Update in Peritoneal dialysis

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Royal Hobart Hospital
I pay my respects to the traditional owners of this land, the Larrakia people, and to their elders past, present and emerging.
Conflicts of Interest

– Member International Society of Peritoneal Dialysis (ISPD)

– Chairperson, PD working group of AKTN
  (Australasian Kidney Trials Network)

– Chairperson, ANZDATA Steering Committee
  (Australia and New Zealand Dialysis and Transplant Registry)

– No commercial conflicts of interest
ANZDATA Working Groups:
Advanced trainee membership 2017

- HD - Emily See
- PD - Jenny Chen
- Transplant - Eric Au
- Paediatrics - Jean Koh
- PROMs - Nicole Lioufas
- Indigenous - no nomination
Learning Objectives

– Know the recent publications on PD
– Recognise clinical practice variation
– Recognise variation in clinical outcomes
– Know the current resources available to assist optimising PD outcomes for both patients and staff
Peritoneal Dialysis in Australia and New Zealand:

Current practice and outcomes
Dialysis Modality by State
at end of 2015

ANZDATA 2016 Annual report
Age (%) of current peritoneal dialysis patients
Australia 2015

Number of Patients=2514
Patient survival - peritoneal dialysis at 90 days
2004 - 2015
Censored for transplant - Australia

Age
- <40 (1255)
- 40-59 (2655)
- 60-74 (3090)
- ≥75 (1441)

Years

Patient survival - peritoneal dialysis at 90 days
2004 - 2015
Censored for transplant - Australia
Technique survival - peritoneal dialysis at 90 days

2004 - 2015

Censored for transplant - Australia

Age

- <40 (1255)
- 40-59 (2655)
- 60-74 (3090)
- ≥75 (1441)

Years
Proportion of PD patients in unit
“Eminence-based” Medicine
V
Evidence-based Medicine
PD pathway

Pt selection | Catheter insertion | PD training | Novice PD | Veteran PD

Clinical Governance

FACULTY OF HEALTH
KHA-CARI Mission

KHA-CARI Guidelines seeks to improve the quality of care and outcomes for patients with kidney disease in Australia & New Zealand by facilitating the development and implementation of clinical practice guidelines based on the best available evidence and effectiveness.

Role of the KHA-CARI Office

The main role of the KHA-CARI Office is:

- To support guideline writers through the guideline development and revision processes
- To organise peer and consumer review of new and revised guidelines
- To identify relevant trials in the literature for each Working Group (with the assistance of the Cochrane Renal Group)
- To obtain full text copies of papers as requested by guideline writers
ISPD GUIDELINE/RECOMMENDATIONS

A SYLLABUS FOR TEACHING PERITONEAL DIALYSIS TO PATIENTS AND CAREGIVERS

Ana E. Figueiredo, Judith Bernardini, Elaine Bowes, Miki Hiramatsu, Valerie Price, Chunyan Su, Rachael Walker, and Gillian Brunier
ISPD GUIDELINES/RECOMMENDATIONS

ISPD CATHETER-RELATED INFECTION RECOMMENDATIONS: 2017 UPDATE

Cheuk-Chun Szeto,1 Philip Kam-Tao Li,1 David W. Johnson,2 Judith Bernardini,3 Jie Dong,4 Ana E. Figueiredo,5 Yasuhiko Ito,6 Rumeyza Kazancioglu,7 Thyago Moraes,8 Sadie Van Esch,9 and Edwina A. Brown10
ISPD GUIDELINES/RECOMMENDATIONS

ISPD PERITONITIS RECOMMENDATIONS: 2016 UPDATE ON PREVENTION AND TREATMENT

Philip Kam-Tao Li,1 Cheuk Chun Szeto,1 Beth Piraino,2 Javier de Arteaga,3 Stanley Fan,4 Ana E. Figueiredo,5 Douglas N. Fish,6 Eric Goffin,7 Yong-Lim Kim,8 William Salzer,9 Dirk G. Struijk,10 Isaac Teitelbaum,11 and David W. Johnson12
LENGTH OF TIME ON PERITONEAL DIALYSIS AND ENCAPSULATING PERITONEAL SCLEROSIS — POSITION PAPER FOR ISPD: 2017 UPDATE

Edwina A. Brown,1 Joanne Bargman,2 Wim van Biesen,3 Ming-Yang Chang,4 Frederic O. Finkelstein,5 Helen Hurst,6 David W. Johnson,7 Hideki Kawanishi,8 Mark Lambie,9 Thyago Proença de Moraes,10 Johann Morelle,11 and Graham Woodrow12

PDI 2017; 37(4): 362-374
PD pathway

Pt selection
Patient selection

Mr T.D
male
50yo
Rural location
PD: Making it happen

FACULTY OF HEALTH

Pt-targeted pre-dialysis education:
• Increases likelihood of choosing PD  OR 2.2 (1.07-4.32)
• Increases likelihood of receiving PD  OR 3.50 (2.82-4.35)

Devoe et al, AJKD 2016; 68(3): 422
PD pathway

Pt selection

Catheter insertion
Preventing infections in PD: Screening for *S. aureus*

- We suggest screening for nasal *S. aureus* carriage prior to PD catheter insertion (2D).
- If nasal carriage of *S. aureus* is found in PD patients, we suggest treating by topical nasal application of mupirocin (1B).
Preventing infections in PD: what do we actually do?

Screening for *S. aureus*

64% screen for *S. aureus*, but treatment length is variable.

**TABLE 2**

Practice Patterns for Antibiotic Prophylaxis and Nasal Screening and Treatment in PD Patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Response</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice patterns for the screening and treatment</td>
<td>Swab for nasal <em>S. aureus</em></td>
<td>Yes</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>Treat identified carriers</td>
<td>Yes</td>
<td>76</td>
</tr>
<tr>
<td>Length of antibiotic treatment</td>
<td>Single dose</td>
<td>1</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>3–7 days</td>
<td>23</td>
<td>31.9</td>
</tr>
<tr>
<td></td>
<td>2 weeks</td>
<td>13</td>
<td>18.1</td>
</tr>
<tr>
<td></td>
<td>3–6 weeks</td>
<td>10</td>
<td>13.9</td>
</tr>
<tr>
<td></td>
<td>3 months</td>
<td>15</td>
<td>20.8</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>10</td>
<td>13.9</td>
</tr>
</tbody>
</table>
CATHETER PLACEMENT

- We recommend that prophylactic antibiotics be administered immediately before catheter insertion (1A).
- No technique of catheter placement has been demonstrated to be superior to another for the prevention of catheter-related infections (not graded).
Preventing infections in PD: what do we actually do?

Antibiotics at the time of catheter insertion

Mostly cephalosporin at time of surgery

**TABLE 2**
Practice Patterns for Antibiotic Prophylaxis and Nasal Screening and Treatment in PD Patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Response</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice patterns for antibiotic prophylaxis</td>
<td>Give antibiotic at catheter insertion</td>
<td>127</td>
<td>95.5</td>
</tr>
<tr>
<td>at Tenckhoff catheter insertion (n=133)</td>
<td>Prior to surgery</td>
<td>31</td>
<td>24.4</td>
</tr>
<tr>
<td></td>
<td>At time of surgery</td>
<td>92</td>
<td>72.4</td>
</tr>
<tr>
<td></td>
<td>Other&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Antibiotic given</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vancomycin</td>
<td>30</td>
<td>22.6</td>
</tr>
<tr>
<td></td>
<td>Cephalosporin</td>
<td>118</td>
<td>88.7</td>
</tr>
<tr>
<td></td>
<td>Gentamicin</td>
<td>7</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>Penicillin</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>4</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Other&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Campbell et al, PDI 2017; 37(2): 191
Insertion of PD Catheters: Who & How?

Surgeon?  Nephrologist?
Insertion of PD Catheters: Who & How: Liverpool group

171 of 217 (79%) percutaneous

140 of 171 (82%) successful

Shanmugalingam et al, PDI 2017; 37(4): 434
Insertion of PD Catheters: Who & How: Liverpool group

Figure 1 — Transverse view of the medial edge of (L) rectus abdominis at level of umbilicus. Note the normal double layers of peritoneum, and measurement of abdominal wall thickness of 4.18 cm.
How often should you flush the catheter: actual practice

Y. Cho et al, Periton. Dial Int 2017 in press
When can you start PD?
Royal Brisbane & Rockhampton

- RCT, n=122
  - Week 1: Catheter leak 28.2%
  - Week 2: 9.5%
  - Week 4: 2.4%  P=0.001 (ITT)

Ranganathan et al, PDI 2017; 37 (4): 420
Urgent start PD (within 2 weeks): Higher leakage & catheter migration

Single centre, matched case control study (not RCT)

**TABLE 2**
Complications Within 4 Weeks of Catheter Insertion

<table>
<thead>
<tr>
<th></th>
<th>All (N=104)</th>
<th>USPD (N=26)</th>
<th>CSPD (N=78)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leak</td>
<td>4 (4%)</td>
<td>3 (12%)</td>
<td>1 (1%)</td>
<td>0.047</td>
</tr>
<tr>
<td>Catheter blockage</td>
<td>1 (1%)</td>
<td>1 (4%) a</td>
<td>0 (0%)</td>
<td>0.25</td>
</tr>
<tr>
<td>Catheter migration</td>
<td>6 (6%)</td>
<td>3 (12%) b</td>
<td>3 (4%)</td>
<td>0.16</td>
</tr>
<tr>
<td>Exit-site infection</td>
<td>14 (14%)</td>
<td>4 (15%)</td>
<td>10 (13%)</td>
<td>0.92</td>
</tr>
<tr>
<td>Peritonitis</td>
<td>3 (3%)</td>
<td>0 (0%)</td>
<td>3 (4%)</td>
<td>0.57</td>
</tr>
</tbody>
</table>

USPD = urgent-start peritoneal dialysis; CSPD = conventional-start peritoneal dialysis.
Urgent start PD (within 2 weeks): but overall outcomes no different

See et al, PDI 2017; 37(4): 414
Factors the impact on PD success

Patient preference for PD\textsuperscript{38,39}  
Body weight (usually BMI 20–30 kg/m\textsuperscript{2}).\textsuperscript{40} Abdominal obesity may preclude  
Motivation to perform home self-care treatment\textsuperscript{37}  
Training – ability to retain and recall information. Language/need for an  
interpreter may be a barrier\textsuperscript{41}  
Adequate manual dexterity for bag changes\textsuperscript{37}  
Sufficient strength to handle bags (especially APD)  
Visual acuity – although visually impaired may be trained  
Absence of medical and surgical contraindications e.g. previous abdominal  
surgery with adhesions\textsuperscript{38}  
Time commitment for PD  
Desire to travel\textsuperscript{39} – easier with PD compared with HD  
Social worker assessment – finance, work, family, community  
Support person availability – demand on other members of household may  
be a barrier\textsuperscript{39,42}  
Clean and clear area for bag changes  
Adequate storage area with access for supply, delivery  
Good access between storage and bag change area

Jose et al, Nephrology 2011
On average, how many hours does your unit spend on training a new PD nurse to become competent in training PD patients?

- 23.7% <15 hours
- 26.3% 15-39 hours
- 15.8% 40-69 hours
- 13.2% 70-99 hours
- 21.1% 100+ hours

Boudville et al, Nephrology 2017 (in press)
What is the average duration of patient training prior to PD initiation at home?

- 2-3 days per patient: 14.3%
- 4-5 days per patient: 14.3%
- 6-7 days per patient: 17.1%
- >7 days per patient: 54.3%

Boudville et al, Nephrology 2017 (in press)
## PD training practices by PDOPPS country

<table>
<thead>
<tr>
<th>164 facilities</th>
<th>Australia</th>
<th>Canada</th>
<th>Japan</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of facilities</td>
<td>14</td>
<td>20</td>
<td>26</td>
<td>32</td>
<td>68</td>
</tr>
</tbody>
</table>

### When training occurs

<table>
<thead>
<tr>
<th>Time of training</th>
<th>Australia</th>
<th>Canada</th>
<th>Japan</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to PD catheter insertion</td>
<td>7%</td>
<td>5%</td>
<td><strong>62%</strong></td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>1 week after PD catheter insertion</td>
<td>0%</td>
<td>30%</td>
<td>27%</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>2-3 weeks after PD catheter insertion</td>
<td><strong>64%</strong></td>
<td><strong>65%</strong></td>
<td>0%</td>
<td><strong>72%</strong></td>
<td><strong>63%</strong></td>
</tr>
<tr>
<td>Other</td>
<td>29%</td>
<td>0%</td>
<td>12%</td>
<td>16%</td>
<td>15%</td>
</tr>
</tbody>
</table>

### Training location

<table>
<thead>
<tr>
<th>Location</th>
<th>Australia</th>
<th>Canada</th>
<th>Japan</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility only</td>
<td>43%</td>
<td><strong>84%</strong></td>
<td><strong>100%</strong></td>
<td>31%</td>
<td>53%</td>
</tr>
<tr>
<td>Combination of home and facility</td>
<td><strong>57%</strong></td>
<td>16%</td>
<td>0%</td>
<td>50%</td>
<td><strong>47%</strong></td>
</tr>
<tr>
<td>Home only</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td><strong>19%</strong></td>
<td>0%</td>
</tr>
</tbody>
</table>

### Duration of training, days

<table>
<thead>
<tr>
<th>Days</th>
<th>Australia</th>
<th>Canada</th>
<th>Japan</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3</td>
<td>15%</td>
<td>22%</td>
<td><strong>39%</strong></td>
<td>39%</td>
<td>14%</td>
</tr>
<tr>
<td>4-5</td>
<td><strong>69%</strong></td>
<td>56%</td>
<td>17%</td>
<td>52%</td>
<td>29%</td>
</tr>
<tr>
<td>6-7</td>
<td>8%</td>
<td>17%</td>
<td>13%</td>
<td>10%</td>
<td><strong>30%</strong></td>
</tr>
<tr>
<td>&gt;7</td>
<td>8%</td>
<td>6%</td>
<td><strong>30%</strong></td>
<td>0%</td>
<td><strong>27%</strong></td>
</tr>
</tbody>
</table>

Figueiredo et al. ASN oral abstract (2016)
# PD training practices by PDOPPS country

<table>
<thead>
<tr>
<th>Number of facilities</th>
<th>Australia</th>
<th>Canada</th>
<th>Japan</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final training assessment</td>
<td>Procedure demonstration</td>
<td>93%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Written test</td>
<td>29%</td>
<td>30%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Oral test</td>
<td>50%</td>
<td>40%</td>
<td>24%</td>
<td>34%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>7%</td>
<td>5%</td>
<td>0%</td>
<td>3%</td>
</tr>
<tr>
<td>Number of nurses training one patient</td>
<td>One nurse</td>
<td>64%</td>
<td>95%</td>
<td>28%</td>
<td>81%</td>
</tr>
<tr>
<td></td>
<td>Several nurses</td>
<td>36%</td>
<td>5%</td>
<td>72%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Figueiredo et al. ASN oral abstract (2016)
Impact of patient training patterns on peritonitis rates in a large national cohort study

Ana Elizabeth Figueiredo¹, Thyago Proença de Moraes², Judith Bernardini³, Carlos Eduardo Poli-de-Figueiredo¹, Pasqual Barrett⁴, Marcia Olandoski² and Roberto Pecoits-Filho², on Behalf of the BRAZPD Investigators

¹School of Nursing, Nutrition and Physiotherapy (FAENFI) and School of Medicine, Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), Porto Alegre, Brazil, ²Pontifícia Universidade Católica do Paraná (PUCPR), Curitiba, Brazil, ³Pittsburgh University, Pittsburg, USA and ⁴UNESP, Botucatu, Brazil
FIGURE 1: Cumulative incidence failure for time to first peritonitis according to education level (A), hours of training (B), center size (C) and timing of training (D) estimated by Fine and Gray model.
ISPD GUIDELINES/RECOMMENDATIONS

A SYLLABUS FOR TEACHING PERITONEAL DIALYSIS TO PATIENTS AND CAREGIVERS

Ana E. Figueiredo,1 Judith Bernardini,2 Elaine Bowes,3 Miki Hiramatsu,4 Valerie Price,5 Chunyan Su,6 Rachael Walker,7 and Gillian Brunier8

Pontificia Universidade Católica do Rio Grande do Sul,1 Porto Alegre, Brazil; University of Pittsburgh,2 Pittsburgh, PA, USA; King’s College Hospital NHS Foundation Trust,3 London, United Kingdom; Kwassui Women’s University,4 Nagasaki, Japan; Atlantic Health Sciences Corporation,5 Saint John, New Brunswick, Canada; Peking University Third Hospital,6 Beijing, China; Hawke’s Bay District Health Board,7 New Zealand, University of Sydney, Sydney, Australia; and University of Toronto,8 Toronto, Ontario, Canada
<table>
<thead>
<tr>
<th>Topic</th>
<th>Introduced by nurse</th>
<th>Reviewed by nurse</th>
<th>Demonstrations by nurse</th>
<th>Supervised practices by nurse</th>
<th>Proficiency demonstrated by learner</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Establish rapport</td>
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<tr>
<td>Course overview</td>
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<tr>
<td>Vital signs/weight</td>
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<tr>
<td>Documentation</td>
<td></td>
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<tr>
<td>Exit-site care</td>
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<tr>
<td>Asepsis</td>
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<tr>
<td>Hand hygiene</td>
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<td>CAPD exchange</td>
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<td>APD therapy</td>
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<td>Catheter inflow/outflow</td>
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<tr>
<td>Residual renal function</td>
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<tr>
<td>Fluid balance</td>
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<tr>
<td>Peritonitis</td>
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<tr>
<td>Procedural prophylaxis</td>
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<td>Emergency procedures for contamination</td>
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<td>Record keeping</td>
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<td>Trouble shooting</td>
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<tr>
<td>Testing (oral/written)</td>
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<tr>
<td>Potassium balance</td>
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<tr>
<td>Constipation</td>
<td></td>
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<tr>
<td>Ordering supplies</td>
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<tr>
<td>Clinic visits</td>
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<tr>
<td>Vacation arrangements</td>
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<tr>
<td>Employment, hobbies</td>
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<td>Safety and communication</td>
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<td>with home unit:</td>
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</tr>
</tbody>
</table>
A Targeted Education Approach to improve Peritoneal Dialysis outcomes

The HOME Network
&
AKTN PD Working Group
Patient perspectives on prevention and treatment of peritonitis

Invading harm
- Life-threatening
- Wreaking internal damage
- Debilitating pain
- Losing control and dignity

Exasperation with hospitalisation
- Dread of hospital admission
- Exposure to infection
- Gruelling follow-up schedule
- Receiving inattentive care

Constant vigilance for prevention
- Conscious of vulnerability
- Sharing responsibility with family
- Demanding attention to detail
- Ambiguity of detecting infection
- Ineradicable inhabitation
- Jeopardising PD success

Incapacitating lifestyle interference
- Financial strain
- Isolation and separation
- Exacerbating burden on family

Figure 1 — Thematic schema representing patient perspectives on the prevention and treatment of peritonitis in peritoneal dialysis.

TABLE 3
Suggestions for Clinical Practice

<table>
<thead>
<tr>
<th>Domain</th>
<th>Suggested strategies and action</th>
</tr>
</thead>
</table>
| Information, education and training | Provide more frequent retraining for patients  
                                        Provide a home visit by a PD nurse (e.g., in the first week of dialysis at home, 3 months after starting dialysis, following a PD-related infection)  
                                        Allow family members/carers to attend training with the patient  
                                        Develop educational materials for family members/carers  
                                        Educate general hospital staff about the PD method and importance of infection prevention |
| Psychological support         | Offer referral to psychological services after a peritonitis episode                            |
| Technical/clinical support    | Provide a PD nurse or nephrologist on call who can visit patients when they are admitted to a general ward or the ICU  
                                        Have renal unit make up the dialysis bags with antibiotics for patients to use  
                                        Make it possible for patients who work to attend for tests and dialysis bag collection before and after normal work hours |
| Social support                | Offer patients access to child care associated with the hospital during the peritonitis treatment period  
                                        Offer patients access to free or low-cost parking at the renal unit/hospital during the peritonitis treatment period |

PD = peritoneal dialysis; ICU = intensive care unit.
Exit site care

TOPICAL ANTIBACTERIAL AND ANTISEPTIC AGENTS

- We recommend daily topical application of antibiotic cream or ointment to the catheter exit site (1A).
- We suggest that no cleansing agent has been shown to be superior with respect to preventing catheter-related infections (2B).

OTHER ASPECTS OF EXIT-SITE CARE

- We recommend that the exit site be cleansed at least twice weekly and every time after a shower (1C).
Antimicrobial agents for preventing peritonitis in peritoneal dialysis patients (Review)

Campbell D, Mudge DW, Craig JC, Johnson DW, Tong A, Strippoli GFM, Hodson EM
Preventing infections in PD: what do we actually do?

Exit site care

TABLE 2
Practice Patterns for Antibiotic Prophylaxis and Nasal Screening and Treatment in PD Patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Response</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice patterns for care of the exit site (n=133)</td>
<td>Exit-site care practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mupirocin ointment</td>
<td>79</td>
<td>59.4</td>
</tr>
<tr>
<td></td>
<td>Antibacterial wash</td>
<td>43</td>
<td>32.3</td>
</tr>
<tr>
<td></td>
<td>Betadine wipes</td>
<td>31</td>
<td>23.3</td>
</tr>
<tr>
<td></td>
<td>Soap and water</td>
<td>36</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>27</td>
<td>20.3</td>
</tr>
</tbody>
</table>

Campbell et al, PDI 2017; 37(2): 191
SECONDARY PREVENTION

- We recommend anti-fungal prophylaxis when PD patients receive antibiotic courses to prevent fungal peritonitis (1B).
Preventing infections in PD: what do we actually do?  
**Antifungal prophylaxis**

### TABLE 3  
Practice Patterns for Antifungal Prophylaxis in PD Patients

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Response</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice patterns for antifungal prophylaxis with an antibiotic course (n=133) and length of treatment (n=93)</td>
<td>Give antifungal agent (\text{Yes})</td>
<td>93</td>
<td>69.9</td>
</tr>
<tr>
<td>Duration of treatment</td>
<td>Same duration as the antibiotics</td>
<td>55</td>
<td>59.1</td>
</tr>
<tr>
<td></td>
<td>For 3 days longer than the antibiotics</td>
<td>37</td>
<td>39.8</td>
</tr>
</tbody>
</table>

PD = peritoneal dialysis.

Campbell et al, PDI 2017; 37(2): 191
DIALYSIS SOLUTION

• The committee has no specific recommendation on the choice of dialysis solution for prevention of peritonitis.
Icodextrin use by state and country
Prevalent patients December 2015

CAPD
APD

Proportions not presented if <10 patients

2016 ANZDATA Annual Report, Figure 5.7
Treatment for peritoneal dialysis-associated peritonitis (Review)

Ballinger AE, Palmer SC, Wiggins KJ, Craig JC, Johnson DW, Cross NB, Strippoli GFM
ISPD GUIDELINES/RECOMMENDATIONS

ISPD PERITONITIS RECOMMENDATIONS: 2016 UPDATE ON PREVENTION AND TREATMENT

Philip Kam-Tao Li,1 Cheuk Chun Szeto,1 Beth Piraino,2 Javier de Arteaga,3 Stanley Fan,4 Ana E. Figueiredo,5 Douglas N. Fish,6 Eric Goffin,7 Yong-Lim Kim,8 William Salzer,9 Dirk G. Struijk,10 Isaac Teitelbaum,11 and David W. Johnson12

Li et al Perit Dial Int 2016; 36 (5): 481-508
Clinical Governance

INFECTION RATE

• We recommend that every program should monitor, at least on a yearly basis, the incidence of catheter-related infections (1C).
• We suggest that the rate of catheter-related infection should be presented as number of episodes per year (not graded).
New Haemodialysis Patients and First Access - Adult

01 Apr 2016 - 30 Jun 2016

From the Real Time ANZDATA Database

PUBLISHED 18 August 2016

This information is provided as it is reported to ANZDATA with no express or implied guarantee of accuracy or quality. The reporting arrangements provide additional information to units on key performance indicators. Units should use these data to monitor clinical practice and outcomes.

Centre-Specific Peritonitis Rates - Adult

01 Apr 2016 - 30 Jun 2016

From the Real Time ANZDATA Database

PUBLISHED 18 August 2016

This information is provided as it is reported to ANZDATA with no express or implied guarantee of accuracy or quality. The reporting arrangements provide additional information to units on key performance indicators. Units should use these data to monitor clinical practice and outcomes.
Identified hospital report - Dialysis

Data 2009-2014
Dialysis hospital report, Jan 2016
KPI-3: Proportion of dialysis patients who are 35% dialyzing at home, both incident and prevalent rates.
Clinical Practice Variation:
Proportion of PD patients in unit

![Graph showing the proportion of PD patients in unit against parent units.](image-url)
Clinical practice variation: Evidenced-based
Eminence-based
Experience-based

- Local practice patterns differ in individual renal units
- Lack of high quality evidence for clinical nephrology practice
  - Lack of clinical trials

“Albatross” model

Each renal unit doing its’ own thing
Clinical practice variation: observational data
PD peritonitis rate
By treating unit, Australia 2006-2015

Excludes units with <10 person-years PD over 2006-2015
PD peritonitis rate
By state, Australia 2006-2015

2016 ANZDATA Annual Report, Figure 5.23
Facility peritonitis rates*

Peritonitis rate (95% CI), events per patient year

*Restricted to facilities with at least 5 patient years of follow-up (n=79)

Perl et al. ASN oral abstract (2016)
Variation: We often blame the patient

It’s your fault
ORIGINAL ARTICLES

CENTER-SPECIFIC FACTORS ASSOCIATED WITH PERITONITIS RISK—A MULTI-CENTER REGISTRY ANALYSIS

Annie-Claire Nadeau-Fredette,¹,²,³ David W. Johnson,¹,²,⁴ Carmel M. Hawley,¹,²,⁴ Elaine M. Pascoe,⁵ Yeoungjee Cho,¹,²,⁴ Philip A. Clayton,²,⁶,⁷ Monique Borlace,⁸ Sunil V. Badve,¹,² Kamal Sud,⁷,⁹ Neil Boudville.¹⁰ and Stephen P. McDonald²,⁸,¹¹
A greater use of PD = less peritonitis

![Graph showing the relationship between proportion of PD and mean peritonitis incidence rate per year. The graph indicates a downward trend, suggesting that as the proportion of PD increases, the mean peritonitis incidence rate per year decreases.]
Centre Variation in Peritonitis Rates

Centre Variation in Peritonitis Cure

9% patient
66% centre

Unadjusted
Patient-adjusted
Facility-adjusted

Htay H et al, unpublished
Centre Variation in Technique Failure

28% patient
53% centre

Collaboration: to create new knowledge

Individual unit practice “Albatross Model”

Collaboration between units “Duck model” (flying-V)
Peritoneal dialysis practice in Australia and New Zealand: A call to action

MATTHEW D JOSE,1 DAVID W JOHNSON,2 DAVID W MUDGE,2 ANDERS TRANÆUS,3 DAVID VOSS,4 ROWAN WALKER5 and KYM M BANNISTER6

1Department of Nephrology, Royal Hobart Hospital & Menzies Research Institute, Hobart, Tasmania, 2Department of Nephrology, University of Queensland at Princess Alexandra Hospital, Brisbane, Queensland, 5Department of Nephrology Royal Melbourne Hospital, Melbourne, Victoria, and 6Central Northern Adelaide Renal and Transplantation Service, Royal Adelaide Hospital, Adelaide, South Australia, Australia; and 3Baxter Healthcare Asia Pacific, Shanghai, China; and 4Renal Department, Middlemore Hospital, Otahuhu, Auckland, New Zealand
Peritoneal dialysis practice in Australia and New Zealand: A call to sustain the action

DAVID W MUDGE, NEIL BOUDVILLE, FIONA BROWN, PHILIP CLAYTON, MICHELLE DUDINGTON, STEPHEN HOLT, DAVID W JOHNSON, MATTHEW JOSE, WALAA SAWEIRS, KAMAL SUD, DAVID VOSS and ROWAN WALKER

1Department of Nephrology, University of Queensland at Princess Alexandra Hospital, Brisbane, Queensland, Australia, 2School of Medicine and Pharmacology, Sir Charles Gairdner Hospital, Perth, Western Australia, Australia, 3Monash Medical Centre, Melbourne, Victoria, Australia, 4Royal Melbourne Hospital, Melbourne, Victoria, Australia, 5Department of Medicine, University of Melbourne, Melbourne, Victoria, Australia, 6Department of Renal Medicine, The Alfred Hospital, Melbourne, Victoria, Australia, 7Department of Renal Medicine, Royal Adelaide Hospital, Adelaide, South Australia, Australia, 8Baxter Healthcare, Sydney, New South Wales, Australia, 9Nepean Clinical School, and Department of Renal Medicine, Nepean Hospital, University of Sydney, Sydney, New South Wales, Australia, 10Department of Nephrology, Royal Hobart Hospital & Menzies Institute for Medical Research, University of Tasmania, Hobart, Tasmania, Australia, 11Renal Unit, Whangarei Hospital, Whangarei, New Zealand, and 12Renal Department, Middlemore Hospital, Auckland, New Zealand
PD peritonitis rate
Australia 2006-2015

2016 ANZDATA Annual Report, Figure 5.22
PD pathway

Pt selection → Catheter insertion → PD training → Novice PD → Veteran PD

Clinical Governance
A good outcome?

www.songinitiative.org
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Questions?

Matthew.Jose@utas.edu.au