENT	COMMENTS	CONSIDERATIONS
BARRIERS TO THE PATIENT'S ABILITY TO COMMUNICATE VERBALLY IN ENGLISH • Not able to communicate in English • Only able to communicate basic needs to staff (uses single words or short phrases – requires interpretation assistance for conversations and care planning) • Able to communicate with staff in most situations (able to carry on conversations with staff. Requires occasional interpretation assistance for more complex conversations)		• May require open discussion with family and/or support person to identify their ability to assist for training and ongoing communication between patient and program.
PAST EXPERIENCES WITH LEARNING NEW SKILLS • No • Yes		Questions to consider: • Have they learned to use a computer? • Do they use automated banking? • How did they learn these skills? • Consider using VARK questionnaire to assist in identifying learning styles: **http:/vark-learn.com**
PATIENT'S LEARNING PREFERENCE? • Visual • Hearing • Doing • Solitary (use self study) • Social (group activity, role playing		• Develop a teaching plan that mirrors the patient's learning preference.
KNOWN OR DIAGNOSED COGNITIVE DEFICITS REPORTED BY PATIENT OR FAMILY? • No • Yes		• May require an open discussion with family and/or support person to identify their commitment level to assist if cognitive. • Impairment inhibits short term memory and ability to learn and or make decisions related to treatment. • May require SW consult and assistance to perform clock test and/or mini mental health test.

Home Therapies Patient Assessment

ASSESSMENT	COMMENTS	CONSIDERATIONS
DOES PATIENT REPORT ANY PAST OR CURRENT MENTAL HEALTH ISSUES, CONCERNS OR MOOD DISTURBANCES (FEELING OF DEPRESSION OR ANXIETY)? • Dementia • Anxiety disorder • Depression • Alcohol or substance abuse • Post-traumatic stress syndrome • Alzheimer's • Bipolar disorder • Schizophrenia • Other		• Assess if patient's ability to self manage at home may be affected. Active chemical dependency may impair the pts ability to assess health need. Questions to consider: • Is patient followed with psych/ social work support? • Is a consult required?
HOME ENVIRONMENT AND LIVING ARRANGEMENTS		
LIVING ARRANGEMENTS • Lives Alone • With partner/spouse • With children • Extended family • Roommate		Questions to consider: • Will patient need support to self manage? • Do they have someone to assist? • Does the patient identify that help will come from someone that they live with?
TYPE OF DWELLING • House ☐ Rent ☐ Own # of levels _____ • Apartment ☐ Rent ☐ Own • Assisted living/LTC/ nursing home • No fixed address		• Can home therapy be performed in their current living environment? • Electrical and plumbing upgrades may be required for HHD. If renting, landlord approval may be required. • PD is not accommodated in all LTC facilities.
PETS SHARING LIVING SPACE? • No • Yes Type: _____		• Is the patient aware that pets cannot be in the room when they are setting up for dialysis?

Home Therapies Patient Assessment

ASSESSMENT	COMMENTS	CONSIDERATIONS
STORAGE SPACE FOR HOME PRODUCTS? • No • Yes Location: _____ • Heated • Well lit • Well ventilated		• Is there adequate home storage for supplies and equipment? May need to consider: • Altering supply delivery schedules (increase frequency and reduce quantities) • Storing some supplies in an alternative location and move as required.
DESIGNATED AREA FOR PERFORMING DIALYSIS? • No • Yes Where: _____		
HAS ACCESS TO ELECTRICITY, WATER AND DRAIN FOR AUTOMATED EQUIPMENT? • No • Yes		• Electrical and plumbing upgrades may be required for HHD. • If renting, landlord approval may be required.
DOES THE PATIENT HAVE A TELEPHONE LINE OR FUNCTIONING CELL PHONE? • No • Yes		
IS THERE ROAD ACCESS FOR SUPPLY DELIVERIES AND/ OR PD ASSIST SERVICES (IF REQUIRED)? • No • Yes		
IS THE PATIENTS CURRENT LIVING SITUATION A POTENTIAL BARRIER TO POSITIVE TREATMENT OUTCOMES? • No • Yes		• Is a home visit required to assess home environment?

Home Therapies Patient Assessment

ASSESSMENT	COMMENTS	CONSIDERATIONS
PHYSICAL ABILITY		
PERTINENT MEDICAL HISTORY		
PREVIOUS ABDOMINAL SURGERIES • No • Yes Type: _____		
PATIENT HAS NORMAL VISION WITH OR WITHOUT EYE GLASSES • No • Yes		May need to consider using specific patient education tools: • Large print/font • Audio tools
WHAT VISION AIDS DOES THE PATIENT USE? • Wears glasses • Contact lenses • Magnifier		

DOES THE PATIENT HAVE HEARING PROBLEMS?
• No
• Yes
		• May need to consider:
		  • print material
		  • demonstrations
		  • diagrams
		  • pictures
		• Consider contacting Canadian Hard of Hearing Association.

DOES THE PATIENT USE HEARING AIDS? • No • Yes L R		
DOES THE PATIENT HAVE WEAKNESS OR TREMORS IN UPPER LIMBS? • No • Yes L R		• OT support may be required to assist with support aids/options. • Open discussion required to identify available support in the home and the commitment level of the support. • PD Assist may be an option if patient meets eligibility criteria.
WEAKNESS IN LOWER LIMBS • No • Yes L R		

Home Therapies Patient Assessment

ASSESSMENT	COMMENTS	CONSIDERATIONS
AMPUTATION IN UPPER LIMBS • No • Yes L R		• OT support may be required to assist with support aids/options.
DOES THE PATIENT REQUIRE FURTHER FUNCTIONAL ASSESSMENT? • No • Yes- **If so, refer to *Functional Assessment for PD or HHD.***		• May assist in assessing the patient's ability to perform specific tasks physical, cognitively, or reading skills
ASSESSMENT OF CAREGIVER (IF APPLICABLE)		
CARE GIVERS RELATIONSHIP TO THE PATIENT • Spouse/partner • Friend • Other family member		
CARE GIVER LIVES WITH THE PATIENT? • No • Yes		
CARE GIVER UNDERSTANDS COMMITMENT INVOLVED • No • Yes		
CARE GIVER IS WILLING AND MOTIVATED • No • Yes		
CARE GIVER HAS NO BARRIER IN COGNITIVE ABILITY • No • Yes		
CARE GIVER IS AVAILABLE AT THE NECESSARY TIMES FOR DIALYSIS • No • Yes		
IS THERE ACCESS TO THE MAIN ROAD FOR DELIVERIES? • No • Yes		• A requirement for safe delivery of supplies. • If no access to main road, have the patient describe how deliveries will be made to the home. Will require further evaluation by team.
DOES THE PATIENT HAVE A TELEPHONE LINE OR FUNCTIONING CELL PHONE? • No • Yes		• Mandatory for emergencies and machine issues.

Peritoneal Dialysis
Functional Assessment

The functional assessment provides examples of basic skills that are needed to be able to perform and manage Peritonal Dialysis.

Instructions to perform the functional assessment:

1. Gather supplies and place them on a working surface.
2. Nurse to demonstrate and verbally describe basic skill (#1-8) as it is performed.
3. Have patient perform each basic skill (#1-8) following.
4. Patient to complete basic skill #9 and #10 without assistance.
5. Nurse to document observations.

Supplies required

- Transfer set with white mini cap
- Mini cap
- Red clamp
- Mask
- PD solution bag with tubing and colored pull ring attached
- 2 liter PD solution bag
- Tongue depressor
- IV pole
- Pencil/pen

Resources

VIHA: Functional assessment. 22 June 2016 Reviewed by: Backx,T, VKCC, NKCC, CI/SI Navigators

Peritoneal Dialysis Functional Assessment

BASIC SKILL	CAN PERFORM	CANNOT PERFORM	COMMENTS
1. Pick up the PD solution bag and hold it over head for a count of 3.			
2. Hang PD solution bag on IV pole.			
3. Hold the transfer set and twist the clamp open and closed until it clicks.			
4. Open a minicap package and place on the end of the transfer set without contamination.			
5. Remove the mini cap from the transfer set.			
6. Remove the colored ring from the PD solution bag.			
7. Attach the red clamp anywhere along the PD tubing and snap it closed. Release the clamp to open.			
8. Pick up the tongue depressor and snap it into 2 pieces.			
9. Look at the picture of the home choice cycler below and record what is seen in the display screen.			

What is displayed on the screen?

_____

_____

_____

_____

BC Provincial Renal Agency • Suite 700-1380 Burrard St. • Vancouver, BC • V6Z 2H3 • 604.875.7340 • BCRenalAgency.ca November 2017

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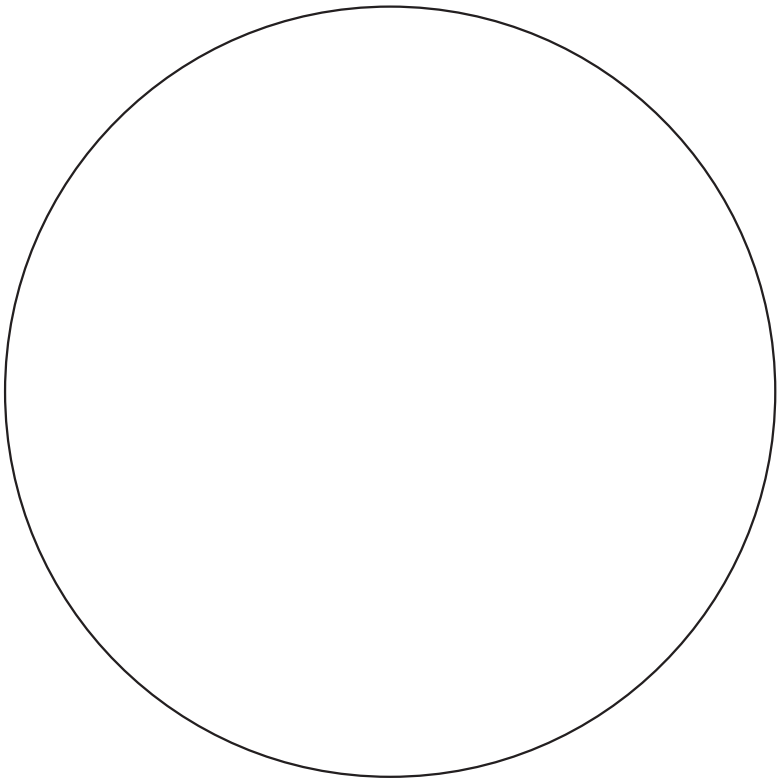
Peritoneal Dialysis Functional Assessment

Clock Test

BASIC SKILL	CAN PERFORM	CANNOT PERFORM	COMMENTS
10. Using the circle diagram below as a clock face: 1. Put the numbers on the face of the clock. 2. Make the clock say “10 minutes after 11”.			



Peritoneal Dialysis Functional Assessment

PD Functional Assessment-
For Nursing Use Only

Patient name	
Assessment date	
Assessment completed by	

Attach patient label here

Patient completed all aspects of the assessment following visual/verbal demonstration without difficulty.

☐ Yes ☐ No

Comments:

Patient required repeated prompting to complete all aspects of the assessment following visual/verbal instructions.

☐ Yes ☐ No

Comments:

Clock test score: _____

- Score 1 point for each number in its correct eighth (1,2,4,5,7,8,10,11).
  - No points for pen marks or words instead of numbers.
- Score 1 point for short hand pointing to number 11
- Score 1 point for long hand pointing to number 2
  - No points for hands approximately the same length
  - No point if the short hand is pointing to the 2 and the long hand pointing to the 11

Results:
10 or greater suggests cognitive impairment unlikely
6 - 9 indicates probable impairment
0 - 5 indicates prominent impairment

Comments:

Future Steps:

Documentation completed: ☐ Chart ☐ PROMIS

Appendix E: PD Assist Eligibility Criteria

PD client and or support:

- has completed the PD training
- can perform the procedures related to connecting and disconnecting from the cycler and associated troubleshooting of cycler complications that may occur during the therapy.
- can manage all non-cycler aspects of their PD care inclusive of but not limited to fluid management, access care, effluent assessment, supply ordering.
- can contact the PD program to communicate any identified concerns or problems associated with their health status or PD therapy.
- are unable to perform the cycler set up and dismantling procedure due to physical, cognitive, psychological and or social reasons.

Assistance may be required in one of the following scenarios:

Long term:
Assistance by a CG is required one time per day, several times each week or up to 7 days per week until the client* leaves the PD program.

PHYSICAL	◈ Health status prevents the client from dismantling/setting up the cycler. ◈ Dexterity/strength/vision deficits limit the ability of the client to complete the tasks associated with cycler dismantling/set up. Examples of deficits include but are not limited to the inability: • to gather supplies • lift dialysate solution bags • open supply packaging • break seals on solution bags
COGNITIVE PSYCHOLOGICAL	◈ Cognitive function deficits (memory, problem solving, decision making) which may/will impact the client's ability to safely complete the necessary steps associated with cycler dismantle/set up. Examples may include but are not limited to the inability to: • Correctly sequence tasks associated with cycler set up/dismantle • Troubleshoot potential cycler machine alarm conditions occurring during cycler set up/dismantle ◈ Learning deficits which impact the client's ability to safely complete the steps involved in cycler set up/dismantle ◈ Confidence to perform cycler set up/dismantle procedures independently is absent
SOCIAL	◈ Absent or intermittent availability of support person(s) following identification that such support to manage CCPD is needed

Short term including respite:
Assistance required by a Caregiver for 2 weeks to 3 months for what is thought to be temporary reasons. The client is anticipated to be able to return to total self-management of PD cycler therapy however may require long term assistance if status remains compromised.

PHYSICAL	◈ Health status which is assessed to temporarily prevent the client from having the ability to set up/dismantle the cycler. Example: cardiovascular changes, recent hospitalization, surgery, ◈ Dexterity/strength/vision deficits felt to be temporary, which limits the ability of the client to complete the tasks associated with cycler set up/dismantle. Examples of deficits include but are not limited to the inability to: • gather supplies • lift dialysate solution bags • open supply packaging • break seals on solution bags
COGNITIVE PSYCHOLOGICAL	◈ Cognitive function (memory, problem solving, decision making) felt to be temporary and is assessed to impact the client's ability to safely complete the necessary steps associated with cycler set up/dismantle. Examples may include but are not limited to the inability to: • Correctly sequence the steps associated with cycler set up/dismantle • Troubleshoot potential cycler machine alarm conditions occurring during cycler set up/dismantle ◈ Learning deficits which impact the client's ability to safely complete the steps involved in cycle that could improve with exposure to using the cycler. ◈ Lack of confidence to perform cycler set up/dismantle procedures independently, but could improve with exposure to using cycler
SOCIAL	◈ Support person, who provides assistance for CCPD, is intermittently unavailable

** The term client refers to either the PD client or their designated support person if required.*

Appendix F: Provincial Guideline: Indications & Urgency Criteria for Surgical Peritoneal Dialysis

General Surgery

Scheduled vs. Unscheduled	BC Surgical Priority Level (see note 4)	Wait Time Target	Description	Details
Unscheduled	Not identified	<24 hours	Immediate need for surgical intervention *Insertion of PD catheter*	Inpt • Symptomatic renal failure • Failing vascular (HD) access, • Urgent new dialysis start within 48 hr. and not a candidate for bedside or radiological insertion, • Non-functioning PD catheter for PD patient • Failed bedside or radiological PD cath
			Immediate need for surgical intervention *Removal of PD catheter*	Inpt • acute peritonitis, • tunnel infection
Scheduled	1	2 weeks	General Surgery Other P1 *Insertion of PD catheter* *Removal of PD catheter*	Outpatient • Symptomatic renal failure with dialysis initiation within 2 weeks • Failing HD access • Urgent change in status • Nonfunctioning PD catheter for current PD patient Outpatient • Recurrent peritonitis • Tunnel infection • Sclerosing peritonitis • Fungal peritonitis
Scheduled	2	4 weeks	General Surgery Other P2 *Insertion of PD catheter* *Removal of PD catheter*	Outpatient • Asymptomatic advanced renal failure with dialysis initiation within 6 weeks Repair of hernia Transferred to HD- noninfectious reasons
Scheduled	3	6 weeks	General Surgery Other P3 *Insertion of PD catheter* *Removal of PD catheter*	Asymptomatic advanced renal failure with estimated peritoneal dialysis start time less than 8 weeks Post-transplant Transfer to HD

continued...

Scheduled vs. Unscheduled	BC Surgical Priority Level (see note 4)	Wait Time Target	Description	Details
Scheduled	4	12 weeks	General Surgery Other P4 Insertion of PD catheter	Asymptomatic advanced renal failure with estimated peritoneal dialysis start tie less than 3 months
Scheduled	5	26 weeks	General Surgery Other P5	Advanced renal failure with estimated peritoneal dialysis start date less than 6 months

Vascular Surgery

Scheduled vs. Unscheduled	BC Surgical Priority Level (see note 4)	Wait Time Target	Description	Details
Scheduled	1	2 weeks	CRF- poor dialysis access OR failing dialysis access (dialysis already underway)	Outpatient • Symptomatic renal failure with dialysis initiation within 2 weeks • Failing HD access • Urgent change in status • Nonfunctioning PD catheter for current PD patient Outpatient • Recurrent peritonitis • Tunnel infection • Sclerosing peritonitis • Fungal peritonitis
Scheduled	2	4 weeks	CRF — dialysis already started by catheter	Outpatient • Asymptomatic advanced renal failure with dialysis initiation within 6 weeks Repair of hernia Transferred to HD- noninfectious
Scheduled	3	4 weeks	CRF - dialysis anticipated within 3 months	Outpatient Asymptomatic advanced renal failure
Scheduled	4	6 weeks	CRF — dialysis anticipated within 3-6 months Removal of insertion	Outpatient Asymptomatic advanced renal failure Post-transplant
Scheduled	5	26 weeks	CRF — dialysis anticipated in more than 6months	Advanced renal failure

Notes:

1. Sched = scheduled; Unsched = unscheduled. CRF = Chronic Renal Failure
2. Refer to attachment #1 for a surgical HD procedure (AV fistula or AV graft).
3. Wait time targets for scheduled surgeries are the same as on the Vascular Surgery Provincial List of Patient Condition and Diagnosis Descriptions (V6 - 2015; Surgical Patient Registry). The latter does not identify wait times for unscheduled surgeries, so the ones above were developed by a Provincial Renal/VA Surgery Working Group and are specific to renal VA access procedures.
4. Wait Time Targets:
   - Adults = time from booking form received in OR to procedure date.
   - Children = time from decision to have surgery to procedure date.
5. BC Surgical Priority Levels:

Priority Level	Wait Time Target (Wks)
1	2
2	4
3	5
4	12
5	26

Appendix G: BCPRA Funding Model

PD Program Entry -Table 1

BC Provincial Renal Agency

Appendix D: The key activities required for entry, maintenance and exit treatment for peritoneal dialysis patients.

Activity Number	Task	Staff	Probability	Minutes	Probability adjusted minutes	Per	Patient year factor	Hours per patient year	Direct Hours per Staff Category							
									Clerk	Dietitian	Pharm	RN	SW	Tech	Biomed	Nephrologist
PD Program Entry																
Entry	Patient identification	RN	100%	10	10	New case	1	0.17				0.17				
Entry	Patient identification	SW	0%	10	0	New case	1	-					-			
1	Create training chart	RN	100%	20	20	New case	1	0.33				0.33				
1	Create training chart	Clerk	100%	30	30	New case	1	0.50	0.50							
1	Create training chart	Dietitian	100%	0	0		1	-		-						
Entry	Data entry	Clerk	100%	20	20	New case	1	0.33	0.33							
3	Assess patient	RN	100%	30	30	New case	1	0.50				0.50				
3	Conduct blood work: hematology, chemistry, iron panel, hepatitis series, parathyroid hormone, TSH	RN	100%	20	20	New case	1	0.33				0.33				
8	In-unit insertion of bedside catheter or pre-post op teaching if surgical insertion	RN	100%	120	120	New case	1	2.00				2.00				
PD Catheter Healing																
8	Flush 1/week for approximately 3 weeks (exlcuides home care time but increased coordination time)	RN	50%	240	120	New case	1	2.00				2.00				
8	Flush 1/week for approximately 3 weeks (if patient lives in	RN	50%	180	90	New case	1	1.50				1.50				
8	IPD 3/week for approximately 3 weeks (10 hr per day x 3	RN	10%	1350	135	New case	1	2.25				2.25				
8	IPD 3/week for approximately 3 weeks (10 hr per day x 3	RN	10%	0	0	New case	1	-				-				
8	Consult during recovery period	Diet	100%	60	60	New case	1	1.00		1.00						
8	Consult during recovery period	SW	0%	30	0	New case	1	-					-			
Hands on PD Preparation and Training																
1	Plan for patient	RN	100%	60	60	New case	1	1.00				1.00				
1	Order supplies, and drugs and conduct other administrative tasks plus coordinate PH, HC nursing	RN	100%	60	60	New case	1	1.00				1.00				
1	Order supplies, and drugs and conduct other administrative tasks	Clerk	100%	60	60	New case	1	1.00	1.00							
1	Assessment by SW	SW	0%	30	0	New case	1	-					-			
1	Assessment by pharmacist	Pharm	100%	31	31	New case	1	0.52			0.52					
1	Train patient in self care (5 days x 6 hr / day 1:1 staffing)	RN	100%	1800	1800	New case	1	30.00				30.00				
1	Post training phone monitoring (50 minutes per week x 3 weeks post training)	RN	100%	150	150	New case	1	2.50				2.50				
1	Post training phone monitoring	SW	0%	30	0	New case	1	-					-			
1	Post training phone monitoring	Dietitian	100%	30	30	New case	1	0.50		0.50						
PD Training Exit																
1	Update patient chart (10 min. per week x 3 weeks)	RN	100%	30	30	New case	1	0.50				0.50				
1	Update patient chart	Clerk	100%	30	30	New case	1	0.50	0.50							
1	Communicate orders to lab and pharmacy	RN	100%	10	10	New case	1	0.17				0.17				
1	Overall coordination and arrange follow up visits	RN	100%	60	60	New case	1	1.00				1.00				
1	Overall coordination and arrange follow up visits	Clerk	100%	30	30	New case	1	0.50	0.50							
Cycler training (assume 50% of new patients will get this)																
1	Training (4 hr x 1:1) in urban areas	RN	25%	240	60	New case	1	1.00				1.00				
1	Training (8 hr x 1:1) in rural/remote areas	RN	25%	480	120	New case	1	2.00				2.00				
1	Post training phone monitoring (30 minutes per week x 3 weeks post training)	RN	50%	90	45	New case	1	0.75				0.75				
Other activities in addition to regularly scheduled clinic visits																
3	Conduct PET test	RN	100%	120	120	New case	1	2.00				2.00				
Entry per new case									**2.83**	**1.50**	**0.52**	**51.00**	-	-	-	-

Ongoing PD follow-up Table 2

Activity Number	Task	Staff	Probability	Minutes	Probability adjusted minutes	Per	Patient year factor	Hours per patient year	Direct Hours per Staff Category							
									Clerk	Dietitian	Pharm	RN	SW	Tech	Biomed	Nephrologist
Ongoing PD Follow-up																
Clinic Visits monthly for first year then quarterly (after first year 20% q 2 months)																
3	Communicate with, and assess patient	RN	40%	60	24	Patient month	12	4.80				4.80				
3	Communicate with, and assess patient	RN	20%	60	12	Patient 2 months	6	1.20				1.20				
3	Communicate with, and assess patient	RN	40%	60	24	Patient quarter	4	1.60				1.60				
3	Coordinate and communicate with lab, pharmacy, GPs, and supplies (2.5 hours per 1/2 day clinic that has 8	Clerk	40%	38	15.2	Patient month	12	3.04	3.04							
3	Coordinate and communicate with lab, pharmacy, GPs, and supplies (2.5 hours per 1/2 day clinic that has 8	Clerk	20%	38	7.6	Patient 2 months	6	0.76	0.76							
3	Coordinate and communicate with lab, pharmacy, GPs, and supplies (2.5 hours per 1/2 day clinic that has 8	Clerk	40%	38	15.2	Patient quarter	4	1.01	1.01							
3	SW acuity of 0.89 intervention	SW	98%	287	275.52	Patient year	1	4.59					4.59			
3	Communicate with, and assess patient	Dietitian	50%	45	22.5	Patient month	12	4.50		4.50						
3	Assess medication needs and followup	Pharm	80%	31	24.8	Patient quarter	4	1.65			1.65					
Other activities in addition to regularly scheduled clinic visits																
3	Conduct monthly lab tests	RN	60%	15	9	Patient month	12	1.80				1.80				
3	Deliver iron infusion (if required)	RN	8%	60	4.8	Patient month	12	0.96				0.96				
3	Conduct K+/v test (15 min + 15 min modelling)	RN	50%	30	15	Patient quarter	4	1.00				1.00				
3	Coordinate and communicate with lab, pharmacy, GPs, and order additional tests	RN	50%	30	15	Patient month	12	3.00				3.00				
3	Update orders and make prescription changes, provide further education and order supplies	RN	50%	30	15	Patient month	12	3.00				3.00				
	Support above aoitivities	Clerk	60%	15	9	Patient month	12	1.80	1.80							
3	Update orders and make changes, provide further education and order additional tests	Diet	50%	15	7.5	Patient month	12	1.50		1.50						
Manage acute episodes of care																
1	Clinic visit for peritonitis episode (acutal experience is about 30% of total patient years)	RN	15%	240	36	Patient year	1	0.60				0.60				
1	Manage/coordinate peritonitis episode remotely	RN	15%	240	36	Patient year	1	0.60				0.60				
1	Manage/coordinate hospital admission (assume 1 admission per patient year)	RN	100%	120	120	Patient year	1	2.00				2.00				
PD Nurse additonal 1hr/mo												**12.00**				
Maintenance per patient year									**6.61**	**6.00**	**1.65**	**32.56**	**4.59**	-	-	-
PD Exit																
Exit	Coordinate patient transfer to palliative	RN	20%	120	24	Discharged	1	0.40				0.40				
Exit	Discharge procedures due to death	RN	50%	20	10	Discharged	1	0.17				0.17				
Exit	Coordinate patient transfer (to HD)	RN	30%	45	13.5	Discharged	1	0.23				0.23				
Exit	Coordinate patient transfer	Clerk	100%	60	60	Discharged	1	1.00	1.00							
Per Discharge									**1.00**	-	-	**0.79**	-	-	-	-

Table 3- Acuity Level

LEVEL	HEMODYNAMICS		ADL	ACCESS		TREATMENT		NURSING INTERVENTIONS		TEACHING	
1	HYPOTENSION	Not Present	Independent (might use walking aides, w/c etc. without assistance)	TYPE	AVF or Graft	MEDICATION	None or EPO only	TIME ELEMENT	10-15 Mins	TEACHING	Completed
	HYPERTENSION	Not Present		COMPLICATIONS	No Complications	DRESSINGS	None	ISOLATION	No isolation	PHYSICAL BARRIERS TO SELF DIALYSIS	Non-Existent
	ANGINA	Not Present		PRU	Greater than 70	OTHER	None	SWABS/BLOOD STUDIES	Routine	EMOTIONAL BARRIERS TO SELF DIALYSIS	Non-Existent
	DIFFICULTY REMOVING FLUID	Not Present						VITAL SIGNS	Hourly	COGNITIVE BARRIERS TO SELF DIALYSIS	Non-Existent
	O2 THERAPY	No O2 Therapy								SELF CARE SUFFICIENCY	Mastered Skills
2	HYPOTENSION	Occasional	L1: Independent (might use walking aides, w/c etc. without assistance)	TYPE	Permcath OR Temporary Line OR Dual Access	MEDICATIONS	IV iron	TIME ELEMENT	15-30 Mins	TEACHING	Newly Taught/ Occasional Review
	HYPERTENSION	Occasional		COMPLICATIONS	L1: No Complications	DRESSINGS	Small	ISOLATION	Alert (Equipment Disinfections)	PHYSICAL BARRIERS TO SELF DIALYSIS	L1: Non-Existent
	ANGINA	Occasional		PRU	65-70	OTHER	L1: None	SWABS/BLOOD STUDIES	Bi-weekly	EMOTIONAL BARRIERS TO SELF DIALYSIS	L1: Non-Existent
	DIFFICULTY REMOVING FLUID	L1: Not present						VITAL SIGNS	L1: Hourly	COGNITIVE BARRIERS TO SELF DIALYSIS	L1: Non-Existent
	O2 THERAPY	L1: Not present								SELF CARE SUFFICIENCY	Self Care with Assistance
3	HYPOTENSION	Weekly	Minimal assistance (to bear weight, weigh, transfer to bed/chair)	TYPE	Any access type	MEDICATIONS	IV antibiotics, TPA instilled post	TIME ELEMENT	30-45 Mins	TEACHING	Teaching in Progress/ Ongoing Review
	HYPERTENSION	Weekly		COMPLICATIONS	Occasional Complications	DRESSINGS	Post op Minor	ISOLATION	Confirmed Positive (Spatial Isolation/ Curtain)	PHYSICAL BARRIERS TO SELF DIALYSIS	Minor
	ANGINA	Occasional		PRU	60-65	OTHER	L1: None	SWABS/BLOOD STUDIES	Weekly	EMOTIONAL BARRIERS TO SELF DIALYSIS	Minor
	DIFFICULTY REMOVING	Occasional						VITAL SIGNS	Every 30 mins	COGNITIVE BARRIERS TO SELF DIALYSIS	Minor
	O2 THERAPY	Occasional								SELF CARE SUFFICIENCY	Limited Self Care
4	HYPOTENSION	Each Run	One person assist to transfer / transfers via bed/chair	TYPE	Any access Type	MEDICATION	TPA pulsed, infusion, IDPN	TIME ELEMENT	45-60 Min	TEACHING	Teaching Started/Initial Instructions
	HYPERTENSION	Each Run		COMPLICATIONS	Weekly complications	DRESSINGS	Post-op Major	ISOLATION	L3: Confirmed Positive (Spatial Isolation / Curtain)	PHYSICAL BARRIERS TO SELF DIALYSIS	Moderate
	ANGINA	Weekly		PRU	55-60	OTHER	Healed Trach Care/ Blood Products/Ostomy Care	SWABS/BLOOD STUDIES	Each Run	EMOTIONAL BARRIERS TO SELF DIALYSIS	Moderate
	DIFFICULTY REMOVING FLUID	Weekly						VITAL SIGNS	L3: Every 30 Min	COGNITIVE BARRIERS TO SELF DIALYSIS	Moderate
	O2 THERAPY	Weekly								SELF CARE SUFFICIENCY	L3:Limited Self Care
5	HYPOTENSION	Each Run, resistant to Current Therapy	Two person major assist to transfer	TYPE	Any access type	MEDICATIONS	S/L antihypertensives / IV mannitol / IV ACDA	TIME ELEMENT	60-90 Min	TEACHING	Untrained Chronic Patient
	HYPERTENSION	Each Run, resistant to Current Therapy		COMPLICATIONS	Complications Each Run	DRESSINGS	Major, infected draining wound	ISOLATION	Isolation Room	PHYSICAL BARRIERS TO SELF DIALYSIS	Serious
	ANGINA	Each Run		PRU	50-55	OTHER	Plasma Exchange	SWABS/BLOOD STUDIES	Multiple Per Run	EMOTIONAL BARRIERS TO SELF DIALYSIS	Serious
	DIFFICULTY REMOVING FLUID	Each Run						VITAL SIGNS	Every 15 Min	COGNITIVE BARRIERS TO SELF DIALYSIS	Serious
	O2 THERAPY	Each Run								SELF CARE SUFFICIENCY	L3:Limited Self Care
6	HYPOTENSION	L5: Each Run, Resistant to Current Therapy	Completely dependent (use of mechanical lifts)	TYPE	Any access type	MEDICATIONS	Inotropes	TIME ELEMENT	1-1 Nursing	TEACHING	Untrainable Patient
	HYPERTENSION	L5: Each Run, Resistant to Current Therapy		COMPLICATIONS	Major, Ongoing Complications	DRESSINGS	L5: Major, infected draining wound	ISOLATION	Positive Pressure Isolation	PHYSICAL BARRIERS TO SELF DIALYSIS	Extreme
	ANGINA	Uncontrollable		PRU	Less than 50	OTHER	Suction/Airway Management	SWABS/BLOOD STUDIES	L5: Multiple per Run	EMOTIONAL BARRIERS TO SELF DIALYSIS	Extreme
	DIFFICULTY REMOVING	Unable to Remove Fluid						VITAL SIGNS	Constant Monitoring/ Cardiac Monitoring	COGNITIVE BARRIERS TO SELF DIALYSIS	Extreme
	O2 THERAPY	O2 Dependant								SELF CARE SUFFICIENCY	Full Care Required

LEVEL	I	II	III	IV	V	VI
POINTS	6	7-12	13-18	19-24	25-30	31-36

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