# 1 Review protocol

## KEY CLINICAL QUESTION 1

<table>
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<tr>
<th>Details</th>
<th>Notes and status</th>
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<tbody>
<tr>
<td>What is the effectiveness of peritoneal dialysis compared with haemodialysis in people with CKD stage 5 who need dialysis? Is peritoneal dialysis in the community and/or home for the treatment of severe chronic kidney disease (CKD stage 5) clinically effective compared to haemodialysis in the community, hospital, and/or other satellite units?</td>
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</table>

<table>
<thead>
<tr>
<th>Objective(s)</th>
<th>To determine the safety and clinical effectiveness of peritoneal dialysis in the community and/or home for the treatment of severe chronic kidney disease (CKD stage 5) in adults and children</th>
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<table>
<thead>
<tr>
<th>Criteria for considering studies</th>
<th>PICO</th>
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<table>
<thead>
<tr>
<th>Population</th>
<th>Adults and children with a diagnosis of severe chronic kidney disease (CKD stage 5) who need or who are receiving renal replacement therapy.</th>
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</thead>
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<table>
<thead>
<tr>
<th>Intervention(s)</th>
<th>Peritoneal dialysis in the community/home using • automated Peritoneal Dialysis (APD), including Continuous Cyclical Peritoneal Dialysis (CCPD), Intermittent Peritoneal Dialysis (IPD), Nightly Intermittent Peritoneal Dialysis (NIPD) and Tidal Peritoneal Dialysis (TPD) • assisted Automated Peritoneal Dialysis (aAPD) • continuous Ambulatory Peritoneal Dialysis (CAPD).</th>
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</table>

<table>
<thead>
<tr>
<th>Comparator(s)</th>
<th>• haemodialysis in the community and/or home • haemodialysis in the hospital and/or other satellite units</th>
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<table>
<thead>
<tr>
<th>Outcome(s)</th>
<th>• hospitalisation rate • technique and access failure • anaemia, including erythropoietin (EPO) use</th>
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</table>

Agreed with GDG CAPD, APD and aAPD only (not appropriate to determine specific prescription of PD)

See updated section on outcomes in the Methods section of the full guideline, and defined as Health-related QoL
### Appendices DRAFT

<table>
<thead>
<tr>
<th>Adverse effects of dialysis, for example infections</th>
<th>Patient involvement and satisfaction</th>
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</thead>
<tbody>
<tr>
<td>mortality</td>
<td>Mortality (where reported, also deaths in first 3 months)</td>
</tr>
<tr>
<td>health related quality of life</td>
<td>Preservation of renal function</td>
</tr>
<tr>
<td>resource use and costs</td>
<td>Technique failure or switch</td>
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<tr>
<td></td>
<td>Resource use and costs inc hospitalisation</td>
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<td>Adverse events</td>
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<td>Adequacy rates</td>
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<td>Staff attitude</td>
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<td></td>
<td>Nutritional status</td>
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<td></td>
<td>Anaemia</td>
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</table>

**How to be searched**

- As per the Guidelines Manual. No additional databases are required
- Date restriction: Systematic reviews – 2004 onwards
- RCTs – no date restrictions
- Language restriction: English language
- Study design: systematic reviews and RCTs

**Due to paucity of data, undertook additional search to identify relevant registry data related to any of the interventions (including HD) and agreed outcomes.**

**Review strategy**

- GRADE profiles
### KEY CLINICAL QUESTION 2

<table>
<thead>
<tr>
<th>Details</th>
<th>Notes and status</th>
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</table>
| What is the effectiveness of different modes of peritoneal dialysis (CAPD, APD, aAPD) in people with CKD stage 5 who need dialysis?  
What is the clinical effectiveness of the different types of peritoneal dialysis (Automated Peritoneal Dialysis [APD], Continuous Cyclical Peritoneal Dialysis [CCPD], Intermittent Peritoneal Dialysis [IPD], Nightly Intermittent Peritoneal Dialysis [NIPD], Tidal Peritoneal Dialysis [TPD], assisted Automated Peritoneal Dialysis [aAPD] and Continuous Ambulatory Dialysis [CAPD]) compared to each other?  
Objective(s) To determine the safety and clinical effectiveness of the different types of peritoneal dialysis for the treatment of severe chronic kidney disease (CKD stage 5) in adults and children.  
Criteria for considering studies PICO  
Population Adults and children with a diagnosis of severe chronic kidney disease (CKD stage 5) who need or who are receiving renal replacement therapy.  
Intervention(s) Peritoneal dialysis in the community/home using  
- automated Peritoneal Dialysis (APD), including Continuous Cyclical Peritoneal Dialysis (CCPD), Intermittent Peritoneal Dialysis (IPD), Nightly Intermittent Peritoneal Dialysis (NIPD) and Tidal Peritoneal Dialysis (TPD)  
- assisted Automated Peritoneal Dialysis (aAPD)  
- continuous Ambulatory Peritoneal dialysis (CAPD)  
Comparator(s) Any of the above  
Outcome(s)  
- hospitalisation rate  
- technique and access failure  
- anaemia, including erythropoietin (EPO) use  
- adverse effects of dialysis, for example infections  
- mortality  
- health related quality of life  
Agreed with GDG CAPD, APD and aAPD only (not appropriate to determine specific prescription of PD)  
Agreed with GDG CAPD, APD and aAPD only (not appropriate to determine specific prescription of PD)  
See updated section on outcomes in the Methods section of the full guideline
| How to be searched | As per the Guidelines Manual. No additional databases are required  
|                   | Date restriction:  
|                   | Systematic reviews – 2004 onwards  
|                   | RCTs – no date restrictions  
|                   | Language restriction: English language  
|                   | Study design: systematic reviews and RCTs.  
| Review strategy   | GRADE profiles  
|                   | Due to paucity of data, undertook additional search to identify relevant registry data related to any of the interventions (including HD) and agreed outcomes. |
### KEY CLINICAL QUESTION 3

<table>
<thead>
<tr>
<th>Details</th>
<th>Notes and status</th>
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<tbody>
<tr>
<td>When is it appropriate to switch people either to or from peritoneal dialysis to avoid complications due to renal replacement therapies?</td>
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</table>

<table>
<thead>
<tr>
<th>Objective(s)</th>
<th>To avoid adverse effects of peritoneal dialysis in the treatment of severe chronic kidney disease (CKD stage 5) in adults and children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria for considering studies</td>
<td>PICO</td>
</tr>
<tr>
<td>Population</td>
<td>Adults and children with a diagnosis of severe chronic kidney disease (CKD stage 5) who need or who are receiving renal replacement therapy.</td>
</tr>
<tr>
<td>Intervention(s)</td>
<td>Any type of intervention e.g. kidney transplant, haemodialysis</td>
</tr>
<tr>
<td>Comparator(s)</td>
<td>Any comparators considered</td>
</tr>
</tbody>
</table>
| Outcome(s) | • hospitalisation rate  
• failure of treatment  
• technique and access failure  
• anaemia, including erythropoietin (EPO) use  
• adverse effects of dialysis, for example infections  
• mortality  
| See updated section on outcomes in the Methods section of the full guideline |

| How to be searched | To use trials in question 1 and question 2  
To look up other guidelines identified in the scope |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Review strategy</td>
<td>GRADE profiles</td>
</tr>
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</table>
### KEY CLINICAL QUESTION 4a

<table>
<thead>
<tr>
<th>Details</th>
<th>Notes and status</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the effectiveness of interventions to improve decision making in people/carers of patients undergoing or considering undergoing peritoneal dialysis in the community and/or home?</td>
<td></td>
</tr>
<tr>
<td><strong>Objective(s)</strong></td>
<td>To determine the information and support needs for patients and carers</td>
</tr>
<tr>
<td><strong>Criteria for considering studies</strong></td>
<td>PICO</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Adults and children with a diagnosis of severe chronic kidney disease (CKD stage 5) who need or who are receiving renal replacement therapy.</td>
</tr>
</tbody>
</table>
| **Intervention(s)** | Peritoneal dialysis in the community/home using  
- automated peritoneal dialysis (APD), including continuous cyclical peritoneal dialysis (CCPD), intermittent peritoneal dialysis (IPD), nightly intermittent peritoneal dialysis (NIPD) and tidal peritoneal dialysis (TPD)  
- assisted automated peritoneal dialysis (aAPD) and  
- continuous ambulatory peritoneal dialysis (CAPD)  
Haemodialysis in the community and/or home and haemodialysis in the hospital | Considered studies with PD alone, but not with HD alone unless general CKD and dialysis population  
Agreed with GDG CAPD, APD and aAPD only (not appropriate to determine specific prescription of PD) |
| **Comparator(s)** | RCTs of interventions to improve decision making |
| **Outcome(s)** | Patient satisfaction and patient experience | See updated section on outcomes in the Methods section of the full guideline |
| **How to be searched** | As per the Guidelines Manual. No additional databases are required  
Date restriction: None  
Language restriction: English language  
Study design: systematic reviews and RCTs |
| **Review strategy** | GRADE profiles |
### KEY CLINICAL QUESTION 4b

<table>
<thead>
<tr>
<th>Details</th>
<th>Notes and status</th>
</tr>
</thead>
</table>
| What are the information and support needs of people/ carers of patients undergoing or considering undergoing peritoneal dialysis in the community and/or home? | Revised to cover the following: What are the barriers and facilitators for peritoneal dialysis use for  
- adults with CKD stage 5 who need dialysis?  
- children with CKD stage 5 who need dialysis?  
- carers of people with CKD stage 5 who need dialysis?  
- healthcare professionals who support patients and carers deciding on the modality of dialysis (peritoneal dialysis or haemodialysis)? |

**Objective(s)**

To determine the information and support needs for patients and carers based on qualitative evidence

**Criteria for considering studies**

PICO

**Population**

Adults and children with a diagnosis of severe chronic kidney disease (CKD stage 5) who need or who are receiving renal replacement therapy.

**Intervention(s)**

Peritoneal dialysis in the community/home using  
- automated peritoneal dialysis (APD), including continuous cyclical peritoneal dialysis (CCPD), intermittent peritoneal dialysis (IPD), nightly intermittent peritoneal dialysis (NIPD) and tidal peritoneal dialysis (TPD)  
- assisted automated peritoneal dialysis (aAPD) and  
- continuous ambulatory peritoneal dialysis (CAPD).  

Considered studies with PD alone, but not with HD alone unless general CKD and dialysis population

Agreed with GDG CAPD, APD and aAPD only (not appropriate to determine specific prescription of PD)

**Comparator(s)**

None

**Outcome(s)**

Patient satisfaction and patient experience
| How to be searched | As per the Guidelines Manual. No additional databases are required.  
|                   | Date restriction: None  
|                   | Language restriction: English language  
|                   | Study design: qualitative studies, healthtalkonline.org | Healthtalk online not used as good evidence base in published literature |
| Review strategy   | Meta-thematic analysis | Used structured GRADE approach rather than a true thematic analysis |
2 Evidence tables

NOTE: the questions are presented in the order as in the full guideline rather than as in the review protocol.

2.1 Barriers and facilitators to decision making

2.1.1 Review question on information and support needs (review question 4b)

What are the barriers and facilitators for peritoneal dialysis use for:

- adults with CKD stage 5 who need dialysis?
- children with CKD stage 5 who need dialysis?
- carers of people with CKD stage 5 who need dialysis?
- healthcare professionals who support patients and carers deciding on the modality of dialysis (peritoneal dialysis or haemodialysis)?
Systematic review(s) related to adult and carer views

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Aim</th>
<th>Study inc/exc criteria</th>
<th>Databases searched</th>
<th>Study quality assessment</th>
<th>Results</th>
<th>Author conclusions or recommendations</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Morton 2010a</td>
<td>To synthesise the views of patients and carers in decision making regarding treatment for CKD, and to determine which factors influence those decisions</td>
<td>Included qualitative studies if • using interviews, focus groups, observations to explore patient/carer preferences or dialysis</td>
<td>• Medline, PsycINFO, CINAHL, EmBase, social work abstracts, social science journals, EconLit • Hand-</td>
<td>Assessed reporting using the COREQ framework Studies were not excluded or weighted on the basis of reporting quality.</td>
<td>18 studies were included, of which 15 described specific preferences for dialysis modality. Overall, themes identified were • confronting mortality ○ choosing life or death ○ being a burden ○ living in limbo</td>
<td>Authors recommend ‘formal incorporation of peers’, giving information at stage 4 disease, the use of ‘formal care pathways […] for home dialysis […] to facilitate provision of treatments more aligned with their preferences’.</td>
<td>Very high quality with great level of detail. Used thematic analysis to generate results.</td>
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<tr>
<td>Study ID</td>
<td>Aim</td>
<td>Study inc/exc criteria</td>
<td>Databases searched</td>
<td>Study quality assessment</td>
<td>Results</td>
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<td>Murray 2009</td>
<td>To identify factors influencing patient involvement in decision making in the context of CKD and effective interventions to support their decision making needs</td>
<td>Included if • focused on decision making needs, information needs, and/or barriers and facilitators to shared decision making • adults aged 18 years and over with CKD • any study design Excluded if • patients with acute renal failure</td>
<td>• Cochrane Database of Systematic Reviews, CCTR, Medline, CINAHL, PsycINFO, EmBase, Cochrane Inventory of Patient Decision Aids • Checked reference lists and personal files and contacts of panel</td>
<td>Assessed using CASP criteria for descriptive observational studies; EPHPP tools for intervention studies; AMSTAR for systematic reviews; IPDAS for patient decision aids. Narrative reviews were not quality scored. Although individual study quality was reported, not clear how this was used</td>
<td>Of 40 papers included, 34 studies and 1 narrative review described factors related to patient decisions, information needs and decision modifiers. Most frequently reported decisions faced by CKD patients were • type of RRT • withholding or withdrawing of treatment • renal transplantation. Less frequently reported decisions were • scheduling of treatments • adherence to care plans • selection of vascular access • preferred level of participation in self-care.</td>
<td>Authors concluded that 'best practices for patient-centred care clearly recommend the provision of the decision support'. They highlighted the need for inter-professional collaboration, whilst recognizing that little is known about the perspective and contribution of non-physician providers. Recommendations were that all clinicians should actively inquire about patients' desired role in decision making and implement strategies into care planning to meet patient need; to recognize that decision making, narrative summary, rather than a thematic analysis.</td>
<td>See additional information below. Some overlap with Murray 2009 review (4 unique studies).</td>
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<tr>
<td>Study ID</td>
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<td>Databases searched</td>
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<td>failure not experiencing CKD</td>
<td>members</td>
<td>in the use or interpretation of the evidence.</td>
<td>Information needs mapped against domains were</td>
<td>making needs encompass social, emotional, and practical domains as well as biomedical concerns.</td>
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<td>Contacted authors of ongoing relevant Cochrane Review</td>
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<td>natural history of CKD</td>
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<td>Checked TOC for selected journals (2004-2008)</td>
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<td>treatment procedures</td>
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<td>Restricted to English language only</td>
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<td>potential benefits of treatment</td>
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<td>Studies published between 1998 and 2008</td>
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<td>severity and potential for side effects (most commonly reported)</td>
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<td>sens/spec of screening/diagnostic tests</td>
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<td>follow-up procedures.</td>
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<td>Information needs as reported were</td>
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<td>condition management</td>
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<td>social and lifestyle factors</td>
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<td>general knowledge about CKD, treatment options and renal transplant</td>
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<td>lifestyle management</td>
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<td>self-care (e.g. dietary and fluid management, skin care)</td>
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<td>end-of-life planning</td>
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<td>exposure to others’ opinions and experiences.</td>
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<td></td>
<td>There was variation in knowledge of treatment options (type of dialysis) and sources of information (physician, nurse, other patients, family members).</td>
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<td>Of 8 studies assessing factors that influence decision making, 3 were related to treatment decision making. No study determined whether these factors were barriers or facilitators.</td>
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<td>Patient-level factors influencing treatment</td>
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<td>Study ID</td>
<td>Aim</td>
<td>Study inc/exc criteria</td>
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<td>• interpersonal relationships (e.g. opinions of family and providers)</td>
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<td>• trust in providers</td>
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<td>• preservation of current well being, normality and quality of life (e.g. concerns about impact on daily living)</td>
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<td>• need for control (wish for personal preferences to shape future)</td>
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<td>• being personally responsible.</td>
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</tbody>
</table>
## Qualitative studies related to adult and carer views

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Research parameters</th>
<th>Population and sample collection</th>
<th>Key themes</th>
<th>Source of funding</th>
<th>Evidence gap</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee 2008</td>
<td>To explore patient views, that is experiences with different dialysis modalities and key issues related to patient choice of modality</td>
<td>• Focus group interviews using semi-structured interview guide (based on systematic review)</td>
<td>27 patients (18 years and older) having dialysis (n=24); or had recently participated in a pre-dialysis education programme (n=3)</td>
<td>Main topics identified were • flexibility and independence related to treatment • feelings of insecurity • physical space and noise • maintenance of a normal life • pre-dialysis information • involvement in choice of modality Related to pre-dialysis information • Patients who had not attended wished they had • Timing is important, and early information is appreciated noting however that it was rather abstract and more information and recounselling would be needed later on from both HCP and preferably, fellow patients • No in-centre HD patients received any formal pre-dialysis education and were dissatisfied with the information received Related to involvement in choice of modality • No in-centre HD patients had been given a choice • Most of the others had been involved in the choice of their current modality, if not the initial modality • A few had difficulty in getting their choice or felt that their own fear of incompetence had been a barrier • Motivation for PD and home HD was primarily greater flexibility, avoidance of travelling time, and for some, better possibility to continue</td>
<td>Not reported</td>
<td>Single centre, so may not be generalisable across the country. Lack of analysis of factors (such as age, gender etc) and impact on experience.</td>
</tr>
<tr>
<td>Study ID</td>
<td>Aim</td>
<td>Theoretical approach</td>
<td>Data collection</td>
<td>Method and process of analysis</td>
<td>Population and sample collection</td>
<td>Key themes</td>
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<td>McLaughlin 2008</td>
<td>To identify perceived advantages of self-care dialysis (SCD) associated with selecting SCD for chronic kidney disease</td>
<td>Not specified</td>
<td>Questionnaire survey with free-text asking about the advantages to SCD</td>
<td>Inductive coding</td>
<td>70 patients with stage 4 CKD (35 intervention; 35 control)</td>
<td>Key advantages of SCD were freedom</td>
</tr>
</tbody>
</table>

Factors for self-care in-centre HD were greater flexibility and chance to self-care

Most patients were satisfied with current modality; however two were planning a change

Relatives considered it important that families were involved in decision making due to impact on their lives. They also wanted the opportunity to meet and talk with other patients and relatives before choosing the modality.

Both patients and relatives thought a forum to share experiences and discuss anxieties and decisions would be useful

See also additional information on the advantages and disadvantages of each modality below

- freedom
  - freedom (not specified)
  - dietary freedom
  - travel
  - time
  - guilt (use of resources)
  - constraints (flexibility)
- lifestyle
  - lifestyle (not specified)
  - ability to work
  - participation in ‘normal’ activities
  - reduced disruption to ‘normal’ lifestyle
  - convenience
  - reduced need for travel
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Aim</th>
<th>Theoretical approach</th>
<th>Data collection</th>
<th>Method and process of analysis</th>
<th>Population and sample collection</th>
<th>Key themes</th>
<th>Source of funding</th>
<th>Evidence gap</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morton 2010b</td>
<td>To examine patient views about treatment for stage 5 CKD and define the characteristics of each form of treatment that were important to the patient</td>
<td>Not specified</td>
<td>Interviews</td>
<td>Thematic analysis (transcribed, coded, grouped, categorized, arranged) Nvivo software used.</td>
<td>• 95 non-indigenous patients from the IMPAKT (Improving Access to Kidney Transplantation) study 2005-6</td>
<td>• Majorly male</td>
<td>Positive characteristics of RRTs were</td>
<td>University post-graduate award NHMRC</td>
<td>Future studies should explore whether these issues are relevant for children and adolescents, and how renal services are taking these factors into account. Also</td>
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<tr>
<th>Perceived advantage SCD</th>
<th>Adjusted OR</th>
<th>95% CI</th>
<th>p-value</th>
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<tbody>
<tr>
<td>Freedom</td>
<td>9.1</td>
<td>2.0 to 41.3</td>
<td>0.004</td>
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<td>Lifestyle</td>
<td>7.0</td>
<td>1.6 to 29.7</td>
<td>0.008</td>
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<td>Control</td>
<td>4.3</td>
<td>0.9 to 19.1</td>
<td>0.058</td>
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Some patients responded that there was no advantage (don’t know, no advantage, missing data). Patients who perceived freedom and lifestyle advantages were more likely to choose SCD.

Patients who perceived freedom and lifestyle advantages were more likely to choose SCD.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Research parameters</th>
<th>Population and sample collection</th>
<th>Key themes</th>
<th>Source of funding</th>
<th>Evidence gap</th>
<th>Comment</th>
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<td></td>
<td>Aim</td>
<td>Theoretical approach</td>
<td>Data collection</td>
<td>Method and process of analysis</td>
<td>(59%); unemployed (52%)</td>
<td>prescription</td>
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<td>Current treatment transplantation (19%), in-centre HD (8.5%), satellite HD (55%), CAPD (8.5%), AutoPD (5%), home HD (4%)</td>
<td>effectiveness</td>
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<td>54% had help from carer or family member</td>
<td>simplicity</td>
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<td>Purposive or maximum-diversity sampling strategy to meet a number of specific objectives: to represent locations where a high number of indigenous patients, to include equal numbers of male and female participants, to focus on including patients aged 18-65 years, to maximize</td>
<td>social inclusion</td>
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<td>Negative characteristics of RRTs were</td>
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<td>• confinement</td>
<td>physical tie to dialysis or hospital limiting normal activities</td>
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<td>• risk</td>
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<td>• family burden</td>
<td>home based dialysis and reluctance to put upon families</td>
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<td>• pain</td>
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<td>• time commitment</td>
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<td>• subordination</td>
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<td>• dialysis access</td>
<td>unacceptable change in</td>
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<td>body image and restriction on physical activity</td>
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<td>• Some declined if unwell on the day, had decided against transplant and therefore thought the study had no relevance to them, did not agree with research, thought the research held no benefit for them, or not interested (no further reason)</td>
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<td>Other factors were distance from centre-based facilities, prior experience (of self or other) (Note only specific comments related to dialysis are reported here)</td>
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Other studies related to adult and carer views

Although not qualitative studies, these references were considered to give further information on the process and influences on decision making for dialysis.

Choice of modality and influence on prognosis

Portoles 2009 determined prognostic factors for mortality and hospital admission for patients on PD. Survival analysis found that mandatory referral to PD was associated with an increased risk of death (HR 6.05, 95% CI 2.65 to 13.89 adjusted for age and previous CV event). Those receiving PD through choice had a better prognosis that those forced to accept PD due to concomitant pathology (mortality, 3.5% vs 20.4%; p<0.001). Patients who chose PD had a peritonitis rate of 0.46 episodes per year at risk compared with a rate 1.78 times higher (95% CI 1.26 to 2.46) in patients forced to accept PD.

Barriers to choice of modality

Oliver 2010 assessed the impact of contraindications and barriers to self-care on incidence PD use, and whether family support increased PD use when home care support is available. Of 497 patients with ESRD and having dialysis, 22% had absolute contraindications to PD; medical and social (residence did not permit PD 2.6%; employment did not permit PD 0.2%). 63% of those without contraindications to PD had at least one barrier to self-care as assessed by the physician (physical barriers were decreased strength 53%, decreased manual dexterity 43%, decreased vision 33%, decreased hearing 16%, immobility, 25%, poor health/fragility 14%, poor hygiene 3%; cognitive barriers were language barrier 15%, history of non-compliance 13%, psychiatric condition 8%, dementia/poor memory 8%, other [aphasia, learning disability, poor motivation, denial about ESRD] 8%). Patients with barriers were older (p<0.05), weighed less ( weight [p<0.05]; BMI [p<0.001]), and were more likely to be female (p<0.001), start dialysis as an in-patient (p<0.001), and have a history of cerebrovascular disease (p<0.05), cardiac disease (CAD or heart failure [p<0.05]; other cardiac disease [p<0.001]), and cancer (p<0.01). They were also more likely to start dialysis at a higher eGFR (p<0.05).

149 (61%) patients with barriers to self-care had family support (spouse alone 53%; spouses and paid caregivers 0.7%; children alone 29%; children and paid caregivers 4%);
spouses and children 4%; spouses, children and paid caregivers 0.7%). No significant baseline differences were seen between the groups with or without family support.

Family support was associated with PD eligibility, as assessed by the physician (OR 3.1; 95% CI 1.6 to 6.1, adjusted for age, sex, diabetes, CAD, heart failure, pre-dialysis care, baseline eGFR, baseline haemoglobin, baseline albumin, and dialysis centre if significantly associated). Increased PD eligibility was associated with family support for physical barriers (78% vs 60%, p=0.005), cognitive barriers (81% vs 46%, p=0.0001) or both (78% vs 32%, p=0.0001).

Family support was associated with choosing PD (OR 2.3; 95% CI 1.2 to 4.7, adjusted for age, sex, diabetes, CAD, heart failure, pre-dialysis care, baseline eGFR, baseline haemoglobin, baseline albumin, and dialysis centre if significantly associated). Increased PD choice was associated with family support for physical barriers (59% vs 40%, p=0.02), cognitive barriers (60% vs 32%, p=0.03) or both (67% vs 22%, p=0.02).

Combined effect of support on eligibility and choice of PD increased PD use from 23% to 39% among patients with barriers to self-care (p=0.009).

2.1.2 Included studies (adult and carer)


2.1.3 Excluded papers with reasons (adult and carer)

(2009)
Patients with chronic kidney disease have poor perceived knowledge of treatment options.
EXC - review of Finkelstein 2008 study

A survey-based evaluation of self-perceived competency after nephrology fellowship training.
EXC - survey of trainees assessment of training, not exploration of attitudes or barriers

Bouvier, N. and others. (2009)
Regional discrepancies in peritoneal dialysis utilization in France: the role of the nephrologist's opinion about peritoneal dialysis.
EXC - not qualitative studies related to the experience of decision making

Peritoneal dialysis for older people: overcoming the barriers. [Review] [24 refs].
EXC - narrative review, not primary study

Derrett, S. and others. (2010)
Older peoples' satisfaction with home-based dialysis.
EXC - not 'true' qualitative study

Fan, S. L. and others. (2008)
Quality of life of caregivers and patients on peritoneal dialysis.
EXC - quality of life study, not qualitative study of patient or carer experience

Finkelstein, F. O. and others. (2008)
Perceived knowledge among patients cared for by nephrologists about chronic kidney disease and end-stage renal disease therapies.
EXC - questionnaire survey of patient knowledge before dialysis. Not related to decision making or experience of shared decision making

Effect of an educational program on awareness about peritoneal dialysis among patients on hemodialysis.
EXC - evaluation of impact of training on patient knowledge. Not qualitative exploration of decision making, reference to intention to choose modality, or perception of decision making process

Optimal referral to pre-dialysis services: One center's experience.
EXC - not qualitative exploration of patient experience of decision making
Optimal referral is early referral.
**EXC - not qualitative exploration of patient experience of decision making**

Patients in assisted automated peritoneal dialysis develop strategies for self-care.
**EXC - abstract only, no full report identified**

Kaptein, A. A. and others. (2009)
Behavioural research in patients with end-stage renal disease: A review and research agenda.
**EXC - not available from the British Library**

Key, S. M. (2008)
Optimizing dialysis modality choices around the world: a review of literature concerning the role of enhanced early pre-ESRD education in choice of renal replacement therapy modality.
**EXC - narrative review**

Klak, R. and others. (2008)
Exhaustion of caregivers of patients on maintenance haemodialysis.
**EXC - letter, not full report of study**

The best dialysis therapy? Results from an international survey among nephrology professionals.
**EXC - not qualitative studies related to the experience of decision making**

What limits the expansion of self-care dialysis at home?
**EXC - not qualitative studies related to the experience of decision making**

Peritoneal dialysis patient selection: characteristics for success. [Review] [60 refs].
**EXC - narrative review**

Lo, W. K. (2009)
Absolute free choice for dialysis modality selection -- is it possible?
**EXC - opinion piece, not primary study**

Low, J. and others. (2008)
The impact of end-stage kidney disease (ESKD) on close persons: A literature review.
**EXC - not decision making, focus on impact of disease**

Development of a peritoneal dialysis support initiative for clients in the community.
**EXC - not available from the British Library**

The experience of uncertainty among patients having peritoneal dialysis.
**EXC - not exploration of decision making or experience**
Looking for adequate return on investment: timing of educating patients about dialysis modalities.
EXC - opinion piece, not primary study

Mehrotra, R. and others. (2009)
Ownership patterns of dialysis units and peritoneal dialysis in the United States: utilization and outcomes.
EXC - ownership of dialysis centres and association with PD use, not exploration of barriers or attitudes

Mendelssohn, D. C. (2009)
Increasing PD utilization: should suitable patients be forced?
EXC - opinion piece, not primary study

Mooney, A. (2009)
Decision making around dialysis options.
EXC - opinion piece about decision making. No further details of the study described in the abstract.

Morton, R. L. and others. (2009)
A national audit of information provided to new chronic kidney disease stage 4 & 5 patients: a pilot study.
EXC - not qualitative exploration of patient experience of decision making or RCT of intervention

Ozturk, S. and others. (2009)
Assessing and training patients on peritoneal dialysis in their own homes can influence better practice.
EXC - training when on PD, not decision making or initial support

Panagopoulou, A. and others. (2009)
Psychosocial issues and quality of life in patients on renal replacement therapy.
EXC - not exploration of decision making or initial support

Pruchno, R. A. and others. (2008)
Stability and change in patient preferences and spouse substituted judgments regarding dialysis continuation.
EXC - exploration of reasons for continuation or withdrawal of treatment at (hypothetical) end of life scenarios

Qamar, M. and others. (2009)
The United States’ perspectives on home dialysis. [Review] [40 refs].
EXC - narrative review

Tungsanga, K. and others. (2008)
The status of, and obstacles to, continuous ambulatory peritoneal dialysis in Thailand.
EXC - narrative review (citing data that although relevant, quoted as unpublished)

M. A. Visaya. (2010)
Hemodialysis patients' perceptions of home hemodialysis and self-care.
EXC - not qualitative study of patient decision making or initial support

Theory and reality in the selection of peritoneal dialysis.
EXC - narrative review

Ye, X. Q. and others. (2008)
Effect of social support on psychological-stress-induced anxiety and depressive symptoms in patients receiving peritoneal dialysis.
EXC - not qualitative study of patient decision making or initial support
Systematic review(s) related to child and parent views

No systematic reviews on the views or experience of children were identified.

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Aim</th>
<th>Study inc/exc criteria</th>
<th>Databases searched</th>
<th>Study quality assessment</th>
<th>Results</th>
<th>Author conclusions or recommendations</th>
<th>Comment</th>
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<tbody>
<tr>
<td>Tong 2008</td>
<td>To summarise published studies of parents’ experiences about caring for a child with CKD</td>
<td>Included if • used interviews or focus groups • experiences of parents of child or adolescent (aged 21 years or under) with any stage CKD Excluded if • used structured questionnaires as primary method for data collection • included &gt;30% of data from parents of children without CKD • observational epidemiologic studies, editorials, reviews, non-research articles, studies that did not elicit data from parents.</td>
<td>Medline, PsycINFO, CINAHL, Embase, Sociological Abstracts from inception to 2005 • Hand-searched selected • Restricted to English language to prevent cultural and linguistic bias in translations</td>
<td>Developed a composite checklist to assess characteristics of the qualitative studies, specifically related to the explicitness and comprehensiveness of reporting. Studies were not excluded or weighted on the basis of reporting quality.</td>
<td>16 studies were included. First order constructs (insights offered by the respondents of the original study) were not reported in full, but were available on request from the review authors. Relevant second-order constructs (interpretive themes developed by the original researchers from their first order constructs) were based on the following stages: pre-dialysis, dialysis, transplant. The transplant results are not reported here. Second order constructs for pre-dialysis were: Intrapersonal issues • self-accusation and blame • depression and generalized anger • uncertainty surrounding diagnosis • uncertainty for the child’s future. Three most common second order constructs for dialysis were: • emotional turmoil • uncertainty about the child’s prognosis • surrendering control of the child to the clinical staff. Parents reported that they were satisfied with the provision of care, but that there was poor communication between parents.</td>
<td>“Our principal recommendation to health care providers is to develop, implement, and evaluate programs that aim to improve the intrapersonal, interpersonal, and external experiences of parents” The authors make the following specific recommendations, but do note that they should be given careful but cautious consideration. “[S]trategies to improve intrapersonal well-being should aim to reduce parental anxiety and increase the confidence of parents to manage care for the ill child. The health care team should provide continued attention and be ready to consult, give guidance, and provide opportunities for parents to express their concerns and feelings. Parents should be equipped and trained to deliver home-based care and be made aware of and prepared for the role adjustment and emotions that they may experience. For interpersonal issues, we recommend programs that aim to strengthen the family relationship and reduce neglect of other family members, such as family counseling and sibling programs.</td>
<td>Used meta-ethnography with modifications to generate first to third order constructs to generate common themes. Limited focus on decision making, specifically on the choice of dialysis modality. See additional information below.</td>
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</table>
and staff. Other themes were a restriction on the social life of parents, lengthy and frequent hospital visits, difficulties with providing medical care and ensuring adherence to liquid and diet restrictions.

Third order constructs (developed by analyzing second order constructs to identify new themes) were:

- intrapersonal issues (personal experiences of the parent)
- interpersonal issues (related to parents’ relationships, specifically family members, staff, friends, acquaintances)
- external issues (practical needs, responsibilities, logistic concerns).

Common intrapersonal experiences were:

- shock faced by parents during the initial diagnosis
- constant uncertainty about their child’s prognosis
- lack of confidence in delivering care for the child
- pressure of having to exercise unwavering vigilance
- fatigue.

Main interpersonal experiences varied.

- Some parents reported that their marital relationship strengthened; others described partner neglect and abandonment.
- Family life was disrupted, and some parents faced

Parent support groups allow parents to learn and support other parents who face a similar situation.

Professional training for health care personnel can reduce the disparity between professional and parent perceptions of each other, and the professionals’ awareness of the value of caregiver “expertise” can improve the interaction between parents and staff.

When feasible, continuity of care by preferred staff could be offered to parents.

To improve support for parents in managing their external issues, we suggest initiatives that aim to improve parent management of the medical regimen by providing parents with comprehensive information and training.

Home visits can promote easier transitions between hospital and home care.

Information that parents require and perceive to be relevant (eg, illness, treatment, lifestyle changes, support services, dietary advice) should be provided and readily accessible.

Respite care programs could be offered to provide some relief to parents who need recuperation from managing medical and household care.”

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<th>Study ID</th>
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<td>• Some parents reported that their</td>
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<td>marital relationship strengthened;</td>
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<td>others described partner neglect and</td>
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<td>abandonment.</td>
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<td>• Family life was disrupted, and some</td>
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<td>parents faced</td>
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<tr>
<td>Study ID</td>
<td>Aim</td>
<td>Study inc/exc criteria</td>
<td>Databases searched</td>
<td>Study quality assessment</td>
<td>Results</td>
<td>Author conclusions or recommendations</td>
<td>Comment</td>
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<td>sibling jealousy and resentment.</td>
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<td>• Generally, illness constrained the social life of parents, but this improved after transplantation.</td>
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<td>• Friends and extended family provided practical support, but a lack of understanding was commonly reported.</td>
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<td>• Control of clinical staff over the ill child and lack of open communication created tension and frustration in parent–staff relationships.</td>
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<td>• Continuity of care providers reduced parental anxiety.</td>
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<td>Main external issue was managing multiple responsibilities (adherence to medication, observation of symptoms, integrating medical care, fulfilling domestic duties).</td>
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<td>Parents were often concerned about their child's appearance, development, and future prospects. Parents were required to arrange transport and accommodation, and some experienced financial hardship. Not all parents received adequate information on the illness and treatment.</td>
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</tbody>
</table>
## Qualitative studies related to child and parent views

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Research parameters</th>
<th>Population and sample collection</th>
<th>Key themes</th>
<th>Source of funding</th>
<th>Evidence gap</th>
<th>Comment</th>
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<tbody>
<tr>
<td>de Paula 2008a</td>
<td>To describe the implications of role changes in families of children with CKD on PD</td>
<td>Not specified</td>
<td>Four families of children undergoing PD; 4 mothers, 4 siblings, 1 grandmother, 1 uncle, 4 children with CKD  Age of child range 4 to 10 yrs; 2 girls and 2 boys  Duration of PD for more than 1 yr</td>
<td>Role intensifications, changes and adaptations among family members  Most affected role was the mother; sacrifices, making all efforts, ignoring own pain  Mother’s role overloaded and intense. Had lack of time for herself; tried to develop strategies but not always supported by other family members  Siblings affected; conflict between mother and other siblings, sibling jealousy specifically of the time and effort spent by the mother on the child with CKD.  Siblings also may take on some roles of the mother; looking after siblings without CKD, cleaning, help with the dialysis.  Other family members affected; loss of job as assumed the role of caregiver.</td>
<td>Foundation for Research Support of Sao Paulo State National Council for Scientific and Technological Development Coordination for the Improvement of Higher Education Personnel (Noted as acknowledgements, not specified as source of funding)</td>
<td>Limited to small number of families with children with CKD on PD  No specific mention of decision making or initial support  See also de Paula 2008b Brazil</td>
</tr>
<tr>
<td>de Paula 2008b</td>
<td>To identify social supports of Bomar’s family health promotion concept ‘process’</td>
<td>In-depth interview Genogram and eco-map for</td>
<td>4 families of children undergoing PD</td>
<td>Social supports were very meaningful and were categorized as</td>
<td>Foundation for Research Support of</td>
<td>Not specified</td>
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</tbody>
</table>

### Study ID: de Paula 2008a
- **Aim:** To describe the implications of role changes in families of children with CKD on PD
- **Theoretical approach:** Not specified
- **Data collection:** In-depth interview  Genogram and eco-map for each family  Content analysis of the transcribed interviews
- **Method and process of analysis:** Four families of children undergoing PD; 4 mothers, 4 siblings, 1 grandmother, 1 uncle, 4 children with CKD  Age of child range 4 to 10 yrs; 2 girls and 2 boys  Duration of PD for more than 1 yr
- **Key themes:** Role intensifications, changes and adaptations among family members  Most affected role was the mother; sacrifices, making all efforts, ignoring own pain  Mother’s role overloaded and intense. Had lack of time for herself; tried to develop strategies but not always supported by other family members  Siblings affected; conflict between mother and other siblings, sibling jealousy specifically of the time and effort spent by the mother on the child with CKD.  Siblings also may take on some roles of the mother; looking after siblings without CKD, cleaning, help with the dialysis.  Other family members affected; loss of job as assumed the role of caregiver.
- **Source of funding:** Foundation for Research Support of Sao Paulo State National Council for Scientific and Technological Development Coordination for the Improvement of Higher Education Personnel (Noted as acknowledgements, not specified as source of funding)
- **Evidence gap:** Limited to small number of families with children with CKD on PD
- **Comment:** No specific mention of decision making or initial support  See also de Paula 2008b Brazil
<table>
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<tr>
<th>Study ID</th>
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<th>Source of funding</th>
<th>Evidence gap</th>
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<tbody>
<tr>
<td>2008b</td>
<td>families of children with CKD undergoing PD</td>
<td>of achieving family well-being in the biological, emotional, physical, and spiritual realms for individual members and the family unit</td>
<td>Demographic data from hospital records</td>
<td>each family Content analysis of the transcribed interviews</td>
<td>PD; 4 mothers, 4 siblings, 1 grandmothe r, 1 uncle, 4 children with CKD</td>
<td>Age of child range 4 to 10 yrs; 2 girls and 2 boys</td>
<td>Duration of PD for more than 1 yr</td>
<td>follows.</td>
<td>First support mentioned was emotional. Sources of support were family, friends, and institutions (hospital, social service, religious and educational, companies, local government). As a result of increased contact with support, the family felt ‘secure and confident’ in care delivery. Information support was information given to the families by the healthcare professionals. This was deficient; information absence, information conflicts. Also a lack of dialogue. There was a lack of sensitivity and commitment in communication by HCP. But also communication between family members was not always optimal. Instrumental support was the offering of maternal and operational resources. Appraisal support was all feedback and affirmation received by relatives or through results from delivered care</td>
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<tr>
<td>Study ID</td>
<td>Aim</td>
<td>Theoretical approach</td>
<td>Data collection</td>
<td>Method and process of analysis</td>
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</table>
| Hislop 1983 | To compare and contrast PD modalities | Not relevant | Interviews with parents and children (interviewed separately when possible) | Not specified | • 4 children – 3 previous HD, all on CAPD, all currently using CCPD  
• Duration of CCPD range 5 to 7 months  
• 3 mothers and 1 father | Reported only child views (as parental experience covered in Tong 2008).  
• 2 clearly preferred other modes of dialysis compared to CCPD – didn’t like the tubes, felt they were in the way of usual activities, looked fat; confined during the process so left out of family activities  
• Positive support for CCPD from 1 child where different modalities (CCPD and CAPD) were used depending on the family activities; constant assessment with modification of care  
• Suggested that preference may differ by developmental age and stage | Not reported | Not specified | Not aim to explore experiences, but child view point was ascertained  
Not true qualitative study  
No specific mention of decision making or initial support  
US |
2.1.4 Included studies (child and parent)


2.1.5 Excluded papers with reasons (child and parent)

Balas, E. A. and others. (1998)
Effect of linking practice data to published evidence. A randomized controlled trial of clinical direct reports.
EXC - intervention to change HCP behaviour, not focus on supporting patient decision making (more related to service organisation and process)

EXC - survey of practice, not exploration of attitudes or barriers

A survey-based evaluation of self-perceived competency after nephrology fellowship training.
EXC - survey of trainees assessment of training, not exploration of attitudes or barriers

Evidence of life quality in CAPD patients and implications for nursing care: a systematic review.
EXC - quality of life on CAPD, not decision making or patient preference. See registry data for QoL evidence

Brem, A. S. and others. (1988)
Psychosocial characteristics and coping skills in children maintained on chronic dialysis.
EXC - quality of life study, not qualitative study of patient or carer experience

An investigation of psychological factors influencing adherence to medical regime in children and adolescents undergoing haemodialysis and CAPD.
EXC - not qualitative study of patient or carer experience

The impact of home dialysis on the family: literature review.
**EXC - narrative review**

Cerruti, G. and others. (1993)
Patients’ group experiences.
**EXC - not qualitative study of patient or carer experience**

Are North American nephrologists biased against peritoneal dialysis?
**EXC - not qualitative studies related to the experience of decision making**

Chiu, M. C. and others. (2007)
Automated peritoneal dialysis in children and adolescents--benefits: a survey of patients and parents on health-related quality of life.
**EXC - quality of life study, not qualitative study of patient or carer experience**

Deber, R. B. and others. (1985)
The impact of selected patient characteristics on practitioners’ treatment recommendations for end-stage renal disease.
**EXC - use of vignettes, rather than true-life decision making**

Demol, A. and others. (2006)
Paediatric access care in Europe: Results of the Paediatric Access Care (PAC) project.
**EXC - survey of service provision and access, not exploration of attitudes or barriers**

Derrett, S. and others. (2010)
Older peoples’ satisfaction with home-based dialysis.
**EXC - not ‘true’ qualitative study**

Tidal peritoneal dialysis vs. continuous cyclic peritoneal dialysis: children’s preference.
**EXC - not qualitative study of patient or carer experience**

Fan, S. L. and others. (2008)
Quality of life of caregivers and patients on peritoneal dialysis.
**EXC - quality of life study, not qualitative study of patient or carer experience**

Factors related to psychosocial adjustment in children with end-stage renal failure.
**EXC - not qualitative study of patient or carer experience**

Finkelstein, F. O. and others. (2008)
Perceived knowledge among patients cared for by nephrologists about chronic kidney disease and end-stage renal disease therapies.
**EXC - questionnaire survey of patient knowledge before dialysis. Not related to decision making or experience of shared decision making**

Family styles of coping in end stage renal disease.
**EXC - adults with ESRD, not children**

Flanigan, M. and others. (1993)
Tidal peritoneal dialysis in children: Initial experiences.
**EXC - not qualitative study of patient or carer experience**

**Furth, S. L. and others. (1997)**
Does greater pediatric experience influence treatment choices in chronic disease management? Dialysis modality choice for children with end-stage renal disease.
**EXC - influence of the dialysis centre on choice, not qualitative study of patient or carer experience**

**Furth, S. L. and others. (2001)**
Relation between pediatric experience and treatment recommendations for children and adolescents with kidney failure.
**EXC - influence of HCP characteristic, not qualitative study of patient or carer experience**

**Gadallah, M. F. and others. (2001)**
Changing the trend: a prospective study on factors contributing to the growth rate of peritoneal dialysis programs.
**EXC - evaluation of change in service provision**

Peritoneal dialysis as the treatment of choice for pediatric patients. CAPD is the best modality for children.
**EXC - opinion piece**

The psychological impact of ambulatory peritoneal dialysis on adults and children.
**EXC - service description, not primary study**

**Heatley, S. A. (2009)**
Optimal referral to pre-dialysis services: One center's experience.
**EXC - not qualitative exploration of patient experience of decision making**

**Heatley, S. A. (2009)**
Optimal referral is early referral.
**EXC - not qualitative exploration of patient experience of decision making**

Case study. Family circumstances that influence plans for home peritoneal dialysis.
**EXC - case report (duplicate of Hirscher 1996)**

**Hirscher, D. M. and Gordon, N. (1944)**
Family circumstances that influence plans for home peritoneal dialysis.
**EXC - case study**

**Holley, J. L. and others. (1991)**
Patient factors and the influence of nephrologists, social workers, and nurses on patient decisions to choose continuous peritoneal dialysis.
**EXC - patient survey, not healthcare professional attitudes or barriers**

Peritoneal dialysis treatment in children and parental stress.
EXC - not qualitative study of patient or carer experience

Continuous ambulatory peritoneal dialysis in children and family stress.
EXC - not qualitative study of patient or carer experience

Kaptein, A. A. and others. (2009)
Behavioural research in patients with end-stage renal disease: A review and research agenda.
EXC - not available from the British Library

What limits the expansion of self-care dialysis at home?
EXC - not qualitative studies related to the experience of decision making

Family adjustment to pediatric ambulatory dialysis.
EXC - series of case reports/centre experiences in an opinion piece

Low, J. and others. (2008)
The impact of end-stage kidney disease (ESKD) on close persons: A literature review.
EXC - not decision making, focus on impact of disease

Chronic renal disease: the mother's experience.
EXC - parental experience reviewed up to 2005 in the Tong 2008 review

The experience of uncertainty among patients having peritoneal dialysis.
EXC - not exploration of decision making or experience

McKenna, A. M. and others. (2006)
Quality of life in children with chronic kidney disease-patient and caregiver assessments.
EXC - quality of life study, not qualitative study of patient or carer experience

Looking for adequate return on investment: timing of educating patients about dialysis modalities.
EXC - opinion piece, not primary study

Miura, Y. and others. (2006)
Families' and physicians' predictions of dialysis patients' preferences regarding life-sustaining treatments in Japan.
EXC - prediction of end-of-life care, not initial decision of dialysis modality

The impact of renal replacement therapy on toddler time.
EXC - not qualitative study of patient or carer experience

The effects of peritoneal dialysis on family social activity: a comparative study of CAPD and CCPD.
EXC - not qualitative study of patient or carer experience

Morton, R. L. and others. (2009)
A national audit of information provided to new chronic kidney disease stage 4 & 5 patients: a pilot study.
EXC - not qualitative exploration of patient experience of decision making or RCT of intervention

Qamar, M. and others. (2009)
The United States' perspectives on home dialysis. [Review] [40 refs].
EXC - narrative review

Rasgon, S. A. and others. (1996)
Benefits of a multidisciplinary predialysis program in maintaining employment among patients on home dialysis.
EXC - not RCT of intervention to improve decision making

Psychosocial burdens of dialysis treatment modalities: do they differ and does it matter?. [Review] [13 refs].
EXC - narrative review

Rosenkranz, J. and others. (1992)
Psychosocial adaptation of children and adolescents with chronic renal failure.
EXC - not qualitative study of patient or carer experience

Salusky, I. B. and others. (1982)
Continuous ambulatory peritoneal dialysis in children.
EXC - not qualitative study of patient or carer experience

Simoni, J. M. and others. (1997)
Psychological distress and treatment adherence among children on dialysis.
EXC - association between distress and adherence, not qualitative study of patient or carer experience

Smith, P. S. (1998)
Management of end-stage renal disease in children.
EXC - not qualitative study of patient or carer experience

Steidl, J. H. and others (1980)
Medical condition, adherence to treatment regimens, and family functioning. Their interactions in patients receiving long-term dialysis treatment.
EXC - adults not children, not qualitative exploration

Thamer, M. and others. (2000)
US nephrologists' recommendation of dialysis modality: results of a national survey.
EXC - used hypothetical situations

Tsai, T. C. and others. (2006)
Psychosocial effects on caregivers for children on chronic peritoneal dialysis.
EXC - not qualitative study of patient or carer experience
Tungsanga, K. and others. (2008)
The status of, and obstacles to, continuous ambulatory peritoneal dialysis in Thailand.
EXC - narrative review (citing data that although relevant, quoted as unpublished)

Dialysis therapy for children with acute renal failure: survey results.
EXC - treatment preference and association with patient use, not exploration of barriers or attitudes for why this may be

Strategies to support families of children with end-stage renal failure. [Review] [22 refs].
EXC - narrative review

Home health and respite care.
EXC - service description, not primary study

Wicks, M. N. and others. (1997)
Subjective burden and quality of life in family caregivers of patients with end stage renal disease.
EXC - not qualitative study of patient or carer experience

Ye, X. Q. and others. (2008)
Effect of social support on psychological-stress-induced anxiety and depressive symptoms in patients receiving peritoneal dialysis.
EXC - not qualitative study of patient decision making or initial support
Appendices DRAFT

**Systematic review(s) related to healthcare professional views**
No relevant systematic reviews were identified.

**Qualitative studies related to healthcare professional views**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Aim</th>
<th>Theoretical approach</th>
<th>Data collection</th>
<th>Method and process of analysis</th>
<th>Population and sample collection</th>
<th>Key themes</th>
<th>Source of funding</th>
<th>Evidence gap</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>Bass 1999</td>
<td>To determine differences between patients and providers on specific aspects of health and QoL affected by ESRD and its treatment with PD or HD; and specific aspects of treatment with PD or HD that may affect QoL or preferences for treatment</td>
<td>Not specified</td>
<td>Focus groups led by experienced leader with assistant help</td>
<td>Content analysis</td>
<td>Healthcare professionals currently in practice at a centre in Baltimore</td>
<td>28 separate categories were identified from the HCP groups: access issues, choices, comorbidity, family relationships, financial concerns, freedom and energy, general comments about dialysis, general comments about HD, general comments about PD, individual drive and control, job-related concerns, nutrition, patient education</td>
<td>AHCPR ACP Teaching and Research Fellowship</td>
<td>Groups may not be representative and replication of findings is needed</td>
<td>Reported only healthcare professional views (patient views up to 2008 are included in Morton 2010a) Not true exploration of views US</td>
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## Research parameters

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<th>Study ID</th>
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<th>Theoretical approach</th>
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</table>
|          |     |                      |                 |                               |                                   | • physician bias  
|          |     |                      |                 |                               |                                   | • physician specialists and referral practices  
|          |     |                      |                 |                               |                                   | • provider bias  
|          |     |                      |                 |                               |                                   | • quality of life  
|          |     |                      |                 |                               |                                   | • referral policies  
|          |     |                      |                 |                               |                                   | • relationship with peers  
|          |     |                      |                 |                               |                                   | • relationship with physicians  
|          |     |                      |                 |                               |                                   | • relationship with dialysis staff  
|          |     |                      |                 |                               |                                   | • reuse  
|          |     |                      |                 |                               |                                   | • scheduling and transportation for treatment  
|          |     |                      |                 |                               |                                   | • self-care  
|          |     |                      |                 |                               |                                   | • sex  
|          |     |                      |                 |                               |                                   | • social support  
|          |     |                      |                 |                               |                                   | • transplants  
|          |     |                      |                 |                               |                                   | • travel  

### Source of funding

- [ ]

### Evidence gap

- [ ]

### Comment

- [ ]
2.1.6 Included studies (healthcare professionals)


2.1.7 Excluded papers with reasons (healthcare professionals)

Balas, E. A. and others. (1998)
Effect of linking practice data to published evidence. A randomized controlled trial of clinical direct reports.
EXC - intervention to change HCP behaviour, not focus on supporting patient decision making (more related to service organisation and process)

EXC - survey of practice, not exploration of attitudes or barriers

Berens, J. S. (2010)
A survey-based evaluation of self-perceived competency after nephrology fellowship training.
EXC - survey of trainees assessment of training, not exploration of attitudes or barriers

Blank, L. and others. (2005)
Regional differences in the provision of adult renal dialysis services in the UK.
EXC - survey of survey provision, not exploration of attitudes or barriers

Bouvier, N. and others. (2009)
Regional discrepancies in peritoneal dialysis utilization in France: the role of the nephrologist's opinion about peritoneal dialysis.
EXC - not qualitative studies related to the experience of decision making

Evidence of life quality in CAPD patients and implications for nursing care: a systematic review.
EXC - quality of life on CAPD, not decision making or patient preference. See registry data for QoL evidence

Peritoneal dialysis for older people: overcoming the barriers. [Review] [24 refs].
EXC - narrative review, not primary study

The impact of home dialysis on the family: literature review.
EXC - narrative review

Are North American nephrologists biased against peritoneal dialysis?
EXC - not qualitative studies related to the experience of decision making
Extending choice to patients needing dialysis.
EXC - opinion piece

Davidson, I. and others. (2007)
A patient centered decision making dialysis access algorithm. [Review] [50 refs].
EXC - narrative review. Not RCT of intervention to improve decision making, or exploration of HCP barriers.

Deber, R. B. and others. (1985)
The impact of selected patient characteristics on practitioners’ treatment recommendations for end-stage renal disease.
EXC - use of vignettes, rather than true-life decision making

Demol, A. and others. (2006)
Paediatric access care in Europe: Results of the Paediatric Access Care (PAC) project.
EXC - survey of service provision and access, not exploration of attitudes or barriers

Major difficulties the US nephrologist faces in providing adequate dialysis.
EXC - not full report of survey, only very brief description of methods and results

Preferences of nephrologists among end-stage renal disease treatment options.
EXC - treatment preference and association with patient use, not exploration of barriers or attitudes for why this may be

Nephrologists should voluntarily divulge survival data to potential dialysis patients: A questionnaire study.
EXC - patient survey, not healthcare professional attitudes or barriers

Finkelstein, F. O. and others. (2008)
Perceived knowledge among patients cared for by nephrologists about chronic kidney disease and end-stage renal disease therapies.
EXC - questionnaire survey of patient knowledge before dialysis. Not related to decision making or experience of shared decision making

Furth, S. L. and others. (2001)
Relation between pediatric experience and treatment recommendations for children and adolescents with kidney failure.
EXC - influence of HCP characteristic, not qualitative study of patient or carer experience

Gadallah, M. F. and others. (2001)
Changing the trend: a prospective study on factors contributing to the growth rate of peritoneal dialysis programs.
EXC - evaluation of change in service provision

Peritoneal dialysis as the treatment of choice for pediatric patients. CAPD is the best modality for children.

**EXC - opinion piece**

Quality control in a peritoneal dialysis program.

**EXC - opinion piece**

Content of a decision analysis for treatment choice in end-stage renal disease: who should be consulted?

**EXC - evaluation of consulting patients when developing content guides, noting differences between HCP and patient views of information needs**

Case study. Family circumstances that influence plans for home peritoneal dialysis.

**EXC - case report (duplicate of Hirscher 1996)**

Patients in assisted automated peritoneal dialysis develop strategies for self-care.

**EXC - abstract only, no full report identified**

Holley, J. L. and others. (1991)
Patient factors and the influence of nephrologists, social workers, and nurses on patient decisions to choose continuous peritoneal dialysis.

**EXC - patient survey, not healthcare professional attitudes or barriers**

A pre-dialysis psychoeducational intervention increased length of survival more than usual care in patients with chronic kidney disease.

**EXC - review of Devins 2005 study which is included in Mason 2008 review**

The effect of contraindications and patient preference on dialysis modality selection in ESRD patients in The Netherlands.

**EXC - not qualitative studies related to the experience of decision making**

Attitudes of British Isles nephrologists towards dialysis modality selection: a questionnaire study.

**EXC - not qualitative studies related to the experience of decision making**

Jung, B. and others. (1999)
Attitudes of Canadian nephrologists toward dialysis modality selection.

**EXC - not qualitative studies related to the experience of decision making**

Various obstacles to peritoneal dialysis development in Japan: too much money? Too much fear?

**EXC - opinion piece**

Kee, F. and others. (2000)
Stewardship or clinical freedom? variations in dialysis decision making.

EXC - used 'paper patients', hypothetical situations

Key, S. M. (2008)
Optimizing dialysis modality choices around the world: a review of literature concerning the role of enhanced early pre-ESRD education in choice of renal replacement therapy modality.

EXC - narrative review

Kimmel, P. L. and Bosch, J. P. (1991)
Effectiveness of renal fellowship training for subsequent clinical practice.

EXC - satisfaction with training, not attitudes or barriers to modality decision

La, Greca G. and others. (2001)
Practice pattern and treatment options for kidney patients in a single north Italian nephrology center.

EXC - narrative review with illustrative figures from single centre

The best dialysis therapy? Results from an international survey among nephrology professionals.

EXC - not qualitative studies related to the experience of decision making

What limits the expansion of self-care dialysis at home?

EXC - not qualitative studies related to the experience of decision making

Lees, P. and Starmann, B. (1992)
PO growth barriers -- a national survey.

EXC - abstract, no full published report identified

Lewis, S. L. and others. (1998)
Nephrology nurses' perceptions of barriers and facilitators to using research in practice.

EXC - barriers to use of research in general

Peritoneal dialysis patient selection: characteristics for success. [Review] [60 refs].

EXC - narrative review

Chronic renal disease: the mother's experience.

EXC - parental experience reviewed up to 2005 in the Tong 2008 review

Development of a peritoneal dialysis support initiative for clients in the community.

EXC - not available from the British Library

The experience of uncertainty among patients having peritoneal dialysis.

EXC - not exploration of decision making or experience

Factors affecting the use of peritoneal dialysis among the ESRD population in India: a single-center study.

**EXC - not qualitative studies related to the experience of decision making**

**Mattern, W. D. and others. (1989)**
Selection of ESRD treatment: an international study.
**EXC - treatment preference and association with patient use, not exploration of barriers or attitudes for why this may be**

**Mehrotra, R. and others. (2005)**
Patient education and access of ESRD patients to renal replacement therapies beyond in-center hemodialysis.
**EXC - not qualitative studies related to the experience of decision making**

**Mehrotra, R. and others. (2009)**
Ownership patterns of dialysis units and peritoneal dialysis in the United States: utilization and outcomes.
**EXC - ownership of dialysis centres and association with PD use, not exploration of barriers or attitudes**

**Mendelssohn, D. C. and others. (2001)**
What do American nephrologists think about dialysis modality selection?
**EXC - not qualitative studies related to the experience of decision making**

**Miskulin, D. C. and others. (2002)**
Comorbidity and other factors associated with modality selection in incident dialysis patients: the CHOICE Study. Choices for Healthy Outcomes in Caring for End-Stage Renal Disease.
**EXC - description of different patient populations, not reason for choice**

**Miura, Y. and others. (2006)**
Families' and physicians' predictions of dialysis patients' preferences regarding life-sustaining treatments in Japan.
**EXC - prediction of end-of-life care, not initial decision of dialysis modality**

The effects of peritoneal dialysis on family social activity: a comparative study of CAPD and CCPD.
**EXC - not qualitative study of patient or carer experience**

**Molzahn, A. E. (1989)**
Perceptions of patients, physicians, and nurses regarding the quality of life of individuals with end stage renal disease.
**EXC - not available from British Library (PhD thesis)**

**Mooney, A. (2009)**
Decision making around dialysis options.
**EXC - opinion piece about decision making. No further details of the study described in the abstract.**

**Morton, R. L. and others. (2009)**
A national audit of information provided to new chronic kidney disease stage 4 & 5 patients: a pilot study.  
**EXC - not qualitative exploration of patient experience of decision making or RCT of intervention**

Panagopoulou, A. and others. (2009)  
Psychosocial issues and quality of life in patients on renal replacement therapy.  
**EXC - not exploration of decision making or initial support**

Qamar, M. and others. (2009)  
The United States' perspectives on home dialysis. [Review] [40 refs].  
**EXC - narrative review**

Robertson, J. (2008)  
Do physician practice patterns and business structure hurt quality care in outpatient dialysis?  
**EXC - opinion piece**

Cost-benefit analysis and choice of dialysis treatment in Italy.  
**EXC - patient survey**

Survey of the attitude of physicians towards establishing and maintaining a peritoneal dialysis program.  
**EXC - focus on service characteristics, not those of individual professionals**

Tape, T. G. and others. (1990)  
Procedural skills of practicing nephrologists. A national survey of 700 members of the American College of Physicians.  
**EXC - procedure focus, not choice of modality**

Thamer, M. and others. (2000)  
US nephrologists' recommendation of dialysis modality: results of a national survey.  
**EXC - used hypothetical situations**

Thomas, K. and others. (1993)  
Effect of an educational intervention on nurses' knowledge of a peritoneal dialysis cycler.  
**EXC - intervention to improve knowledge of dialysis modality, not support decision making**

Barriers to utilization of chronic peritoneal dialysis in network #1, New England.  
**EXC - not qualitative studies related to the experience of decision making**

Tungsanga, K. and others. (2008)  
The status of, and obstacles to, continuous ambulatory peritoneal dialysis in Thailand.  
**EXC - narrative review (citing data that although relevant, quoted as unpublished)**

Tzamaloukas, A. H. (1999)  
Incremental initiation of peritoneal dialysis: current practice.  
**EXC - use of incremental PD initiation, process of starting PD not decision making**
Van Waeleghem, J. P. and others. (1998)
A survey of nephrology nursing care and treatments in Belgium.
**EXC** - service provision, not attitudes or barriers

Visaya, M. A. (2010)
Hemodialysis patients' perceptions of home hemodialysis and self-care.
**EXC** - not qualitative study of patient decision making or initial support

Dialysis therapy for children with acute renal failure: survey results.
**EXC** - treatment preference and association with patient use, not exploration of barriers or attitudes for why this may be

Strategies to support families of children with end-stage renal failure. [Review] [22 refs].
**EXC** - narrative review

Home health and respite care.
**EXC** - service description, not primary study

Wicks, M. N. and others. (1997)
Subjective burden and quality of life in family caregivers of patients with end stage renal disease.
**EXC** - not qualitative study of patient or carer experience

Attitudes of Chinese chief nephrologists toward dialysis modality selection.
**EXC** - not qualitative studies related to the experience of decision making
2.1.8 Excluded studies with reasons (other)

Anon (1984)
Choosing a dialysis therapy: narrative summary of a panel discussion.
EXC - report of panel discussion

Well-informed patients with end-stage renal disease prefer peritoneal dialysis to hemodialysis.
EXC - not qualitative report of patient experience

Absence of control over health and the psychological adjustment to end-stage renal disease.
EXC - quality of life study, not qualitative report of patient experience

Coombs, K. and others. (1993)
Treatment options for end-stage renal disease: Patient perceptions and factors influencing choice of modality.
EXC - patient survey, not qualitative report of patient experience

Making decisions about dialysis options: an audit of patients' views.
EXC - audit of intervention effect, not RCT; not qualitative report of patient experience

The determinants of treatment choice in end-stage renal disease: can we generalize about decision making from specific studies?
EXC - hypothetical situation

The importance of pre-ESRD education and early nephrological care in peritoneal dialysis selection and outcome.
EXC - narrative review

Quality of life assessments in hemodialysis and peritoneal dialysis patients: an important dimension of patient choice why is the evidence favoring hemodialysis over peritoneal dialysis misleading?. [Review] [34 refs].
EXC - narrative review

Psycho-social aspects of serious renal disease and dialysis: a review of the literature.
EXC - narrative review

Hamburger, R. J. and others. (1990)
A dialysis modality decision guide based on the experience of six dialysis centers.
EXC - service description, not primary study

Modality choice among aboriginal incident dialysis patients - Influence of geographic location [1].
EXC - letter

Jeffrey, J. E. and others. (1982)
A comparison of home training and problems encountered with initial home dialysis: hemodialysis vs CAPD.
EXC - not RCT of intervention; not qualitative report of patient experience

Juergensen, E. and others. (2006)
Hemodialysis and peritoneal dialysis: patients' assessment of their satisfaction with therapy and the impact of the therapy on their lives.
EXC - not qualitative report of patient experience

Karagis, J. (97 A.D.)
Access to all treatment modalities: the right to be informed.
EXC - opinion piece

Humane and compassionate aspects of dialysis: A patient's view.
EXC - opinion piece

Dialysis modality selection among patients attending freestanding dialysis facilities.
EXC - demographics of patient population

Keshaviah, P. (1997)
Establishing kinetic guidelines for peritoneal dialysis modality selection.
EXC - scheduling and adequacy of dialysis prescription

King, K. (1997)
People like us, live: an interactive patient education program.
EXC - description of programme

Well-being and functional ability in uraemic patients before and after having started dialysis treatment.
EXC - quality of life study, not qualitative report of patient experience

Kline, S. A. and others. (1985)
Patients self assessment of stressors and adjustment to home hemodialysis and CAPD.
EXC - not qualitative report of patient experience

Lameire, N. and others. (1997)
The referral pattern of patients with ESRD is a determinant in the choice of dialysis modality.
EXC - demographics of referral patterns

Lehoux, P. and others. (2003)
Issues in quality of high-tech home care: sources of information and staff training in Quebec primary care organizations and relationships with hospitals.
EXC - home care in general, not PD specific
Lindsay, R. M. (1982)
Adaptation to home dialysis: the use of hemodialysis and peritoneal dialysis.
EXC - retrospective audit of single centre

Maiorca, R. and others. (1998)
Psychological and social problems of dialysis.
EXC - report of panel discussion

Empowerment of patient preference in dialysis modality selection.
EXC - opinion piece

Modality options for renal replacement therapy: the integrated care concept revisited. [Review] [60 refs].
EXC - narrative review

A high percentage of well-informed end-stage renal disease patients choose peritoneal dialysis, even in Japan.
EXC - letter

Oreopoulos, D. G. and Blake, P. (2001)
Declining utilization of peritoneal dialysis: time to stop imposing our biases on the patients and let them be dialyzed with the modality of their choice. [Review] [23 refs].
EXC - opinion piece

Medical decision-making and information needs in end-stage renal disease patients.
EXC - patient survey, not qualitative report of patient experience

Presentation of treatment modalities for the ESRD patient: peritoneal dialysis.
EXC - service description, not primary study

Riley, J. B., Jr. and Pristave, R. J. (2001)
Patient's rights in receiving or rejecting dialysis care.
EXC - legal perspective of end-of-life care

Age as a factor in the decision to refer patients with chronic kidney disease for vascular access creation.
EXC - review of primary study (not relevant)

Life Options Patient Opinion Study identifies keys to a long life for dialysis patients.
EXC - telephone survey, not qualitative report of patient experience

Patient independence in home peritoneal dialysis: One center's experience with self care.
EXC - service description, not primary study
Renal replacement treatment. Elderly people must not be denied CAPD.
EXC - letter

Szabo, E. and others. (1997)
Choice of treatment improves quality of life. A study on patients undergoing dialysis.
EXC - quality of life study, not qualitative report of patient experience

Wasserfallen, J. B. and others. (2006)
Satisfaction of patients on chronic haemodialysis and peritoneal dialysis.
EXC - patient satisfaction, not qualitative report of patient experience

Non-medical factors influencing peritoneal dialysis utilization: The Swiss experience.
EXC - narrative review

Dialysis training exercise for improved staff awareness.
EXC - not RCT to improve decision making
## 2.2 Interventions to facilitate decision making

### 2.2.1 Review question on improving decision making (review question 4a)

What is the effectiveness of interventions (specifically education, decision support tools or aids) to improve decisions on the initial choice of dialysis modality?

### Systematic review(s)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Aim</th>
<th>Study inc/exc criteria</th>
<th>Databases searched</th>
<th>Study quality assessment</th>
<th>Results</th>
<th>Author conclusions or recommendations</th>
<th>Comment</th>
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<tr>
<td>Mason 2008</td>
<td>To review educational interventions in early CKD, predialysis and dialysis care; to examine the impact of these, and to make recommendations for the development of educational interventions</td>
<td>Included RCTs of educational interventions if adults aged over 18 years with CKD, structured educational interventions with information and psychological component, control group received usual or routine care, reported 1 or more of the following outcomes: clinical, knowledge, behavioural, psychological. Excluded if transplant recipients.</td>
<td>Medline, EmBase, CINAHL, PsycINFO, CCTR</td>
<td>Assessed using Jadad Scale. Quality assessment not used, other than to note that the ‘quality of studies generally was low’. Some studies appeared to have been excluded based on quality though – reasons reported as ‘randomization inadequate’ or ‘inadequate’ control group.</td>
<td>22 studies included, of which 5 were pre-dialysis interventions. Outcomes reported in the 5 relevant studies were: intention to initiate dialysis with self-care dialysis, knowledge, attitudes, survival, time to dialysis, depression, anxiety, social support. One short-term study (4 weeks f/up) evaluated the provision of written material followed by a single-session patient-centred group intervention based on problem solving. Significant improvements were reported for self-care dialysis knowledge, self-efficacy, and the number of patients selecting self-care dialysis. Four long-term studies (up to 20 years in one study) assessed the same intervention; a single-session intervention based on a</td>
<td>'A structured single predialysis education that is patient centred, encourages collaboration, and offers support has huge potential and deserves serious consideration.' Called for more research on group education, and the need for stronger theoretical frameworks. Recommended that interventions are based on patient needs regarding setting, format, resources, educators, duration, length, and time. Reported only RCTs related to choice of dialysis modality. No meta-analysis possible due to heterogeneity.</td>
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<tr>
<td>Study ID</td>
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<td>Databases searched</td>
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<td>Murray 2009</td>
<td>To identify factors influencing patient involvement in decision making in the context of CKD and effective interventions to support their decision making needs</td>
<td>Included if • focused on decision making needs, information needs, and/or barriers and facilitators to shared decision making • adults aged 18 years and over with CKD • any study design</td>
<td>• Cochrane Database of Systematic Reviews, CCTR, Medline, CINAHL, PsycINFO, Embase, Cochrane Inventory of Patient Decision Aids • Checked reference lists and personal files and contacts of panel members • Contacted authors of ongoing relevant Cochrane Review • Checked TOC for selected journals (2004-2008) • Restricted to English</td>
<td>Assessed using CASP criteria for descriptive observational studies; EPHPP tools for intervention studies; AMSTAR for systematic reviews; IPDAS for patient decision aids. Narrative reviews were not quality scored. Although individual study quality was reported, not clear how this was used in the use or interpretation of the evidence.</td>
<td>Two patient decision aids were identified, but neither had been evaluated in practice. No studies were identified that assessed the effect of decision support interventions on decision quality measures. No studies were found that investigated barriers and facilitators to providing support to patients with CKD.</td>
<td>Authors concluded that ‘best practices for patient-centred care clearly recommend the provision of the providing decision support’. Future research was called for in the areas of the evaluation of decision aids and their impact when used in clinical practice.</td>
<td>Some overlap with Mason 2008 2010 review (1 unique study) related to interventions related to decision making. Although one RCT of the effect of an educational intervention was identified (Manns 2005), the review did not cite it, other than in the included studies table. However, Manns 2005 was included in the Mason 2008 review.</td>
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<tr>
<td>Study ID</td>
<td>Aim</td>
<td>Study inc/exc criteria</td>
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<td>Study quality assessment</td>
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</table>

No additional RCTs were identified.
2.2.2 Included studies (interventions to improve decision making)


2.2.3 Excluded studies with reasons (interventions to improve decision making)

**Balas, E. A. and others. (1998)**
Effect of linking practice data to published evidence. A randomized controlled trial of clinical direct reports.
**EXC - intervention to change HCP behaviour, not focus on supporting patient decision making (more related to service organisation and process)**

**Davidson, I. and others. (2007)**
A patient centered decision making dialysis access algorithm. [Review] [50 refs].
**EXC - narrative review. Not RCT of intervention to improve decision making, or exploration of HCP barriers.**

**Furth, S. L. and others. (1997)**
Does greater pediatric experience influence treatment choices in chronic disease management? Dialysis modality choice for children with end-stage renal disease.
**EXC - influence of the dialysis centre on choice, not qualitative study of patient or carer experience**

**Furth, S. L. and others. (2001)**
Relation between pediatric experience and treatment recommendations for children and adolescents with kidney failure.
**EXC - influence of HCP characteristic, not qualitative study of patient or carer experience**

**Horsburgh, M. E. (2006)**
A pre-dialysis psychoeducational intervention increased length of survival more than usual care in patients with chronic kidney disease.
**EXC - review of Devins 2005 study which is included in Mason 2008 review**

**Jassal, S. V. and others. (2002)**
Attitudes of British Isles nephrologists towards dialysis modality selection: a questionnaire study.
**EXC - not qualitative studies related to the experience of decision making**

**Liem, Y. S. and others. (2007)**
Quality of life assessed with the Medical Outcomes Study Short Form 36-Item Health Survey of patients on renal replacement therapy: a systematic review and meta-analysis.
**EXC - systematic review of QoL, not decision making or patient preference. See registry data for QoL**
Manns, B. J. and others. (2005)
The impact of education on chronic kidney disease patients' plans to initiate dialysis with self-care dialysis: a randomized trial.
EXC - included in Mason 2008 review

McLaughlin, K. and others. (2008)
Why do patients choose self-care dialysis?

Miskulin, D. C. and others. (2002)
Comorbidity and other factors associated with modality selection in incident dialysis patients: the CHOICE Study. Choices for Healthy Outcomes in Caring for End-Stage Renal Disease.
EXC - description of different patient populations, not reason for choice

Mooney, A. (2009)
Decision making around dialysis options.
EXC - opinion piece about decision making. No further details of the study described in the abstract.

Rasgon, S. A. and others. (1996)
Benefits of a multidisciplinary predialysis program in maintaining employment among patients on home dialysis.
EXC - not RCT of intervention to improve decision making

Association of patient autonomy with increased transplantation and survival among new dialysis patients in the United States.
EXC - not RCT of intervention to improve decision making

Tape, T. G. and others. (1990)
Procedural skills of practicing nephrologists. A national survey of 700 members of the American College of Physicians.
EXC - procedure focus, not choice of modality

Thamer, M. and others. (2000)
US nephrologists' recommendation of dialysis modality: results of a national survey.
EXC - used hypothetical situations

Thomas, K. and others. (1993)
Effect of an educational intervention on nurses' knowledge of a peritoneal dialysis cycler.
EXC - intervention to improve knowledge of dialysis modality, not support decision making
2.3  Modalities of dialysis

2.3.1  Review question on dialysis (review question 1)

What is the effectiveness of peritoneal dialysis compared with haemodialysis in people with CKD stage 5 who need dialysis?

Based on title and abstract

Included full text (inc in Cochrane review)

Excluded

See EXC studies for reasons

320 Ordered full text

5,149 Retrieved from searches

EXC Based on title and abstract
Systematic reviews
One systematic review was identified (Vale 2004). This found only one RCT comparing PD and HD (Korevvar 2003). This study was also identified in the guideline searches and the evidence table can be found below.

Randomised controlled trials
No RCT evidence for children was identified.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Study Design</th>
<th>Aim</th>
<th>Participants</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Follow-up</th>
<th>Outcomes</th>
<th>Source of funding</th>
<th>Comments</th>
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<tr>
<td>Korevaar 2003</td>
<td>RCT Netherlands</td>
<td>To compare the survival and quality of life (QALY) between HD and PD among patients new on dialysis treatment in the Netherlands</td>
<td>38 adults; 18 (11 males) randomized to HD and 20 (11 males) to PD</td>
<td>PD</td>
<td>Pre-dialysis education about both modalities according to local care</td>
<td>HD</td>
<td>Pre-dialysis education about both modalities according to local care</td>
<td>5 years</td>
<td>Health-related QoL</td>
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<td>Included if 18 years or older with dialysis as first RRT and if no medical, social, logistic objections to HD or PD</td>
<td>Mean age for HD patients (62yrs) was higher compared to the mean age of the PD patients (55yrs). Mean creatinine clearance was 11.0 mL/min/1.73m² for the HD group and 11.6 mL/min/1.73m² for the PD group at the time of randomization.</td>
<td>In the PD group, the majority of the patients received CAPD during the complete follow-up period, 2 patients started with CAPD and changed to CCPD after 1 year, and 2 patients received NPD, of whom one patient changed to CCPD after 18 months.</td>
<td>Mean QALY score in the first 2 years after the start of dialysis, obtained from the EuroQol VAS scores. After adjustment for age, comorbidity, and primary kidney disease, the mean QALY score difference between HD and PD in the first 2 years was 3.1 (95% CI, -9.9 to 16.1), p=0.63.</td>
<td>Patient involvement and satisfaction</td>
<td>Not reported.</td>
<td>Mortality (where reported, also deaths in first 3 months)</td>
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<td>Due to the low inclusion rate, the trial was prematurely stopped after randomizing 38 patients – The total required sample size was calculated to be 100 patients, 50 patients per group. This low response rate could affect the external validity of the result. A small difference in QALY score was observed between HD patients compared with PD patients. A significant difference in longer term survival favoured PD in this small group of patients.</td>
<td>Due to the nature of the dialysis treatment, neither the nephrologist nor the patient was blinded for the assigned treatment</td>
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</table>
Due to the lack of controlled studies, national registry studies from 2000 onwards were included.
1,672 Retrieved from searches

261 Ordered full text

EXC Based on title and abstract

42 Included

EXC See EXC studies table for reasons
<table>
<thead>
<tr>
<th>Reference</th>
<th>Study ID</th>
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<th>Source of data</th>
<th>Date of data</th>
<th>Aim</th>
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<th>Dialysis modalities</th>
<th>Relevant outcomes reported</th>
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- catheter removal  
- temporary/permanent transfer to HD  
- survival |
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<td>Country</td>
<td>Source of data</td>
<td>Date of data</td>
<td>Aim</td>
<td>N</td>
<td>Included</td>
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<td>Dialysis modalities</td>
<td>Relevant outcomes reported</td>
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<tr>
<td>NAPRTCS</td>
<td>NAPRTCS2008</td>
<td>North America US and Canada</td>
<td>NAPRTCS North American Pediatric Renal Trials and Collaborative Studies</td>
<td>2008</td>
<td>To report the data registered through the NAPRTCS</td>
<td>6,291</td>
<td>Children (aged under 21 at initiation) receiving RRT</td>
<td>...</td>
<td>PD and HD</td>
<td>- technique switch or failure</td>
</tr>
<tr>
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<td>Country</td>
<td>Source of data</td>
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<td>Dialysis modalities</td>
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<tr>
<td>C. C. Huang, K. F. Cheng, and H. D. Wu. Survival analysis: comparing peritoneal dialysis and hemodialysis in Taiwan. Peritoneal Dialysis International 28:Suppl-20, 2008.</td>
<td>Huang 2008</td>
<td>Taiwan</td>
<td>Taiwan Renal Registry</td>
<td>1995-2002</td>
<td>To estimate the survival and relative mortality rates by modality</td>
<td>45,280</td>
<td>Adults (aged 20 or over) who survived first 90 days on dialysis (incident ESRD patients)</td>
<td>Multiple switches of modality; renal grafts.</td>
<td>PD and HD</td>
<td>- survival</td>
</tr>
<tr>
<td>Reference</td>
<td>Study ID</td>
<td>Country</td>
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<tr>
<td>Y. S. Liem, J. B. Wong, M. G. M. Hunink, F. T. de Charro, and W. C. Winkelmayer.</td>
<td>Liem 2007</td>
<td>Netherlands</td>
<td>RENINE Dutch ESRD Registry</td>
<td>1987-2002</td>
<td>To compare mortality between modality of dialysis</td>
<td>16,643</td>
<td>Adults (aged 18 years and over) starting dialysis</td>
<td>Aged younger than 18 years; &gt;1 episode of renal function recovery or death following renal function recovery; preemptive transplant; centres treating &lt;20 dialysis patient or &lt;5 PD patients; information not available</td>
<td>PD and HD</td>
<td>- survival</td>
</tr>
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<td>Reference</td>
<td>Study ID</td>
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</table>
Forest plots
Forest plots (below) are based on analyses from the Cochrane review (Vale 2004). Revisions including using figures from published paper for QoL scores, addition of technique switch analysis. Where new analyses were undertaken, a random effects model was used as in the original analyses.
Health-related quality of life

Figure 1 Peritoneal dialysis versus haemodialysis, outcome: Quality of life - QALYs score at 2 years.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Peritoneal dialysis Mean</th>
<th>SD</th>
<th>Total</th>
<th>Haemodialysis Mean</th>
<th>SD</th>
<th>Total</th>
<th>Mean Difference IV, Random, 95% CI</th>
<th>Mean Difference IV, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korevaar 2003</td>
<td>54</td>
<td>13.9</td>
<td>20</td>
<td>59.1</td>
<td>11.7</td>
<td>18</td>
<td>-5.10 [-14.99, 4.79]</td>
<td></td>
</tr>
</tbody>
</table>

PD and HD (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Lim 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRQoL</td>
<td>Patients on CAPD reported higher median QoL scores compared to HD patients</td>
</tr>
</tbody>
</table>

Patient involvement or satisfaction

No studies reported this outcome.

Mortality

Figure 2 Peritoneal dialysis versus haemodialysis, outcome: Survival at 5 years.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Peritoneal dialysis Events</th>
<th>Total</th>
<th>Haemodialysis Events</th>
<th>Total</th>
<th>Risk Ratio M.H, Random, 95% CI</th>
<th>Risk Ratio M.H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korevaar 2003</td>
<td>5</td>
<td>20</td>
<td>9</td>
<td>18</td>
<td>0.50 [0.21, 1.22]</td>
<td></td>
</tr>
</tbody>
</table>

0.2 0.5 1 2 5
Favours PD  Favours HD
### PD and HD (adults and children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Cala 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality (where reported, also deaths in first 3 months)</td>
<td>Adjusted HR for survival in PD vs HD 1.5 (95% CI 1.1 to 1.9), after adjustment for age, gender, diabetes, and nephroangiosclerosis</td>
</tr>
<tr>
<td></td>
<td>Adjusted HR for survival PD vs HD 1.58 (95% CI 1.10 to 2.27) for people without diabetes</td>
</tr>
<tr>
<td></td>
<td>Adjusted HR for survival PD vs HD 1.26 (95% CI 0.83 to 1.91) for people with diabetes</td>
</tr>
<tr>
<td></td>
<td>Adjusted HR for survival PD vs HD 1.96 (95% CI 1.29 to 2.99) for people &lt;65 years</td>
</tr>
<tr>
<td></td>
<td>Adjusted HR for survival PD vs HD 1.07 (95% CI 0.75 to 1.53) for people ≥65 years</td>
</tr>
</tbody>
</table>
### PD and HD (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Ansell 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2007 one year incident survival for patients aged 18 to 54 standard primary renal disease</strong>&lt;br&gt;HD 95.0% (95% CI 93.1 to 96.4)&lt;br&gt;PD 99.4% (95% CI 97.7 to 99.9)</td>
<td></td>
</tr>
<tr>
<td><strong>2007 one year incident survival for patients aged 18 to 54 all primary renal disease excluding diabetes</strong>&lt;br&gt;HD 93.3% (95% CI 91.6 to 94.6)&lt;br&gt;PD 99.3% (95% CI 98.0 to 99.8)</td>
<td></td>
</tr>
<tr>
<td><strong>2002 one year incident survival for patients aged 18 to 54 standard primary renal disease</strong>&lt;br&gt;HD 93.4% (95% CI 90.7 to 96.0)&lt;br&gt;PD 98.6% (95% CI 71.1 to 100)</td>
<td></td>
</tr>
<tr>
<td><strong>2002 one year incident survival for patients aged 18 to 54 all primary renal disease excluding diabetes</strong>&lt;br&gt;HD 91.6% (95% CI 89.2 to 94.0)&lt;br&gt;PD 97.9% (95% CI 96.30 to 99.6)</td>
<td></td>
</tr>
</tbody>
</table>

**Age-adjusted (to year 60) one year after day 90 survival rates**
- 2007 HD 87.3% (95% CI 86.2 to 88.4)<br>PD 94.5% (95% CI 93.3 to 95.7)<br>2006 HD 86.7% (95% CI 85.6 to 87.9)<br>PD 94.2% (95% CI 92.9 to 95.5)<br>2005 HD 85.8% (95% CI 84.6 to 87.0)<br>PD 93.2% (95% CI 91.8 to 94.6)<br>2004 HD 85.7% (95% CI 84.4 to 87.0)<br>PD 90.4% (95% CI 88.7 to 92.1)<br>2003 HD 85.7% (95% CI 84.3 to 87.1)<br>PD 92.4% (95% CI 90.9 to 94.0)

2002 [data appears to be incorrect - repeat of 2007?]

Authors noted that although PD appears to be associated with improved survival, this would be misleading as PD tends to be used in people with less severe comorbidities.
1,163 (5.1%) died of infectious causes (PD 7.6% vs HD 4.2%).

**Incidence rates of infectious mortality** PD 2.8/100pt-yr vs HD 1.7/100pt-yr (unadjusted incidence RR 1.66; 95% CI 1.47 to 1.86). Hazard of death from infection in PD patients was not significantly different from that in HD patients in the first 6 months (<6 months HR 1.08; 95% CI 0.76 to 1.54); but increased after 6 months (6 months to 2 years HR 1.31; 95% CI 1.09 to 1.59; 2 to 6 years HR 1.51; 95% CI 1.26 to 1.80; >6 years HR 2.76; 95% CI 1.76 to 4.33).

**Causes of death:** peritonitis (PD vs HD RR 56.9; 95% CI 23.3 to 139), but no differences between groups for septicemia, pneumonia, wound infections, other infections.

**Cumulative incidence of death from peritonitis** 0.012 PD and 0.001 HD at 2 years; 0.047 and 0.002 at 6 years.

Similar results were seen for fungal and bacterial infections - largely accounted for by the increased risk of fungal or bacterial peritonitis in the PD group.

No differences seen for viral infections, or other (unidentified or not specified).

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Johnson 2009</th>
<th>Kramer 2009</th>
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</thead>
<tbody>
<tr>
<td>Mortality (where reported, also deaths in first 3 months)</td>
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<td></td>
<td></td>
<td>Survival</td>
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<td></td>
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<td>HD 1997 to 2001 1yr 78.8% (95% CI 78.5 to 79.1)</td>
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<td></td>
<td>HD 1997 to 2001 2yr 65.8% (95% CI 65.5 to 66.0)</td>
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<td>HD 1997 to 2001 5yr 35.9% (95% CI 35.7 to 36.0)</td>
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<tr>
<td></td>
<td></td>
<td>HD 2002 to 2006 1yr 78.7% (95% CI 78.4 to 78.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HD 2002 to 2006 2yr 65.8% (95% CI 65.5 to 66.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusted HR death 2002-2006 vs 1997-2001 0.90 (95% CI 0.89 to 0.92) (adjusted for age, gender, primary renal disease, country).</td>
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<tr>
<td></td>
<td></td>
<td>PD 1997 to 2001 1yr 88.4% (95% CI 87.9 to 88.9)</td>
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<td>PD 1997 to 2001 2yr 75.9% (95% CI 75.3 to 76.5)</td>
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<td>PD 1997 to 2001 5yr 43.1% (95% CI 42.7 to 43.6)</td>
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<td></td>
<td>PD 2002 to 2006 1yr 89.7% (95% CI 89.3 to 90.2)</td>
</tr>
<tr>
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<td></td>
<td>PD 2002 to 2006 2yr 79.4% (95% CI 78.8 to 80.0)</td>
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<tr>
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<td>Adjusted HR death 2002-2006 vs 1997-2001 0.81 (95% CI 0.78 to 0.85) (adjusted for age, gender, primary renal disease, country).</td>
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</table>
### Mortality (where reported, also deaths in first 3 months)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>McDonald 2009</th>
<th>Sawhney 2009</th>
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<tbody>
<tr>
<td></td>
<td>11,066 deaths with overall mortality rate of 16.3% (95% CI 16.0 to 16.6)</td>
<td>Adjusted HR death 0.754 PD vs HD (95% CI 0.686 to 0.828) (adjusted for age, sex, diabetes, Hb levels, year of initiation, country)</td>
</tr>
<tr>
<td>In multivariate analysis, PD treatment at 90 days was associated with a lower mortality risk at 12 months (HR 0.80 PD vs HD; 95% CI 0.81 to 0.96), but from 12 months onwards the risk increased (HR 1.32 PD vs HD; 95% CI 1.26 to 1.38). Younger patients without comorbidities had a mortality advantage with PD.</td>
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### Study ID

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Arrieta 2008</th>
<th>Huang 2008</th>
<th>Lim 2008</th>
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<tbody>
<tr>
<td></td>
<td>Mortality rate</td>
<td>Overall 1-year, 2-year, 3-year, 5-year and 10-year survival rates for PD patients were 89.8%, 77.6%, 67.6%, 55.5%, and 35% respectively. For HD patients, rates were 87.5%, 76.6%, 68.1%, 54.3%, and 33.8%. Differences were not statistically significant (p = 0.125). <strong>CPH analysis stratified by diabetes status and age</strong> showed that PD patients 55 years of age or younger and nondiabetic had a non-significant lower mortality ratio of 0.94 (95% CI 0.81 to 1.09). MR increased to 1.31 (95% CI 1.19 to 1.43) for nondiabetic patients older than 55. MR for PD vs HD further increased to 1.72 (95% CI 1.43 to 2.08) for diabetic patients 55 years of age or younger, and to 1.99 (95% CI 1.80 to 2.21) for diabetic patients older than 55.</td>
<td>Uadjusted 5 year patient survival was about 80% for both CAPD and HD. After 5 years, survival on HD was better than on CAPD (remains after adjustment for age and diabetes). <strong>[No statistics reported]</strong></td>
</tr>
<tr>
<td>Aged 44 to 64</td>
<td>HD 9.3% PD 6.4%</td>
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<td></td>
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<tr>
<td>Aged 65 to 74</td>
<td>HD 15.8% PD 10.7%</td>
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<tr>
<td>Aged 75 and over HD</td>
<td>21.1% PD 21.2%</td>
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</table>

#### Overall 1-year, 2-year, 3-year, 5-year and 10-year survival rates

- **PD** patients were 89.8%, 77.6%, 67.6%, 55.5%, and 35% respectively.
- **HD** patients were 87.5%, 76.6%, 68.1%, 54.3%, and 33.8% respectively.
- Differences were not statistically significant (p = 0.125).
- **CPH analysis stratified by diabetes status and age** showed that PD patients 55 years of age or younger and nondiabetic had a non-significant lower mortality ratio of 0.94 (95% CI 0.81 to 1.09).
- MR increased to 1.31 (95% CI 1.19 to 1.43) for nondiabetic patients older than 55.
- MR for PD vs HD further increased to 1.72 (95% CI 1.43 to 2.08) for diabetic patients 55 years of age or younger, and to 1.99 (95% CI 1.80 to 2.21) for diabetic patients older than 55.
### Mortality (where reported, also deaths in first 3 months)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Couchoud 2007</th>
<th>Liem 2007</th>
<th>van Manen 2007</th>
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<tbody>
<tr>
<td></td>
<td>Adjusted HR for 2yr mortality in PD vs planned HD 1.3 (95% CI 1.1 to 1.6), after adjustment for age, PRD, comorbidities, disabilities and mobility, albuminaemia, anaemia, BMI, eGFR, and region of residence</td>
<td>Adjusted HR for death PD vs HD 0.99 (95% CI 0.94 to 1.05)</td>
<td>Adjusted HR of death for PD vs transplant 3.77 (95% CI 1.21 to 11.8), after adjustment for general characteristics, and 3.52 (95% CI 1.12 to 11.01) after adjustment for comorbidity</td>
</tr>
<tr>
<td></td>
<td>Adjusted HR for 2yr mortality in PD vs all HD 1.1 (95% CI 0.9 to 1.3)</td>
<td>HR for death PD vs HD 0.26 (95% CI 0.17 to 0.41) for 40-year-old patients without diabetes, which increased with age and presence of diabetes to 0.95 (95% CI 0.64 to 1.39) for 70-year-old patients with diabetes as primary renal disease. HRs of the second period (&gt;6 to 15 months) were generally higher. After 15 months, HR 0.86 (95% CI 0.74 to 1.00) for 40-year-old patients without diabetes and 1.42 (95% CI 1.23 to 1.65) for 70-year-old patients with diabetes as primary renal disease.</td>
<td>Adjusted HR of death for HD vs transplant 3.80 (95% CI 1.21 to 11.9), after adjustment for general characteristics, and 3.64 (95% CI 1.16 to 11.45) after adjustment for comorbidity</td>
</tr>
<tr>
<td></td>
<td>Adjusted HR for 2yr mortality in PD vs planned HD 1.4 (95% CI 1.1 to 1.7) and for all HD 1.0 (95% CI 0.8 to 1.3) for people with diabetes</td>
<td></td>
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<td>Adjusted HR for 2yr mortality in PD vs planned HD 1.1 (95% CI 1.0 to 1.5) for people without diabetes</td>
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</tr>
<tr>
<td><strong>Mortality</strong>&lt;br&gt;Mortality&lt;br&gt;Rate (per 1000 patient yrs at risk) 335 HD and 343 PD&lt;br&gt;<strong>Cause of death</strong>&lt;br&gt;MI 14.9% HD and 19.0% PD (p&lt;0.001)&lt;br&gt;Heart failure 10.7% HD and 7.9% PD (p&lt;0.001)&lt;br&gt;Cardiac arrest; other cause/unknown 9.9% HD and 9.0% PD (p=ns)&lt;br&gt;Cerebrovascular incident 7.5% HD and 8.1% PD (p=ns)&lt;br&gt;Infection 14.6% HD and 17.9% PD (p=0.01)&lt;br&gt;Social causes 9.9% HD and 10.2% PD (p=ns)&lt;br&gt;Cachexia 5.1% HD and 3.5% PD (p&lt;0.01)&lt;br&gt;Malignancies 6.0% HD and 4.6% PD (p&lt;0.05)&lt;br&gt;Miscellaneous 9.3% HD and 8.2% PD (p=ns)&lt;br&gt;Unknown/unavailable 12.0% HD and 11.7% PD (p=ns)</td>
<td><strong>Mortality</strong>&lt;br&gt;No significant difference in cause of death between HD and PD&lt;br&gt;Adjusted HR for death 0.65 or PD vs HD 'as treated' (95% CI 0.59 to 0.72), adjusted for age, sex, and co-morbidities&lt;br&gt;Adjusted HR for death 0.65 or PD vs HD 'history' (95% CI 0.57 to 0.74), adjusted for age, sex, and co-morbidities&lt;br&gt;Adjusted HR for death 0.86 or PD vs HD 'ITT' (95% CI 0.78 to 0.95), adjusted for age, sex, and co-morbidities&lt;br&gt;Survival was better in people without diabetes and was seen in the first 2 yrs of treatment only. Difference less marked for older patients and people with diabetes, but 'for no group could a detrimental effect of PD be demonstrated'.</td>
<td><strong>Mortality</strong>&lt;br&gt;RR 1.63 age (per 10 yrs) (p&lt;0.0001)&lt;br&gt;RR 1.63 diabetes(p&lt;0.0001)</td>
<td><strong>1 yr survival for new patients</strong>&lt;br&gt;75% HD and 45% PD (97% of whom on hospital based IPD)</td>
</tr>
</tbody>
</table>
**PD alone (adults and children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Badve 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mortality</strong> (where reported, also deaths in first 3 months)</td>
<td>Adjusted weighted HR for death in PD after transplant vs PD after failure of native kidneys 1.09 (95% CI 0.81 to 1.45), after adjustment for gender, age, race, comorbidities, BMI, smoking, time from commencement of RRT to PD, country of residence; 1.32 (95% CI 0.76 to 2.31), with addition of peritoneal transport status</td>
</tr>
</tbody>
</table>

**PD alone (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Barraclough 2010</th>
<th>Evans 2010</th>
<th>Fahim 2010</th>
<th>Jarvis 2010</th>
</tr>
</thead>
</table>
| **Mortality** (where reported, also deaths in first 3 months) | **Peritonitis related**
14 (4%) polymicrobial peritonitis
68 (2%) nonpolymicrobial peritonitis
p=0.03 | Death occurred before the first peritonitis episode in 26.2% (2,243)
Probability of experiencing death before a first peritonitis episode was 29% at 5 yrs using competing risk methods | **Peritonitis related**
4 (1.0%) culture -ve peritonitis
78 (2.5%) culture +ve peritonitis
p=0.04 | **Peritonitis related**
35 (4%) NPGN peritonitis
47 (2%) other organism peritonitis
p<0.001 |
|            |                  |            |            | Also analysed by single organism and polymicrobial, but not reported here |
### Mortality (where reported, also deaths in first 3 months)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Brown 2009</th>
<th>Siva 2009</th>
<th>Kawanishi 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>EPS related death</td>
</tr>
<tr>
<td></td>
<td>26 (57%) of people on PD with EPS died</td>
<td>6 (3%) <em>Pseudomonas</em> peritonitis</td>
<td>48 PD patients developed EPS during 4 yrs (incidence of 2.5% in 1,958 patients) with an overall mortality rate of 37.5%</td>
</tr>
<tr>
<td></td>
<td>Mortality rate was 42% one year after diagnosis</td>
<td>76 (2%) non-<em>Pseudomonas</em> peritonitis</td>
<td>Incidence of EPS increased with duration of PD</td>
</tr>
<tr>
<td></td>
<td>Median survival from diagnosis 180 days (range 1 to 1075, IQR 61 to 408)</td>
<td>p=0.400</td>
<td>PD duration &lt;3yrs: EPS 0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PD duration 3&lt;5yrs: EPS 0.7%, EPS-related mortality 0%</td>
</tr>
<tr>
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<td></td>
<td>PD duration 5&lt;8yrs: EPS 2.1%, EPS-related mortality 8.3%</td>
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<tr>
<td></td>
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<td></td>
<td>PD duration 8&lt;10yrs: EPS 5.9%, EPS-related mortality 28.6%</td>
</tr>
<tr>
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<td></td>
<td>PD duration 10-15yrs: EPS 5.8%, EPS-related mortality 61.5%</td>
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<td></td>
<td>PD duration &gt;15yrs: EPS 17.2%, EPS-related mortality 100%</td>
</tr>
</tbody>
</table>

### Peritonitis related death

- **PD alone (children)**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Mortality (where reported, also deaths in first 3 months)</td>
<td>Peritonitis related 0</td>
<td>2 patient deaths (4%) in the RP group</td>
<td>3 patient deaths (0.7%) in the non-RP group</td>
<td>EPS related death</td>
<td>Peritonitis related death</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See Lane 2010</td>
<td>11 PD patients developed EPS (1.6% in 678 patients) with an overall mortality rate of 27%</td>
<td>Of 51 cases of fungal peritonitis in 51 children on PD, no related deaths were observed</td>
<td></td>
</tr>
</tbody>
</table>
**HD alone (adults and children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Shigidi 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality</td>
<td>Mortality during 5 years 119 (43%) HD</td>
</tr>
<tr>
<td>(where reported, also deaths in first 3 months)</td>
<td>Estimated first year survival 84% and 53% of patients alive at end of the fifth year</td>
</tr>
</tbody>
</table>

**Preservation of renal function**

No studies reported this outcome.

**Technique failure or switch**

Figure 3 Peritoneal dialysis versus haemodialysis, outcome: Technique switch at 5 years.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Peritoneal dialysis</th>
<th>Haemodialysis</th>
<th>Risk Ratio</th>
<th>Risk Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korevaar 2003</td>
<td>7</td>
<td>20</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Events</td>
<td>Total</td>
<td>Events</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>M-H, Random, 95% CI</td>
<td></td>
<td>M-H, Random, 95% CI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.15 [0.75, 13.25]</td>
<td></td>
<td>1 [0.06, 24.8]</td>
<td></td>
</tr>
</tbody>
</table>
**PD and HD (adults and children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Cala 2007</th>
<th>Kim 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technique failure or switch</strong></td>
<td>201 PD discontinued; recovery of renal function 3, transfer to HD 65, transplant 49, death 84</td>
<td><strong>Technique survival</strong></td>
</tr>
<tr>
<td></td>
<td>5yr technique survival PD 68% (95% CI 65 to 70)</td>
<td>At 1 yr: 80.6% HD and 71.2% PD</td>
</tr>
<tr>
<td></td>
<td>5yr technique survival incident PD 60% (95% CI 54 to 65)</td>
<td>At 2 yr: 62.3% HD and 45.1% PD</td>
</tr>
<tr>
<td></td>
<td>5yr technique survival incident HD 42% (95% CI 40 to 44) p&lt;0.0001</td>
<td>At 3 yr: 48.9% HD and 31.9% PD</td>
</tr>
<tr>
<td></td>
<td>5yr technique survival incident HD 42% (95% CI 40 to 44) p&lt;0.0001</td>
<td>At 5 yr: 30.2% HD and 13.8% PD</td>
</tr>
<tr>
<td></td>
<td>5yr technique survival incident HD 42% (95% CI 40 to 44) p&lt;0.0001</td>
<td>At 10 yr: 10.2% HD and 3.0% PD</td>
</tr>
</tbody>
</table>
## PD and HD (adults)

<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>Technique failure or switch</strong></td>
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</tr>
<tr>
<td><strong>Proportion who changed modality</strong> PD vs HD</td>
<td>8.5% vs 21.1% at 6 months; 27.9% vs 24.7% at 24 months; 63.6% vs 26.9% at 6 years. PD patients more likely to change at least once, but HD patients most likely to change within 6 months.</td>
<td></td>
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<tr>
<td><strong>Prevalence of AutoPD</strong></td>
<td>15.7%</td>
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<tr>
<td><strong>Renal recovery</strong></td>
<td></td>
<td>420 (1.1%) had recovery of renal function 244 (1.0%) on HD and 176 (1.1%) on PD (p=0.4) Median time to recovery 303 days HD and 333 days PD (p=0.1). Modality at 90 days was not associated with time to recovery in a univariate or multivariate model (HR 0.93 HD vs PD; 95% CI 0.76 to 1.14) For patients on PD, probability of recovery was not associated with the type of PD (HR 0.90 AutoPD vs CAPD; 95% CI 0.70 to 1.15). Median duration of recovery was 420 days for HD and 385 for PD (p=0.7) and subsequent return to RRT was not different between the groups (OR 0.94; 95% CI 0.59 to 1.49).</td>
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<tr>
<td><strong>Technique survival</strong></td>
<td>At 2 yrs, of 1706 patients on planned HD, 71% remained on HD, 1% switched to PD, 2% had renal function recovery, 0% had a transplant and 26% died</td>
<td>At 2 yrs, of 110 patients on unplanned HD, 56% remained on HD, 3% switched to PD, 2% had renal function recovery, 0% had a transplant and 39% died</td>
<td>At 2 yrs, of 617 patients on PD, 9% switched to HD, 53% remained on PD, 2% had renal function recovery, 0% had a transplant and 36% died</td>
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</tbody>
</table>
**PD and HD (children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Total changed modality of dialysis</strong></td>
</tr>
<tr>
<td></td>
<td>HD 490</td>
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<td></td>
<td>PD 703</td>
</tr>
<tr>
<td>Technique failure or switch</td>
<td>HD changed due to excessive infection 7.1% HD and 42.8% PD; choice 43.5% HD and 8.7% PD; access failure 13.5% HD and 8.1% PD; other medical 18.8% and 27.3% PD; and other/none 17.7% HD and 13.1% PD</td>
</tr>
<tr>
<td></td>
<td>Although time to termination is shorter for HD (relative to PD) courses initially (30.9%±1.1% versus 19.3%±0.7% at 6 months), by 36 months of follow-up PD courses have a higher percent of terminations than HD (85.5%±0.7% PD versus 80.1%±1.1% HD).</td>
</tr>
<tr>
<td></td>
<td>If the reason for termination was that the patient was transplanted, then the relationship between PD and HD terminations is similar. However for patients who terminate their index dialysis to change modalities, HD patients experience most of their terminations in the first 6 months while PD patients appear to have a slow and steady increase in terminations over time.</td>
</tr>
</tbody>
</table>

**PD alone (adults and children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Badve 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technique failure or switch</td>
<td>Adjusted weighted HR for <strong>technique failure</strong> in PD after transplant vs PD after failure of native kidneys 0.91 (95% CI 0.75 to 1.10), after adjustment for gender, age, race, comorbidities, BMI, smoking, time from commencement of RRT to PD, country of residence; 1.03 (95% CI 0.75 to 1.42), with addition of peritoneal transport status</td>
</tr>
</tbody>
</table>
**PD alone (adults)**

<table>
<thead>
<tr>
<th>Technique failure or switch</th>
<th>Study ID</th>
<th>Barraclough 2010</th>
<th>Evans 2010</th>
<th>Fahim 2010</th>
<th>Jarvis 2010</th>
<th>Siva 2009</th>
<th>Kawanishi 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catheter removal</td>
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<tr>
<td>155 (43%) polymicrobial peritonitis</td>
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<tr>
<td>620 (19%) nonpolymicrobial peritonitis</td>
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<td></td>
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<tr>
<td>p&lt;0.001</td>
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<tr>
<td>Temporary HD</td>
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<tr>
<td>19 (5%) polymicrobial peritonitis</td>
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<tr>
<td>133 (4%) nonpolymicrobial peritonitis</td>
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<tr>
<td>p=0.3</td>
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<tr>
<td>Permanent HD</td>
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<tr>
<td>138 (38%) polymicrobial peritonitis</td>
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<tr>
<td>497 (15%) nonpolymicrobial peritonitis</td>
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<td></td>
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<tr>
<td>p&lt;0.001</td>
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<tr>
<td>Switch to HD occurred before the first peritonitis episode in 12.7% (1,090)</td>
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<tr>
<td>Probability of switching to HD before a first peritonitis episode was 14% at 5 yrs using competing risk methods</td>
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<tr>
<td>Partial recovery occurred before the first peritonitis episode in 1.3% (108)</td>
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<tr>
<td>Probability of partial recovery of renal function before a first peritonitis episode was 1% at 5 yrs using competing risk methods, and was stable from soon after PD initiation</td>
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<tr>
<td>Temporary HD</td>
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<tr>
<td>54 (12%) culture -ve peritonitis</td>
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<tr>
<td>721 (23%) culture +ve peritonitis</td>
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<tr>
<td>p&lt;0.001</td>
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<tr>
<td>Permanent HD</td>
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</tr>
<tr>
<td>43 (10%) culture -ve peritonitis</td>
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<tr>
<td>592 (19%) culture +ve peritonitis</td>
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<td></td>
</tr>
<tr>
<td>p&lt;0.001</td>
<td></td>
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<tr>
<td>Also analysed by single organism and polymicrobial, but not reported here</td>
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</tbody>
</table>

**Technique failure**

Patients terminating PD within 5 yrs 46.3%
Patients terminating PD between 5 and 10 yrs 37.7%
Patients terminating PD after 10 yrs 13.9%
7 patients discontinued PD due to EPS
26 (9%) had EPS within 2yrs of withdrawal of PD
**PD alone (children)**

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Technique failure or switch</strong></td>
<td>Catheter removal</td>
<td>16 (16%) overall</td>
<td>2 (33%) polymicrobial peritonitis</td>
<td>14 (15%) single organism peritonitis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary HD</td>
<td>5 (5%) overall</td>
<td>1 (17%) polymicrobial peritonitis</td>
<td>4 (4%) single organism peritonitis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Permanent HD</td>
<td>7 (7%) overall</td>
<td>0 (0%) polymicrobial peritonitis</td>
<td>7 (8%) single organism peritonitis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary discontinuation of PD</td>
<td>2.5% overall</td>
<td>4 (7.7%) RP</td>
<td>8 (1.9%) non-RP</td>
<td>p=ns</td>
</tr>
<tr>
<td></td>
<td>Permanen discontinuation of PD</td>
<td>8.1% overall</td>
<td>9 (17.3%) RP</td>
<td>30 (6.9%) non-RP</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>EPS related switch</td>
<td>See Lane 2010</td>
<td>10 PD patients switched to HD because of EPS (91%); 2 children subsequently died</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Peritonitis related catheter removal</td>
<td>In 51 episodes of fungal peritonitis, 90% resulted in catheter removal</td>
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</tr>
<tr>
<td></td>
<td>Technique switch</td>
<td>At 6 months, 53% of the 51 children experiencing fungal peritonitis remained on PD; 24% has switched to HD and 6% had died (of unrelated causes)</td>
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</tbody>
</table>
**Resource use and costs**

**PD and HD (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Abbott 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Septicaemia related hospital admissions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Resource use and costs inc hospitalisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PD alone (adults)</td>
</tr>
<tr>
<td></td>
<td><strong>Resource use and costs inc hospitalisation</strong></td>
</tr>
<tr>
<td></td>
<td>Peritonitis related admissions</td>
</tr>
<tr>
<td></td>
<td>297 (83%) polymicrobial peritonitis</td>
</tr>
<tr>
<td></td>
<td>2,207 (68%) nonpolymicrobial peritonitis</td>
</tr>
<tr>
<td></td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Peritonitis related admissions</td>
</tr>
<tr>
<td></td>
<td>262 (60%) culture -ve peritonitis</td>
</tr>
<tr>
<td></td>
<td>2,242 (71%) culture +ve peritonitis</td>
</tr>
<tr>
<td></td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Peritonitis related admissions</td>
</tr>
<tr>
<td></td>
<td>679 (81%) NPGN peritonitis</td>
</tr>
<tr>
<td></td>
<td>1825 (66%) other organism peritonitis</td>
</tr>
<tr>
<td></td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Also analysed by single organism and polymicrobial, but not reported here</td>
</tr>
<tr>
<td></td>
<td>Peritonitis related admissions</td>
</tr>
<tr>
<td></td>
<td>150 (79%) <em>Pseudomonas</em> peritonitis</td>
</tr>
<tr>
<td></td>
<td>2354 (69%) non-<em>Pseudomonas</em> peritonitis</td>
</tr>
<tr>
<td></td>
<td>p=0.006</td>
</tr>
</tbody>
</table>

**PD alone (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Barraclough 2010</th>
<th>Fahim 2010</th>
<th>Jarvis 2010</th>
<th>Siva 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peritonitis related admissions</td>
<td>Peritonitis related admissions</td>
<td>Peritonitis related admissions</td>
<td>Peritonitis related admissions</td>
</tr>
<tr>
<td></td>
<td>86 (86%) overall</td>
<td>6 (100%) polymicrobial peritonitis</td>
<td>80 (85%) single organism peritonitis</td>
<td></td>
</tr>
</tbody>
</table>

**PD alone (children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Bordador 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peritonitis related admissions</td>
</tr>
<tr>
<td></td>
<td>86 (86%) overall</td>
</tr>
<tr>
<td></td>
<td>6 (100%) polymicrobial peritonitis</td>
</tr>
<tr>
<td></td>
<td>80 (85%) single organism peritonitis</td>
</tr>
</tbody>
</table>
## Adverse events

### PD and HD (adults and children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Kim 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Peritonitis</td>
</tr>
<tr>
<td></td>
<td>75.8% no peritonitis</td>
</tr>
<tr>
<td></td>
<td>11.6% 1 episode</td>
</tr>
<tr>
<td></td>
<td>5.7% 2 episodes</td>
</tr>
<tr>
<td></td>
<td>2.8% 3 episodes</td>
</tr>
<tr>
<td></td>
<td>4.1% &gt;3 episodes</td>
</tr>
<tr>
<td></td>
<td>Exit site infections</td>
</tr>
<tr>
<td></td>
<td>84.2% no exit site infection in PD group</td>
</tr>
</tbody>
</table>

### PD and HD (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Fluck 2010</th>
<th>Abbott 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MRSA</td>
<td>Septicaemia</td>
</tr>
<tr>
<td></td>
<td>153 episodes of MRSA in 134 HD patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No episodes reported in PD patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(although one patient had previous CAPD treatment)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repeat episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>123 (92%) experienced 1 episode</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 (4%) 2 episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 (3%) 3 episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 (1%) 4 episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR 1.65 (95% CI 1.56 to 1.76) for septicaemia HD vs PD</td>
<td></td>
</tr>
</tbody>
</table>
### PD and HD (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adverse events</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Peritonitis</strong></td>
<td>During the first 30 days of PD, 426 (11.2%) patients had 1 peritonitis episode, and 49 patients had 2 episodes. Over the course of the study, 3,999 cases of peritonitis infection; 825 patients had 1 infection, 405 patients had 2 infections, 454 patients had 3 to 7 infections, and 49 patients had 8 or more infections. Annual rate of 0.67, or 1 episode every 18.0 months Overall, 38.7% of patients had at least one infection by 12 months; 52.2% had an infection by 24 months.</td>
</tr>
<tr>
<td><strong>Exit-site infections</strong></td>
<td>PD 8.8% at 1 month; 20.3% at 6 months; 20.1% at 12 months; 17.3% at 24 months; 18.0% at 36 months HD 8.8% at 1 month; 15.8% at 6 months; 13.01% at 12 months; 9.1% at 24 months; 7.4% at 36 months</td>
</tr>
<tr>
<td><strong>Seizures</strong></td>
<td>PD 3.6% at 1 month; 4.8% at 6 months; 3.3% at 12 months; 3.5% at 24 months; 2.4% at 36 months HD 4.3% at 1 month; 7.0% at 6 months; 5.6% at 12 months; 5.8% at 24 months; 4.7% at 36 months</td>
</tr>
</tbody>
</table>

### PD alone (adult and children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Badve 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adverse events</strong></td>
<td>Adjusted weighted HR for peritonitis in PD after transplant vs PD after failure of native kidneys 0.92 (95% CI 0.72 to 1.16), after adjustment for gender, age, race, comorbidities, BMI, smoking, time from commencement of RRT to PD, country of residence; 0.88 (95% CI 0.60 to 1.30), with addition of peritoneal transport status</td>
</tr>
</tbody>
</table>
### PD alone (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Barraclough 2010</th>
<th>Evans 2010</th>
<th>Fahim 2010</th>
<th>Jarvis 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peritonitis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>359 episodes of polymicrobial peritonitis in 324 patients (10% of all peritonitis episodes)</td>
<td>3,594 episodes of peritonitis in 1,984 patients</td>
<td>837 episodes of NPGN peritonitis in 256 patients (23.3% of all 3,594 peritonitis episodes)</td>
<td>837 episodes of NPGN peritonitis in 256 patients</td>
<td></td>
</tr>
<tr>
<td>0.60 episodes/pt-yr polymicrobial peritonitis</td>
<td>0.60 episodes/pt-yr all peritonitis</td>
<td>0.07 episodes/pt-yr NPGN peritonitis</td>
<td>0.14 episodes/pt-yr NPGN peritonitis</td>
<td></td>
</tr>
<tr>
<td>0.06 episodes/pt-yr nonpolymicrobial peritonitis</td>
<td>0.07 episodes/pt-yr culture -ve peritonitis in 361 patients</td>
<td>91 (11%) NPGN peritonitis</td>
<td>91 (11%) NPGN peritonitis</td>
<td></td>
</tr>
<tr>
<td><strong>Relapse</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 (10%) polymicrobial peritonitis</td>
<td>62 (14%) culture -ve peritonitis</td>
<td>411 (15%) other organism peritonitis</td>
<td>411 (15%) other organism peritonitis</td>
<td></td>
</tr>
<tr>
<td>467 (14%) nonpolymicrobial peritonitis</td>
<td>440 (14%) culture +ve peritonitis</td>
<td><strong>Repeat episodes (NPGN)</strong></td>
<td><strong>Repeat episodes (NPGN)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Repeat episodes (polymicrobial peritonitis)</strong></td>
<td><strong>Repeat episodes (polymicrobial peritonitis)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>295 (91%) experienced 1 episode</td>
<td>306 (85%) experienced 1 episode</td>
<td>130 (51%) experienced 1 episode [reported as 528?</td>
<td>130 (51%) experienced 1 episode</td>
<td></td>
</tr>
<tr>
<td>26 (8%) 2 episodes</td>
<td>37 (10%) 2 episodes</td>
<td>90 (35%) 2 episodes</td>
<td>90 (35%) 2 episodes</td>
<td></td>
</tr>
<tr>
<td>2 (0.6%) 3 episodes</td>
<td>17 (5%) 3 episodes</td>
<td>27 (11%) 3 episodes</td>
<td>27 (11%) 3 episodes</td>
<td></td>
</tr>
<tr>
<td>1 (0.3%) 4 episodes</td>
<td>1 (0.03%) 4 episodes</td>
<td>7 (3%) 4 episodes</td>
<td>7 (3%) 4 episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 (0.8) 5 episodes</td>
<td>2 (0.8) 5 episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 (0.4) 6 episodes</td>
<td>1 (0.4) 6 episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also analysed by single organism and polymicrobial, but not reported here</td>
</tr>
</tbody>
</table>

First peritonitis episode occurred in 36.7% (3,137). Probability of experiencing a first peritonitis episode was just over 25% at 1 yr, and 70% at 5 yrs using K-M methods; just under 25% at 1yr and 40% at 5yrs using competing risk methods.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Brown 2009</th>
<th>Siva 2009</th>
<th>Kawanishi 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adverse events</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EPS</strong></td>
<td>19 (1238) of incident PD patients developed EPS, and 46 of the prevalent cohort (incidence of 4.9/1000 person years, or 8.7/1000 person years of PD) Risk of developing EPS increases with duration of PD (p&lt;0.001) OR EPS with PD exposure of &gt;2 to 4yr vs ≤2yr is 10.4 (95% CI 2.2 to 49.4) OR EPS with PD exposure of &gt;4yr vs &gt;3 to 4yr is 3.2 (95% CI 1.2 to 8.6) Median duration before EPS was 5.1yr (range 1.1 to 12.2, IQR 3.4 to 6.1)</td>
<td>191 episodes of <em>Pseudomonas</em> peritonitis in 171 patients (5.3% of all 3,594 peritonitis episodes) 0.032 episodes/pt-yr of PD (95% CI 0.028 to 0.037) <em>Pseudomonas</em> peritonitis</td>
<td>48 PD patients developed EPS during 4 yrs (incidence of 2.5% in 1,958 patients) <strong>EPS</strong> Incidence of EPS increased with duration of PD PD duration &lt;3yrs: EPS 0.7% PD duration 3&lt;5yrs: EPS 2.1% PD duration 5&lt;8yrs: EPS 5.9% PD duration 8&lt;10yrs: EPS 5.8% PD duration &gt;10yrs: EPS 17.2%</td>
</tr>
<tr>
<td><strong>Peritonitis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Relapse</strong></td>
<td>17 (9%) <em>Pseudomonas</em> peritonitis 485 (14%) non-<em>Pseudomonas</em> peritonitis p=0.040</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Repeat episodes (Pseudomonas)</strong></td>
<td>155 (91%) experienced 1 episode 13 (8%) 2 episodes 2 (1%) 3 episodes 1 (0.6%) 4 episodes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28 (61%) used AutoPD.</td>
<td>48 PD patients developed EPS during 4 yrs (incidence of 2.5% in 1,958 patients)</td>
<td></td>
</tr>
</tbody>
</table>
### PD alone (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Bordador 2010</th>
<th>Lane 2010</th>
<th>Warady 2007</th>
<th>Rinaldi 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study ID</strong></td>
<td><strong>Bordador 2010</strong></td>
<td><strong>Lane 2010</strong></td>
<td><strong>Warady 2007</strong></td>
<td><strong>Rinaldi 2004</strong></td>
</tr>
<tr>
<td><strong>Adverse events</strong></td>
<td><strong>Peritonitis</strong></td>
<td><strong>Peritonitis</strong></td>
<td><strong>Peritonitis</strong></td>
<td><strong>Catheter-related complications</strong></td>
</tr>
<tr>
<td></td>
<td>100 episodes of peritonitis in 57 patients</td>
<td>548 episodes of peritonitis in 392 patients</td>
<td>See Lane 2010</td>
<td>[overall]</td>
</tr>
<tr>
<td></td>
<td>0.71 episodes/pt-yr peritonitis</td>
<td>mean 1.4 (sd? 0.8) episodes/pt peritonitis</td>
<td>Catheter (exit site and/or tunnel) infection 330 (73.2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60% of infections started within 6 months of PD initiation</td>
<td>CAPD in 24% of episodes, APD in 50%, and nocturnal IPD in 26%.</td>
<td>Leakage 26 (5.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Relapse</strong></td>
<td><strong>Relapse</strong></td>
<td>Dislocation 26 (5.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 (5%) overall</td>
<td>52 (11%) of episodes relapsed at least once</td>
<td>Obstruction 24 (5.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 (0%) polymicrobial peritonitis</td>
<td><strong>Recurrence</strong></td>
<td>Cuff extrusion 22 (4.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 (5%) single organism peritonitis</td>
<td>7 (7%) overall</td>
<td>Hemoperitoneum 6 (1.3%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Recurrence</strong></td>
<td>1 (17%) polymicrobial peritonitis</td>
<td>Other 17 (3.8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 (7%) overall</td>
<td>6 (6%) single organism peritonitis</td>
<td>Total 451</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 (17%) polymicrobial peritonitis</td>
<td><strong>Repeat episodes</strong></td>
<td>Incidence 1:20.1 episodes/PD months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 (6%) single organism peritonitis</td>
<td>33 (58%) experienced 1 episode</td>
<td>Catheter infection without peritonitis 71 (14%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Repeat episodes</strong></td>
<td>14 (25%) 2 episodes</td>
<td>Catheter infection with peritonitis 20 (4%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>33 (58%) experienced 1 episode</td>
<td>6 (11%) 3 episodes</td>
<td>Refractory peritonitis 38 (8%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14 (25%) 2 episodes</td>
<td>4 (7%) 4 episodes or more</td>
<td>Total 129 (25.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 (11%) 3 episodes</td>
<td><strong>Catheter survival</strong></td>
<td><strong>Catheter survival</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 (7%) 4 episodes or more</td>
<td>78.1% at 12 months; 58.55 at 24 months; 43.8%</td>
<td>78.1% at 12 months; 58.55 at 24 months; 43.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 36 months; 34.6% at 48 months</td>
<td>at 36 months; 34.6% at 48 months</td>
<td></td>
</tr>
</tbody>
</table>
### Adverse events

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Hoshii 2000</th>
<th>Warady 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EPS</td>
<td>Peritonitis</td>
</tr>
<tr>
<td></td>
<td>11 PD patients developed EPS (1.6% in 678 patients)</td>
<td>51 cases of fungal peritonitis in 1729 peritonitis episodes occurring over 1732 years of PD 2.9% of all peritonitis episodes</td>
</tr>
<tr>
<td>Incidence 11 cases in 167 children (6.6%) for those on PD&gt;5yrs</td>
<td>Overall, rate of peritonitis in children who developed fungal peritonitis 2.21 episodes/pt-yr vs 0.96 in children without a history of PD (p&lt;0.0001)</td>
<td></td>
</tr>
</tbody>
</table>
## Adequacy rates

### PD and HD (adults and children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Kim 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequacy rates</td>
<td>URR</td>
</tr>
<tr>
<td></td>
<td>Mean URR 66.7% (sd 8.68) in HD</td>
</tr>
</tbody>
</table>

### PD and HD (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Harper 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blood pressure (mmHg)</td>
</tr>
<tr>
<td></td>
<td>Median SBP 129 HD and 138 PD</td>
</tr>
<tr>
<td></td>
<td>Median DBP 68 HD and 80 PD</td>
</tr>
<tr>
<td>Adequacy rates</td>
<td>% BP &lt;130/80mmHg</td>
</tr>
<tr>
<td></td>
<td>46.8% (95% CI 45.9 to 47.8) HD</td>
</tr>
<tr>
<td></td>
<td>26.3% (95% CI 24.1 to 28.6) PD</td>
</tr>
<tr>
<td></td>
<td>% SBP &lt;130mmHg</td>
</tr>
<tr>
<td></td>
<td>50.3% (95% CI 49.3 to 51.2) HD</td>
</tr>
<tr>
<td></td>
<td>35.2% (95% CI 32.8 to 37.7) PD</td>
</tr>
<tr>
<td></td>
<td>% DBP &lt;80mmHg</td>
</tr>
<tr>
<td></td>
<td>78.1% (95% CI 77.3 to 78.8) HD</td>
</tr>
<tr>
<td></td>
<td>48.7% (95% CI 46.1 to 51.2) PD</td>
</tr>
</tbody>
</table>
**PD and HD (children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008 Adequacy rates</th>
<th>Kt/V values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PD: median at day 30 2.1, at 1 year 2.2, and at 2 years post-initiation, 2.3. HD: median at day 30 1.5, at 1 year 1.6, and at 2 years post-initiation, 1.6</td>
</tr>
</tbody>
</table>

**HD alone (adults and children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Shigidi 2009 Adequacy rates</th>
<th>URR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HD 83% had URR &gt;65% in 2006; 68% in 2002</td>
</tr>
</tbody>
</table>

**HD alone (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Williams 2010 Adequacy rates</th>
<th>Roderick 2009 URR in 4th qtr after HD initiation</th>
<th>DBP (mmHg) in 4th qtr after HD initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean 67.2% (sd 9.0) Caucasian; 69.2% (sd 9.0) South Asian; 65.9% (sd 8.4) Black; p&lt;0.0001</td>
<td>Mean 74 (sd 14 Caucasian; 76 (sd 14 South Asian; 78 (sd 15 Black; p&lt;0.0001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBP (mmHg) in 4th qtr after HD initiation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 136 (sd 25 Caucasian; 138 (sd 27 South Asian; 142 (sd 28 Black; p=0.0014</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Williams 2010 Adequacy rates</th>
<th>Roderick 2009 URR in 4th qtr after HD initiation</th>
<th>DBP (mmHg) in 4th qtr after HD initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean 67.2% (sd 9.0) Caucasian; 69.2% (sd 9.0) South Asian; 65.9% (sd 8.4) Black; p&lt;0.0001</td>
<td>Mean 74 (sd 14 Caucasian; 76 (sd 14 South Asian; 78 (sd 15 Black; p&lt;0.0001</td>
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<td></td>
<td>SBP (mmHg) in 4th qtr after HD initiation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 136 (sd 25 Caucasian; 138 (sd 27 South Asian; 142 (sd 28 Black; p=0.0014</td>
<td></td>
</tr>
</tbody>
</table>

Proportion of patients attaining the URR>65% increased from 56% to 83% from 1998 to 2008 whilst the median URR increased from 67% to 73% For those on HD for less than 6 months, 68% had URR>65% compared with 87% on dialysis for more than 2 years in 2008
### Staff attitude
No studies reported this outcome.

### Nutritional status

**PD and HD (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Dawnay 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phosphate levels</strong></td>
<td></td>
</tr>
</tbody>
</table>
|  | HD mean 1.55mmol/l (sd 0.53); median 1.49 (lower quartile 1.20; upper quartile 1.84)  
PD mean 1.54mmol/l (sd 0.42); median 1.50 (lower quartile 1.25; upper quartile 1.79)  |
| **% phosphate 1.1-1.8mmol/l** | |
|  | HD 55.2% (95% CI 54.5 to 56.0)  
PD 64.1% (95% CI 62.5 to 65.7) |
| **% phosphate <1.1mmol/l** | |
|  | HD 17.8 (95% CI 17.3 to 18.4)  
PD 12.3% (11.3 to 13.5) |
| **% phosphate >1.8mmol/l** | |
|  | HD 26.9% (95% CI 26.3 to 27.6)  
PD 23.5% (95% CI 22.1 to 25.0) |
| **Calcium*phosphate product** | |
|  | HD 84% (95% CI 84 to 85) and PD 87% (95% CI 85 to 88) achieved the target of <4.8mmol²/l² l|
## Anaemia

*PD and HD (adults and children)*

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Kim 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>EPO use</td>
</tr>
<tr>
<td></td>
<td>Dose of EPO higher in HD than in PD</td>
</tr>
</tbody>
</table>
### PD and HD (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Richardson 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anaemia</strong></td>
<td><strong>Haemoglobin levels</strong></td>
</tr>
<tr>
<td></td>
<td>HD median 11.6 Hb g/dl (90% range 8.9 to 13.8; IQR 10.6 to 12.5); mean 11.5 (sd 1.6)</td>
</tr>
<tr>
<td></td>
<td>PD median 11.7 Hb g/dl (90% range 9.1 to 14.1; IQR 10.8 to 12.6); mean 11.7 (sd 1.5)</td>
</tr>
<tr>
<td></td>
<td>% Hb ≥10 g/dl</td>
</tr>
<tr>
<td></td>
<td>HD 85%</td>
</tr>
<tr>
<td></td>
<td>PD 89%</td>
</tr>
<tr>
<td></td>
<td>% Hb ≥11 g/dl</td>
</tr>
<tr>
<td></td>
<td>HD 66%</td>
</tr>
<tr>
<td></td>
<td>PD 72%</td>
</tr>
<tr>
<td><strong>Ferritin levels</strong></td>
<td>HD median 436 ferritin µg/l (90% range 102 to 1079; IQR 289 to 622); PD median 246 ferritin µg/l (90% range 41 to 816; IQR 141 to 399);</td>
</tr>
<tr>
<td></td>
<td>% Ferritin ≥100 µg/l</td>
</tr>
<tr>
<td></td>
<td>HD 95.0%</td>
</tr>
<tr>
<td></td>
<td>PD 83.9%</td>
</tr>
<tr>
<td></td>
<td>% Ferritin ≥800 µg/l</td>
</tr>
<tr>
<td></td>
<td>HD 12.2% (95% CI 11.7 to 12.7)</td>
</tr>
<tr>
<td></td>
<td>PD 5.2% (95% CI 4.5 to 6.0)</td>
</tr>
<tr>
<td><strong>ESA prescribing</strong></td>
<td>HD % on ESA 90%; mean weekly dose 9,166 IU/week; median weekly dose 8,000 IU/week</td>
</tr>
<tr>
<td></td>
<td>PD % on ESA 76%; mean weekly dose 6,302 IU/week; median weekly dose 4,000 IU/week</td>
</tr>
<tr>
<td></td>
<td>% with Hb &lt;10g/dl on ESA</td>
</tr>
<tr>
<td></td>
<td>HD 95%</td>
</tr>
<tr>
<td></td>
<td>PD 89%</td>
</tr>
<tr>
<td></td>
<td>% with Hb ≥10g/dl not on ESA</td>
</tr>
<tr>
<td></td>
<td>HD 8%</td>
</tr>
<tr>
<td></td>
<td>PD 22%</td>
</tr>
</tbody>
</table>
**PD and HD (children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaemia</td>
<td>Use of EPO</td>
</tr>
<tr>
<td></td>
<td>EPO use is lower initially for PD (86.9%) compared to HD (92.0%), by two years of dialysis therapy, EPO use is similar (94.8% for PD and 93.8% for HD).</td>
</tr>
</tbody>
</table>

**Patient factors associated with effectiveness of treatment**

- Aimed to identify patient factors that may influence the choice of modality.
- Focused therefore on outcomes that differ by patient factors by modality; not reported those studies where simply reported the difference by patient groups in the same modality.
- Extracted information from all included registry studies (modality and switching); many studies did not report the impact of patient characteristics on modality choice.
- No information on the impact of ethnicity or gender was identified.

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Age</th>
<th>Co-morbidities (general)</th>
<th>Diabetes</th>
<th>Congestive heart failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrieta 2008</td>
<td>Higher rates of mortality on HD compared to for all age groups (4.0% HD 1.8% PD 15 to 44 yrs; 9.3% HD 6.4% PD 44 to 64 yrs; 15.8% HD 10.7% PD 65 to 74 yrs), other than those aged 75 years and over where the rates were the same (21.1% in both groups)</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Cala 2007</td>
<td>HR survival 1.96 (95%CI 1.30 to 2.99) for PD compared to HD in patients aged under 65 yrs HR survival 1.07 (95%CI 0.75 to 1.33) for PD compared to HD in patients aged 65 yrs and over</td>
<td>...</td>
<td>HR survival 1.58 (95%CI 1.10 to 2.27) for PD compared to HD in patients without diabetes HR survival 1.26 (95%CI 0.83 to 1.91) for PD compared to HD in patients with diabetes</td>
<td>...</td>
</tr>
<tr>
<td>Study ID</td>
<td>Age</td>
<td>Co-morbidities (general)</td>
<td>Diabetes</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>Couchoud</td>
<td></td>
<td>...</td>
<td>Adjusted HR for 2yr mortality in PD vs planned HD 1.3 (95% CI 0.9 to 1.7) and for all HD 1.0 (95% CI 0.8 to 1.3) for people with diabetes</td>
<td>Adjusted HR for 2yr mortality in PD vs planned HD 1.4 (95% CI 1.1 to 1.7) and for all HD 1.1 (95% CI 1.0 to 1.5) for people without diabetes</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study ID</td>
<td>Age</td>
<td>Co-morbidities (general)</td>
<td>Diabetes</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>-----------</td>
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<td>--------------------------</td>
<td>----------</td>
<td>--------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>As treated</td>
<td>History</td>
<td>ITT</td>
</tr>
<tr>
<td>Heaf 2002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>All</td>
<td>0.65</td>
<td>0.65</td>
<td>0.86</td>
</tr>
<tr>
<td>&lt;55 yrs</td>
<td>All</td>
<td>0.57</td>
<td>0.59</td>
<td>0.90</td>
</tr>
<tr>
<td>&gt;55 yrs</td>
<td>All</td>
<td>0.66</td>
<td>0.66</td>
<td>0.85</td>
</tr>
<tr>
<td>Without diabetes</td>
<td>All</td>
<td>0.61</td>
<td>0.62</td>
<td>0.84</td>
</tr>
<tr>
<td>Without diabetes &lt;55 yrs</td>
<td>All</td>
<td>0.46</td>
<td>0.41</td>
<td>0.83</td>
</tr>
<tr>
<td>Without diabetes &gt;55 yrs</td>
<td>All</td>
<td>0.64</td>
<td>0.65</td>
<td>0.84</td>
</tr>
<tr>
<td>With diabetes</td>
<td>All</td>
<td>0.69</td>
<td>0.72</td>
<td>0.93</td>
</tr>
<tr>
<td>With diabetes &lt;55 yrs</td>
<td>All</td>
<td>0.66</td>
<td>0.74</td>
<td>0.91</td>
</tr>
<tr>
<td>With diabetes &gt;55 yrs</td>
<td>All</td>
<td>0.75</td>
<td>0.72</td>
<td>1.04</td>
</tr>
<tr>
<td>Study ID</td>
<td>Age</td>
<td>Co-morbidities (general)</td>
<td>Diabetes</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>----------</td>
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<td>--------------------------</td>
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<td>-------------------------</td>
</tr>
<tr>
<td>Huang 2008</td>
<td>Similar rates of survival on PD compared with HD for younger patients (aged under 55 yrs) without diabetes (MR 0.94 95%CI 0.81 to 1.09). Lower rates of survival on PD for patients aged 55 and over (MR 1.31 95%CI 1.19 to 1.43) without diabetes.</td>
<td>...</td>
<td>Similar rates of survival on PD compared with HD for younger patients (aged under 55 yrs) without diabetes (MR 0.94 95%CI 0.81 to 1.09). Lower rates of survival on PD for patients aged under 55 yrs (MR 1.72 95%CI 1.43 to 2.08) with diabetes. Lower rates of survival with PD for all patients aged 55 and over, regardless of presence of diabetes (MR 1.31 95%CI 1.19 to 1.43 with diabetes; 1.99 95% CI 1.80 to 2.21 with diabetes).</td>
<td>...</td>
</tr>
<tr>
<td>Study ID</td>
<td>Age</td>
<td>Co-morbidities (general)</td>
<td>Diabetes</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>-----------</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HR of death for PD vs HD</td>
<td>(95% CI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;3-6 months</td>
<td>&gt;6-15 months</td>
</tr>
<tr>
<td>Liem 2007</td>
<td>40</td>
<td>No</td>
<td>0.26 (0.17 to 0.41)</td>
<td>0.51 (0.39 to 0.68)</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>Yes</td>
<td>0.40 (0.23 to 0.68)</td>
<td>0.59 (0.44 to 0.81)</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>No</td>
<td>0.35 (0.25 to 0.48)</td>
<td>0.62 (0.51 to 0.76)</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>Yes</td>
<td>0.53 (0.34 to 0.83)</td>
<td>0.72 (0.56 to 0.93)</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>No</td>
<td>0.46 (0.37 to 0.58)</td>
<td>0.75 (0.65 to 0.87)</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>Yes</td>
<td>0.71 (0.48 to 1.04)</td>
<td>0.87 (0.71 to 1.09)</td>
</tr>
<tr>
<td></td>
<td>70</td>
<td>No</td>
<td>0.62 (0.50 to 0.76)</td>
<td>0.92 (0.80 to 1.05)</td>
</tr>
<tr>
<td></td>
<td>70</td>
<td>Yes</td>
<td>0.95 (0.64 to 1.39)</td>
<td>1.07 (0.85 to 1.33)</td>
</tr>
</tbody>
</table>

*As primary cause of renal disease

**McDonald 2009**

Benefit of PD in first 12 months was 'particularly great' in those aged under 60 yrs without comorbidities. No further details reported.

Benefit of PD in first 12 months was 'particularly great' in those aged under 60 yrs without comorbidities. No further details reported.

...
2.3.2 Included studies (PD and HD)


Appendices DRAFT


40. Macdonald JA, McDonald SP, Hawley CM et al. (2009) Recovery of renal function in end-stage renal failure--comparison between peritoneal


2.3.3 Excluded studies with reasons (PD and HD)

RCT or controlled studies

Is CAPD an effective treatment for ESRD patients with a weight over 80 kg?
EXC - retrospective chart review of people on CAPD evaluating effect in sub-groups of different weight

Agar, J. W. and others. (2010)
Home haemodialysis in Australia - is the wheel turning full circle?
EXC - Narrative review on HHD in Australia

Ahmad, M. and others. (2008)
Advantages of peritoneal dialysis in comparison to hemodialysis, in cardiac allograft recipients with end stage renal disease.
EXC - retrospective case review of PD and HD in people post cardiac transplant

Hepatitis C virus infection in two groups of paediatric patients: one maintained on haemodialysis and the other on continuous ambulatory peritoneal dialysis.
EXC - study to assess prevalence of HepC, not effectiveness of treatment modality
Alloatti, S. and others. (2000)
Peritoneal dialysis compared with hemodialysis in the treatment of end-stage renal disease.
**EXC - not systematic review. Checked reference list**

Almond, M. K. and others. (1994)
Increased erythropoietin requirements in patients with failed renal transplants returning to a dialysis programme.
**EXC - cross-sectional study on pts with failed renal transplant returning to dialysis**

Continuous ambulatory peritoneal dialysis in familial Mediterranean fever amyloidosis patients with end-stage renal failure: a single-centre experience from Turkey.
**EXC - familial Mediterranean fever amyloidosis patients with end-stage renal failure**

An, W. S. and others. (2009)
Comparison of fatty acid contents of erythrocyte membrane in hemodialysis and peritoneal dialysis patients.
**EXC - not experimental evaluation of effectiveness of modality**

Ando, M. and others. (2005)
Impairment of innate cellular response to in vitro stimuli in patients on continuous ambulatory peritoneal dialysis.
**EXC - not experimental evaluation of effectiveness of modality**

Arogundade, F. A. and others. (2005)
An analysis of the effectiveness and benefits of peritoneal dialysis and haemodialysis using Nigerian made PD fluids.
**EXC - acute renal failure, not CKD stage 5 chronic**

Asayama, K. and others. (1990)
Antioxidant enzymes and lipoperoxide in blood in uremic children and adolescents.
**EXC - not experimental evaluation of effectiveness of modality**

Serum advanced glycosylation end-products in patients on hemodialysis and CAPD.
**EXC - not addressing the clinical question. Evaluating long-term effects of daily glucose**

Avram, M. M. and others. (2001)
Importance of low serum intact parathyroid hormone as a predictor of mortality in hemodialysis and peritoneal dialysis patients: 14 years of prospective observation.
**EXC - not experimental evaluation of effectiveness of modality**

Hemoglobin predicts long-term survival in dialysis patients: A 15-year single-center longitudinal study and a correlation trend between prealbumin and hemoglobin.

**EXC - hemoglobin predicting long-term survival in dialysis**

**Badve, S. V. and others. (2008)**
Automated and continuous ambulatory peritoneal dialysis have similar outcomes.

**EXC - Not a controlled trial (indirect comparison)**

Continuous ambulatory peritoneal dialysis: a review of its mechanics, advantages, complications, and areas of controversy. [Review] [188 refs].

**EXC - not systematic review**

**Bakkaloglu, S. A. and others. (2005)**
Chronic peritoneal dialysis in Turkish children: A multicenter study.

**EXC - summary of experience with chronic PD + transplant**

**Balaskas, E. V. and others. (1993)**
Tidal volume peritoneal dialysis versus intermittent peritoneal dialysis.

**EXC - comparison of automated PD (tidal vs intermittent)**

**Ballow, A. and others. (2007)**
Successful kidney transplantation does not reverse the coagulopathy in patients with chronic renal failure on either hemo or peritoneal dialysis.

**EXC - characterizing the coagulopathy in patients with CRF.**

**Bargman, J. M. (2006)**
Continuous flow peritoneal dialysis: ideal peritoneal dialysis or second-rate hemodialysis?. [Review] [15 refs].

**EXC - not systematic review. Checked reference list**

**Bavbek, N. and others. (2007)**
Serum BNP concentration and left ventricular mass in CAPD and automated peritoneal dialysis patients.

**EXC - cross sectional study**

**Bayraktar, G. and others. (2008)**
Evaluation of periodontal parameters in patients undergoing peritoneal dialysis or hemodialysis.

**EXC - evaluating periodontal parameters in dialysis pts**

**Bayraktar, G. and others. (2009)**
Oral health and inflammation in patients with end-stage renal failure.

**EXC - oral health in pts with ESRD**

**Bektas, A. and others. (2005)**
Ultrasonic gallbladder function in chronic kidney disease: Does predialysis, hemodialysis, or CAPD affect it?

**EXC - not addressing the clinical question**
Berger, A. and others. (2009)
Cost comparison of peritoneal dialysis versus hemodialysis in end-stage renal disease.
EXC - not prospective, controlled comparison

Patient survival with renal replacement therapy in heart transplantation patients.
EXC - not experimental evaluation of effectiveness of modality

Blake, P. G. and Stojimirovic, B. (2001)
Peritoneal dialysis adequacy and risk of death. [Review] [31 refs].
EXC - not systematic review

Blake, P. G. (2007)
Randomized controlled trials in PD.
EXC - discussion on RCTs. Refs. checked

Adding home hemodialysis (HHD) to a peritoneal dialysis (PD) program.
EXC - adding HHD to an existing PD

Brearley, C. J. and others. (1993)
Effects of haemodialysis and continuous ambulatory peritoneal dialysis on abnormalities of ion transport in vivo in patients with chronic renal failure.
EXC - not experimental evaluation of effectiveness of modality

Brem, A. S. and others. (2000)
Outcome data on pediatric dialysis patients from the end-stage renal disease Clinical Indicators Project.
EXC - not experimental evaluation of effectiveness of modality

Brimble, K. S. and others. (2006)
Meta-analysis: peritoneal membrane transport, mortality, and technique failure in peritoneal dialysis.
EXC - meta-analysis of observational study on peritoneal membrane transport

Peritoneal dialysis versus hemodialysis in the elderly.
EXC - narrative review on HD and PD

Peritoneal dialysis in elderly patients: clinical experience.
EXC - review on PD in the elderly

Psychosocial adjustment to end-stage renal failure: comparing haemodialysis, continuous ambulatory peritoneal dialysis and transplantation.
EXC - not experimental evaluation of effectiveness of modality + transplantation
Individualized PD prescription: APD versus CAPD. [Review] [9 refs].  
EXC - review. Ref. checked

Buggy, D. and others. (1993)  
Lipoprotein(a) and treatment of chronic renal disease.  
EXC - not experimental evaluation of effectiveness of modality

Burkart, J. and others. (2007)  
Why is the evidence favoring hemodialysis over peritoneal dialysis misleading? [Review] [12 refs].  
EXC - not experimental evaluation of effectiveness of modality (review). Ref. checked

Burkart, J. (2008)  
Role of peritoneal dialysis in the era of the resurgence of home hemodialysis. [Review] [14 refs].  
EXC - not systematic review

Burkart, J. (2009)  
The future of peritoneal dialysis in the United States: optimizing its use. [Review] [47 refs].  
EXC - not systematic review,. Checked reference list

Clinical significance not statistical significance: A simple Bayesian alternative to p values.  
EXC - methods of statistical interpretation

Butani, L. and others. (1998)  
Pleural effusion complicating acute peritoneal dialysis in hemolytic uremic syndrome.  
EXC - not addressing the clinical question. Pleural effusion complicating dialysis

Campbell, M. K. and others. (2000)  
Evidence-based medicine in nephrology: identifying and critically appraising the literature.  
EXC - not experimental evaluation of effectiveness of modality

Cancarini, G. C. and others. (2000)  
Long-term peritoneal dialysis outcome in a single center.  
EXC - discussion on PD outcome in a single centre

Long-term outcome in PD morbidity and mortality. [Review] [35 refs].  
EXC - not systematic review

Cancarini, G. C. and others. (2006)  
Transplantation outcome in patients on PD and HD. [Review] [45 refs].  
EXC - not systematic review. Checked reference list
Cano, A. E. and others. (2007)
Gastrointestinal symptoms in patients with end-stage renal disease undergoing treatment by hemodialysis or peritoneal dialysis.
EXC - not comparison of HD and PD

Canziani, M. E. and others. (1995)
Hemodialysis versus continuous ambulatory peritoneal dialysis: Effects on the heart.
EXC - not experimental evaluation of effectiveness of modality

Carey, W. A. and others. (2007)
Outcomes of dialysis initiated during the neonatal period for treatment of end-stage renal disease: a North American Pediatric Renal Trials and Collaborative Studies special analysis.
EXC - not addressing the clinical question. Initiating long term dialysis on neonates

Hemofiltration and peritoneal dialysis in infection-associated acute renal failure.
EXC - response to the editor

Chen, W. and others. (2008)
Contrasting clinical outcomes between different modes of peritoneal dialysis regimens: two center experiences in China.
EXC - longitudinal and cross sectional study exploring volume overload

Chen, Y. C. and others. (2009)
Comparison of extracellular volume and blood pressure in hemodialysis and peritoneal dialysis patients.
EXC - determining post dialysis target weight

Pregnancy in patients on chronic dialysis: a single center experience and combined analysis of reported results.
EXC - observational study

Churchill, D. N. (1997)
An evidence-based approach to earlier initiation of dialysis.
EXC - not evaluation of PD

Cohen, G. and others. (1995)
Effect of immunoglobulin light chains from hemodialysis and continuous ambulatory peritoneal dialysis patients on polymorphonuclear leukocyte functions.
EXC - not experimental evaluation of effectiveness of modality

What is the place of peritoneal dialysis in the integrated treatment of renal failure?. [Review] [64 refs].
EXC - review article. Refs. checked
Coomer, R. W. and others. (1997)  
Ambulatory blood pressure monitoring in dialysis patients and estimation of mean interdialytic blood pressure.  
**EXC - not experimental evaluation of effectiveness of modality**

Erythropoietin requirements: A comparative multicenter study between peritoneal dialysis and hemodialysis.  
**EXC - not experimental evaluation of effectiveness of modality**

Psychosocial adjustment of males on three types of dialysis.  
**EXC - not experimental evaluation of effectiveness of modality**

Peritoneal protein loss in patients with high peritoneal permeability: comparison between continuous ambulatory peritoneal dialysis and daytime intermittent peritoneal dialysis.  
**EXC - comparison of ambulatory PD (continuous vs intermittent)**

Can the inflammation markers of patients with high peritoneal permeability on continuous ambulatory peritoneal dialysis be reduced on nocturnal intermittent peritoneal dialysis?  
**EXC - study sample and not addressing clinical question**

Increased silicon levels in dialysis patients due to high silicon content in the drinking water, inadequate water treatment procedures, and concentrate contamination: A multicentre study.  
**EXC - not experimental evaluation of effectiveness of modality**

Davies, S. J. (2007)  
Comparing outcomes on peritoneal and hemodialysis: a case study in the interpretation of observational studies. [Review] [14 refs].  
**EXC - interpreting observational studies. Ref. checked**

Controversies in nephrology nursing. Home hemodialysis vs. peritoneal dialysis.  
**EXC - discussion on home hemodialysis as an alternative**

Davison, S. N. and others. (2009)  
Comparison of volume overload with cycler-assisted versus continuous ambulatory peritoneal dialysis.  
**EXC - observational study**

de Cal M. and others. (2008)  
HLA-DR expression and apoptosis: a cross-sectional controlled study in hemodialysis and peritoneal dialysis patients.  
**EXC - observational study**
De Deyn, P. P. and others. (1995)
Serum guanidino compound levels in uremic pediatric patients treated with hemodialysis or continuous cycle peritoneal dialysis. Correlations between nerve conduction velocities and altered guanidino compound concentrations.
EXC - not experimental evaluation of effectiveness of modality

de Fijter, C. W. and others. (1992)
Peritoneal dialysis-related peritonitis: A prospective, randomized comparison between continuous ambulatory PD with Y-connector (CAPD-Y) and continuous cyclic PD (CCPD) [abstract].
EXC - abstract.

de Fijter, C. W. and others. (1992)
Peritoneal defense in continuous ambulatory versus continuous cyclic peritoneal dialysis.
EXC - not looking at the effectiveness of types of PD

de Fijter, C. W. and Snoek, F. J. (1993)
Has continuous cyclic peritoneal dialysis surplus value over CAPD-Y regarding clinical outcome? [abstract].
EXC - abstract. Ref. checked

de Fijter, C. W. and others. (1994)
Antibacterial peritoneal defence in automated peritoneal dialysis: advantages of tidal over continuous cyclic peritoneal dialysis?
EXC - Not addressing clinical outcomes

de Fijter, C. W. and others. (1995)
Continuous cyclic peritoneal dialysis: Clinical efficacy and comparison with continuous ambulatory peritoneal dialysis.
EXC - article not in English language

de Fijter, C. W. H. and others. (1992)
Outcome in continuous ambulatory peritoneal dialysis with y-set (capd-y) versus continuous cyclic peritoneal dialysis (ccpd): a prospective, randomized comparison [abstract].
EXC - abstract

de Fijter, C. W. H. and others. (1994)
Comparison of different peritoneal dialysis modalities with respect to host defense.
EXC - not available from British library

de Mutsert, R. and others. (2009)
Association between serum albumin and mortality in dialysis patients is partly explained by inflammation, and not by malnutrition.
EXC - not experimental evaluation of effectiveness of modality

de Vecchi, A. F. and others. (1994)
Well being in patients on CAPD and hemodialysis.
EXC - not experimental evaluation of effectiveness of modality
de Wit, G. A. and others. (2001)
A comparison of quality of life of patients on automated and continuous
ambulatory peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

Demetriou, D. and others. (2006)
Adequacy of automated peritoneal dialysis with and without manual daytime
exchange: A randomized controlled trial.
EXC - no comparative arm

Department of Health and Human Service. (2006)
2005 annual report: ESRD clinical performance measures project.
EXC - report of ESRD networks in the US

Dervisoglu, E. and others. (2008)
Beta2-microglobulin amyloidosis in hemodialysis and peritoneal dialysis
patients.
EXC - amyloidosis in dialysis patient

EXC - not experimental evaluation of effectiveness of modality

Delivered dialysis dose with PD plus therapy: A multicenter study.
EXC - not experimental evaluation of effectiveness of modality

Assisted peritoneal dialysis as a method of choice for elderly with end-stage
renal disease. [Review] [59 refs].
EXC - not systematic review. Checked reference list

Dimkovic, N. and others. (2009)
Assisted peritoneal dialysis: what is it and who does it involve?. [Review] [33
refs].
EXC - not systematic review. Checked reference list

Tidal peritoneal dialysis vs. continuous cyclic peritoneal dialysis: children's
preference.
EXC - comparison of automated PD (tidal vs CCPD)

APD schedules and clinical results. [Review] [14 refs].
EXC - not systematic review. Comparison of types of APD, so reference
list not checked

Dialysis delivery in children on nightly intermittent and tidal peritoneal dialysis.
EXC - dialysis delivery. 7 pediatric patients having both modalities

Eichel, C. J. (1986)
Stress and coping in patients on CAPD compared to hemodialysis patients. EXC - not experimental evaluation of effectiveness of modality

Eiselt, J. and others. (2010)
Asymmetric dimethylarginine in hemodialysis, hemodiafiltration, and peritoneal dialysis.
EXC - observational study. Randomised study compared dialysis schedules

European practice database: comparative results of the year 1 pilot project.
EXC - report of practice across Europe

Evenepoel, P. and others. (2006)
Superior dialytic clearance of beta(2)-microglobulin and p-cresol by high-flux hemodialysis as compared to peritoneal dialysis.
EXC - cross-sectional observational study on clearance of microglobulin and cresol

Meta-analysis: Effect of hepatitis C virus infection on mortality in dialysis.
EXC - meta-analysis of HepC infection on mortality. Not experimental evaluation of effectiveness of modality

Fabrizi, F. and others. (2006)
Meta-analysis: the dialysis mode and immunological response to hepatitis B virus vaccine in dialysis population.
EXC - meta-analysis of response to HepB vaccination. Not experimental evaluation of effectiveness of modality

Fassett, R. G. and others. (2009)
Comparison of markers of oxidative stress, inflammation and arterial stiffness between incident hemodialysis and peritoneal dialysis patients--an observational study.
EXC - not experimental evaluation of effectiveness of modality

Outcomes in diabetic patients on maintenance dialysis.
EXC - PhD thesis. No peer reviewed publications identified

Adequacy of dialysis in automated peritoneal dialysis: A clinical experience.
EXC - comparing the peritoneal clearance of urea and creatinine

Quality of life assessments in hemodialysis and peritoneal dialysis patients: an important dimension of patient choice why is the evidence favoring hemodialysis over peritoneal dialysis misleading?. [Review] [34 refs].
EXC - narrative review. Ref checked

Family styles of coping in end stage renal disease... including commentary by Shaben TR.
EXC - qualitative study. Not experimental evaluation of effectiveness of modality

Flanigan, M. J. and others. (1998)
1996 Peritoneal Dialysis Core Indicators Study: report on nutritional indicators.
EXC - not experimental evaluation of effectiveness of modality

Flanigan, M. J. and others. (1998)
1996 peritoneal dialysis--core indicators report.
EXC - not available at British Library

Flanigan, M. J. and others. (2001)
Clinical performance measures: the changing status of peritoneal dialysis.
EXC - EXC - not experimental evaluation of effectiveness of modality. No comparators

Foley, R. N. and others. (1998)
Mode of dialysis therapy and mortality in end-stage renal disease.
EXC - not control trial

Foley, R. N. and Murphy, S. W. (2000)
Morbidity outcomes by ESRD treatment modality.
EXC - not experimental evaluation of effectiveness of modality (discussion)

Comparing the incomparable: hemodialysis versus peritoneal dialysis in observational studies. [Review] [13 refs].
EXC - review. Refs. checked. Not experimental evaluation of effectiveness of modality

Fox, C. S. and others. (2004)
Undertreatment of hyperlipidemia in a cohort of United States kidney dialysis patients.
EXC - not experimental evaluation of effectiveness of modality

Frankenfield, D. L. and others. (1999)
EXC - not experimental evaluation of effectiveness of modality.

Frederick, G. A. (1986)
Reuse with continuous cyclic peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

Patients' perceptions of CAPD and hemodialysis stressors.
EXC - not experimental evaluation of effectiveness of modality
Review of combination of peritoneal dialysis and hemodialysis as a modality of treatment for end-stage renal disease. [Review] [18 refs].
EXC - narrative review on combining HD and PD

Nightly peritoneal dialysis (NPD): six years of experience.
EXC - not experimental evaluation of effectiveness of modality

Garcia-Lopes, M. G. and others. (2008)
Nutritional status and body composition after 6 months of patients switching from continuous ambulatory peritoneal dialysis to automated peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

Gentil, M. A. and others. (1991)
Comparison of survival in continuous ambulatory peritoneal dialysis and hospital haemodialysis: a multicentric study.
EXC - comparing survival using data from renal patients registry and did not adjust for cofounding factors

Differences between patients receiving peritoneal dialysis vs hemodialysis...
EXC - letter

Goldfarb-Rumyantzev, A. S. and others. (2005)
The role of pretransplantation renal replacement therapy modality in kidney allograft and recipient survival.
EXC - not experimental evaluation of effectiveness of modality

Goldsmith, D. J. A. and others. (1997)
Ambulatory blood pressure monitoring in renal dialysis and transplant patients.
EXC - not experimental evaluation of effectiveness of modality

Serum prealbumin is higher in peritoneal dialysis than in hemodialysis: A meta-analysis.
EXC - meta-analysis of serum prealbumin concentration

Effect of dialysis modality on plasma fibrinogen concentration: a meta-analysis.

Golper, T. A. and others. (1996)
Risk factors for peritonitis in long-term peritoneal dialysis: The network 9 peritonitis and catheter survival studies.
EXC - not experimental evaluation of effectiveness of modality

Goodwin, N. J. and Friedman, E. A. (1968)
The effects of renal impairment, peritoneal dialysis, and hemodialysis on serum sodium colistimethate levels.
EXC - not experimental evaluation of effectiveness of modality

A multi-center study: clinical practices of HIV infected patients on CAPD/CCPD.
EXC - survey of practice in centres in the US

Acute neuropsychological changes in hemodialysis and peritoneal dialysis patients.
EXC - not experimental evaluation of effectiveness of modality

Controlled comparison of hemodialysis and peritoneal dialysis: Veterans Administration multicenter study.
EXC - form of PD no longer relevant to current practice

Hallett, J. W., Jr. and others. (1975)
EXC - trends in medical comorbidity and surgical approach in patients with renal atherosclerosis and azotemia

Havekes, B. and others. (2006)
Serum troponin T concentration as a predictor of mortality in hemodialysis and peritoneal dialysis patients.
EXC - not experimental evaluation of effectiveness of modality

Initial survival advantage of peritoneal dialysis relative to haemodialysis.
EXC - study on the influence of dialysis on prognosis using Danish uremia register

Held, P. J. and others. (1994)
Continuous ambulatory peritoneal dialysis and hemodialysis: comparison of patient mortality with adjustment for comorbid conditions.
EXC - dialysis in diabetic and non-diabetic

Differences in use of peritoneal dialysis and survival among East Asian, Indo Asian, and white ESRD patients in Canada.
EXC - not experimental evaluation of effectiveness of modality

Hermans, M. M. H. and others. (2007)
Association of serum fetuin-A levels with mortality in dialysis patients. 
**EXC - not experimental evaluation of effectiveness of modality**

**Hiramatsu, M. (2007)**
How to improve survival in geriatric peritoneal dialysis patients. 
**EXC - study on PD alone on geriatric. No comparator.**

A comparison of pediatric home peritoneal dialysis modalities: the family view point. 
**EXC - qualitative study of patient and family preference**

**Holley, J. L. and Nespor, S. (1994)**
An analysis of factors affecting employment of chronic dialysis patients. 
**EXC - not experimental evaluation of effectiveness of modality**

**Hollis, J. L. and others. (2006)**
Managing peritoneal dialysis (PD) -- factors that influence patients' modification of their recommended dialysis regimen. A European study of 376 patients. 
**EXC - not experimental evaluation of effectiveness of modality**

Adequacy of dialysis with tidal and continuous cycling peritoneal dialysis in children. 
**EXC - not experimental evaluation of effectiveness of modality**

**Hooi, L. S. and others. (2005)**
Economic evaluation of centre haemodialysis and continuous ambulatory peritoneal dialysis in Ministry of Health hospitals, Malaysia. 
**EXC - health economics**

**Hoppe, B. and others. (1996)**
Oxalate elimination via hemodialysis or peritoneal dialysis in children with chronic renal failure. 
**EXC - not addressing the clinical question. Oxalate elimination**

Does residual renal function decline more rapidly in hemodialysis than in peritoneal dialysis? How good is the evidence?. [Review] [25 refs]. 
**EXC - not systematic review. Checked reference list**

**Horkko, S. and others. (1994)**
Effects of three treatment modes on plasma lipids and lipoproteins in uraemic patients. 
**EXC - not experimental evaluation of effectiveness of modality**

**Howard, R. L., Millsbaugh, J., and Teitelbaum, I. (1990)**
Adult and pediatric peritonitis rates in a home dialysis program: Comparison of continuous ambulatory and continuous cycling peritoneal dialysis. 
**EXC - not experimental evaluation of effectiveness of modality**
Hufnagel, G. and others. (1999)
The influence of automated peritoneal dialysis on the decrease in residual renal function.
EXC - study on APD and residual renal function. No comparator.

Hung, C. and others. (2009)
Prognostic predictors of technique and patient survival in elderly Southeast Asian patients undergoing continuous ambulatory peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

Pyridinium crosslinks in patients on haemodialysis and continuous ambulatory peritoneal dialysis.
EXC - evaluating the use of markers to predict the severity of bone disease

Jaar, B. G. and others. (2005)
Comparing the risk for death with peritoneal dialysis and hemodialysis in a national cohort of patients with chronic kidney disease.
EXC - not experimental evaluation of effectiveness of modality

Interleukin/cytokine profiles in haemodialysis and in continuous peritoneal dialysis. [Review] [49 refs].
EXC - narrative review

Jager, K. J. and others. (2001)
Nutritional status over time in hemodialysis and peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

The Effect of Contraindications and Patient Preference on Dialysis Modality Selection in ESRD Patients in The Netherlands.
EXC - not experimental evaluation of effectiveness of modality

Outcome of young and elderly diabetic patients on ambulatory peritoneal dialysis: the experience of a community hospital in Puerto Rico.
EXC - not experimental evaluation of effectiveness of modality

Johnson, D. W. and others. (2009)
Associations of dialysis modality and infectious mortality in incident dialysis patients in Australia and New Zealand.
EXC - not experimental evaluation of effectiveness of modality

Juergensen, P. H. and others. (2000)
Tidal peritoneal dialysis: comparison of different tidal regimens and automated peritoneal dialysis.
EXC - comparing different tidal regimens

Growth of children following the initiation of dialysis: A comparison of three dialysis modalities.

Kalender, B. and others. (2007)
Quality of life in chronic kidney disease: effects of treatment modality, depression, malnutrition and inflammation.

Soluble receptor for advanced glycation end products in patients with decreased renal function.

A quantitative study comparing adjustment and acceptance of illness in adults on renal replacement therapy... including commentary by Taylor M with author response.

Keough-Ryan, T. and others. (2002)
Studies of prognostic factors in end-stage renal disease: An epidemiological and statistical critique.

Khawar, O. and others. (2007)
Is the declining use of long-term peritoneal dialysis justified by outcome data?. [Review] [94 refs].

Kielstein, J. T. and others. (1999)
Asymmetric dimethylarginine plasma concentrations differ in patients with end-stage renal disease: relationship to treatment method and atherosclerotic disease.

The effect of residual renal function at the initiation of dialysis on patient survival.

Knupp, C. A. and others. (1996)
Disposition of didanosine in HIV-seropositive patients with normal renal function or chronic renal failure: influence of hemodialysis and continuous ambulatory peritoneal dialysis.
Kobayashi, S. and others. (2000)
Impact of dialysis therapy on insulin resistance in end-stage renal disease: Comparison of haemodialysis and continuous ambulatory peritoneal dialysis.
EXC - comparative study with 19 diabetic pts

Korzets, Z. and others. (1998)
Prevalence of cholelithiasis in non-diabetic haemodialysis and continuous ambulatory peritoneal dialysis patients.
EXC - prevelence of bile stones in dialysed patients

Dialysis mode does not affect exercise intolerance of patients with end stage renal disease.
EXC - not experimental evaluation of effectiveness of modality

Krane, N. K. and others. (1999)
Persistent lupus activity in end-stage renal disease.
EXC - not experimental evaluation of effectiveness of modality

Multicenter study of lipoprotein(a) and apolipoprotein(a) phenotypes in patients with end-stage renal disease treated by hemodialysis or continuous ambulatory peritoneal dialysis.
EXC - investigating lipoprotein plasma concentrations in ESRF

Kumar, V. A. and others. (2008)
Hospitalization rates in daily home hemodialysis versus peritoneal dialysis patients in the United States.
EXC - not experimental evaluation of effectiveness of modality

Kuruvilla, M. and others. (1975)
Effect of dialysis on psoriasis: A clinical study.
EXC - not available at British Library. Sent unrelated paper.

Kutner, N. G. and others. (2002)
Psychosocial predictors of non-compliance in haemodialysis and peritoneal dialysis patients.
EXC - not experimental evaluation of effectiveness of modality. study on no-compliance.

Quantitative comparison of skin colors in patients with ESRD undergoing different dialysis modalities.
EXC - not experimental evaluation of effectiveness of modality

Quality of life in children with end-stage renal disease: does treatment modality matter?. [Review] [7 refs].
EXC - review on treatment modalities in children. No comparators. Ref. checked
Lambert, M. C. and others. (1996)
Patient and technique survival after treatment shifts between CAPD and haemodialysis in a single centre.
EXC - not experimental evaluation of effectiveness of modality

Lang, S. M. and others. (2001)
Preservation of residual renal function in dialysis patients: effects of dialysis-technique-related factors.
EXC - not experimental evaluation of effectiveness of modality

Ledermann, S. E. and others. (2000)
Long-term outcome of peritoneal dialysis in infants.
EXC - not experimental evaluation of effectiveness of modality

Cost analysis of ongoing care of patients with end-stage renal disease: the impact of dialysis modality and dialysis access.
EXC - not experimental evaluation of effectiveness of modality

Dialysis in patients with diabetic nephropathy: CAPD versus hemodialysis.
[Review] [28 refs].
EXC - narrative review. Ref. checked

Leineweber, K. and others. (2005)
Is cyclic AMP formation desensitized in patients with end-stage renal failure?
EXC - not experimental evaluation of effectiveness of modality

Leinig, C. and others. (2008)
Association between body mass index and body fat in chronic kidney disease stages 3 to 5, hemodialysis, and peritoneal dialysis patients.
EXC - not experimental evaluation of effectiveness of modality

Small-solute and middle-molecule clearances during continuous flow peritoneal dialysis.
EXC - computer simulation model

Continuous ambulatory peritoneal dialysis is better than automated peritoneal dialysis as first-line treatment in renal replacement therapy. [Review] [33 refs].
EXC - narrative review

Liem, Y. S. and others. (2007)
Quality of life assessed with the Medical Outcomes Study Short Form 36-Item Health Survey of patients on renal replacement therapy: a systematic review and meta-analysis. [Review] [69 refs].
EXC - systematic review not addressing clinical effectiveness

Liem, Y. S. and others. (2007)
Comparison of hemodialysis and peritoneal dialysis survival in The Netherlands.

**EXC - not experimental evaluation of effectiveness of modality. used the Dutch ESRD registry. Not adjusting for comorbidity.**

Liem, Y. S., Bosch, J. L., and Hunink, M. G. (2008)
Preference-based quality of life of patients on renal replacement therapy: a systematic review and meta-analysis. [Review] [49 refs].

**EXC - systematic review/meta-analysis on preference based quality of life. Looking at dialysis and renal transplant**

Coping strategies and quality of life among patients on hemodialysis and continuous ambulatory peritoneal dialysis.

**EXC - not experimental evaluation of effectiveness of modality**

Coping strategies and health-related quality of life among spouses of continuous ambulatory peritoneal dialysis, haemodialysis, and transplant patients.

**EXC - not experimental evaluation of effectiveness of modality**

Perceived consequences of being a renal failure patient... including commentary by Molzahn AE with author response.

**EXC - discussion (narrative) on being a renal failure patient**

Lingens, N. and others. (1995)
Ambulatory blood pressure monitoring in paediatric patients treated by regular haemodialysis and peritoneal dialysis.

**EXC - blood pressure monitoring**

Liu, H. N. and Li, G. G. (2001)
Comparison of mortality rates between peritoneal dialysis and hemodialysis in diabetic nephropathy patients.

**EXC - not English language paper**

Sleep pattern disturbance in hemodialysis and peritoneal dialysis patients.

**EXC - narrative review**

Lye, W. C. and others. (1994)
Serum tumor markers in patients on dialysis and kidney transplantation.

**EXC - not experimental evaluation of effectiveness of modality**

Effectiveness and efficiency of methods of dialysis therapy for end-stage renal disease: systematic reviews.

**EXC - although relevant and of high quality, excluded as more up-to-date Cochrane reviews were available**
Psychological and social adaptation of CAPD and center hemodialysis patients.  
EXC - not experimental evaluation of effectiveness of modality

Maier, A. and others. (2009)  
Hemodialysis versus peritoneal dialysis: a case control study of survival in patients with chronic kidney disease stage 5.  
EXC - study on prognosis of HD and PD pt: case control study.

Maiorca, R. and others. (1995)  
Which treatment for which patient in the future? Possible modifications in CAPD.  
EXC - not experimental evaluation of effectiveness of modality

Maiorca, R. and others. (1995)  
Predictive value of dialysis adequacy and nutritional indices for mortality and morbidity in CAPD and HD patients. A longitudinal study.  
EXC - cross sectional assessment of malnutrition

Comparison of the quality of life in hemodialysed (HD) and peritoneally dialysed (CAPD) patients using the EORTC QLQ-C30 questionnaire.  
EXC - not experimental evaluation of effectiveness of modality

Markell, M. S. and others. (1993)  
Deficiency of serum ionized magnesium in patients receiving hemodialysis or peritoneal dialysis.  
EXC - not experimental evaluation of effectiveness of modality

The impact of treatment modality on the affective status of patients with end-stage renal disease.  
EXC - not experimental evaluation of effectiveness of modality

Plasma iohexol clearance in automated peritoneal dialysis - Its role in adequacy determination.  
EXC - study on peritoneal clearance

McDonald, S. P. and others. (2009)  
Relationship between dialysis modality and mortality.  
EXC - indirect comparison. using transplant registry

McIntyre, C. W. and others. (2006)  
Patients receiving maintenance dialysis have more severe functionally significant skeletal muscle wasting than patients with dialysis-independent chronic kidney disease.  
EXC - muscle wasting in cross sectional cohort study. CKD 4&5

McKane, W. and others. (2002)
Identical decline of residual renal function in high-flux biocompatible hemodialysis and CAPD.

EXC - residual renal function

Mehrotra, R. and others. (2009)
The outcomes of continuous ambulatory and automated peritoneal dialysis are similar.

EXC - narrative review. Used data from united states renal data system

Mehrotra, R. and others. (2009)
Ownership patterns of dialysis units and peritoneal dialysis in the United States: utilization and outcomes.

EXC - not experimental evaluation of effectiveness of modality

Mehrotra, R. (2009)
Long-term outcomes in automated peritoneal dialysis: similar or better than in continuous ambulatory peritoneal dialysis?. [Review] [21 refs].

EXC - not systematic review. Checked reference list

Merkus, M. P. and others. (2000)
Predictors of poor outcome in chronic dialysis patients: The Netherlands Cooperative Study on the Adequacy of Dialysis.

EXC - not experimental evaluation of effectiveness of modality

Michels, W. M. and others. (2009)
Similar survival on automated peritoneal dialysis and continuous ambulatory peritoneal dialysis in a large prospective cohort.

EXC - not experimental evaluation of effectiveness of modality

Mineshima, M. and others. (2000)
Solute removal characteristics of continuous recirculating peritoneal dialysis in experimental and clinical studies.

EXC - not systematic review

Adequacy in dialysis: intermittent versus continuous therapies. [Review] [51 refs].

EXC - review on adequacy targets. ref checked

The effects of peritoneal dialysis on family social activity: a comparative study of CAPD and CCPD.

EXC - not experimental evaluation of effectiveness of modality

Predictors of loss of residual renal function among new dialysis patients.

EXC - not experimental evaluation of effectiveness of modality

Moist, L. M. (2001)
Building the evidence in peritoneal dialysis: use of randomized controlled trials, and observational and registry data.
Appendices DRAFT

**EXC - not experimental evaluation of effectiveness of modality**

**Moser, B. and others. (2003)**  
Aberrant T cell activation and heightened apoptotic turnover in end-stage renal failure patients: a comparative evaluation between non-dialysis, haemodialysis, and peritoneal dialysis.  
**EXC - not experimental evaluation of effectiveness of modality**

**Mowatt, G. and others. (2003)**  
Systematic review of the effectiveness and cost-effectiveness, and economic evaluation, of home versus hospital or satellite unit haemodialysis for people with end-stage renal failure.  
**EXC - systematic review of haemodialysis, not peritoneal dialysis**

**Mukherjee, D. (2005)**  
[Commentary on] Comparing the risk for death with peritoneal dialysis and hemodialysis in a national cohort of patients with chronic kidney disease.  
**EXC - commentary on Jaar 2005**

**Murphy, S. W. and others. (2000)**  
Comparative hospitalization of hemodialysis and peritoneal dialysis patients in Canada.  
**EXC - not experimental evaluation of effectiveness of modality. pts switched modalities at different points**

**Musial, K. and others. (2009)**  
The impact of dialysis modality on serum heat shock proteins in children and young adults with chronic kidney disease.  
**EXC - not experimental evaluation of effectiveness of modality**

**Nelson, R. G. and others. (1996)**  
Survival during renal replacement therapy for diabetic end-stage renal disease in Pima Indians.  
**EXC - not experimental evaluation of effectiveness of modality**

**Nessim, S. J. and Bargman, J. M. (2008)**  
Occurrence of peritonitis in APD versus CAPD: methodologic problems.  
**EXC - letter to the editor**

**Neyra, R. and others. (2003)**  
Increased resting energy expenditure in patients with end-stage renal disease.  
**EXC - not experimental evaluation of effectiveness of modality**

**Niu, S. and Li, I. (2005)**  
Quality of life of patients having renal replacement therapy.  
**EXC - not experimental evaluation of effectiveness of modality**

**Nolph, K. D. and others. (1995)**  
A new approach to optimizing urea clearances in hemodialysis and continuous ambulatory peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

Noordzij, M. and others. (2005)
The Kidney Disease Outcomes Quality Initiative (K/DOQI) guideline for bone metabolism and disease in CKD: association with mortality in dialysis patients.

EXC - not experimental evaluation of effectiveness of modality

O'Byrne, D. and others. (2001)
Low-density lipoprotein (LDL)-induced monocyte-endothelial cell adhesion, soluble cell adhesion molecules, and autoantibodies to oxidized-LDL in chronic renal failure patients on dialysis therapy.

EXC - not experimental evaluation of effectiveness of modality. study on premature atherosclerosis

Hemodialysis or continuous ambulatory peritoneal dialysis before transplantation: prospective comparison of clinical and hemodynamic outcome.

EXC - comparative study with 10 pts

A comparison of peritonitis rates from the United States Renal Data System database: CAPD versus continuous cycling peritoneal dialysis patients.

EXC - not experimental evaluation of effectiveness of modality

Reversing the decreasing peritoneal dialysis (PD) trend in Ontario: a government initiative to increase PD use in Ontario to 30% by 2010. [Review] [13 refs].

EXC - not experimental evaluation of effectiveness of modality. Narrative review

Oreopoulos, D. G. and others. (2009)
Home dialysis as a first option: a new paradigm. [Review] [99 refs].

EXC - not systematic review

Panuccio, V. and others. (2007)
Neuropeptide Y and markers of osteoblast activity in dialysis patients: a cross-sectional study.

EXC - not experimental evaluation of effectiveness of modality

Papalois, B. E. and others. (1996)
Long-term peritoneal dialysis before transplantation and intra-abdominal infection after simultaneous pancreas-kidney transplantations.

EXC - not experimental evaluation of effectiveness of modality

Changes in erythrocyte calcium and potassium in patients during HD and CAPD.

EXC - not experimental evaluation of effectiveness of modality
Park, Y. K. and others. (1999)
A cross-sectional study comparing the nutritional status of peritoneal dialysis and hemodialysis patients in Korea.
EXC - not experimental evaluation of effectiveness of modality

Parker, K. P. (1996)
Dream content and subjective sleep quality in stable patients on chronic dialysis... including commentary by Parker KP.
EXC - not experimental evaluation of effectiveness of modality

Passalacqua, J. A. and others. (1999)
Increased incidence of postoperative infections associated with peritoneal dialysis in renal transplant recipients.
EXC - retrospective analysis on post trasplantation infection following dialysis.

Exercise capacity in pediatric patients with end-stage renal disease.
EXC - not experimental evaluation of effectiveness of modality

Oxidative stress effects fibrinolytic system in dialysis uraemic patients.
EXC - not addresing clinical clinical question.

Perez, R. A. and others. (2000)
What is the optimal frequency of cycling in automated peritoneal dialysis?
EXC - to determine the beneficial effect of cycle frequency in APD

Perl, J. and others. (2008)
Clinical outcomes after failed renal transplantation-does dialysis modality matter?. [Review] [53 refs].
EXC - narrative review. Ref checked

Comparison of magnesium and zinc levels in blood in end stage renal disease patients treated by hemodialysis or peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality.
Comparing mg and zn levels

Piraino, B., Bender, F., and Bernardini, J. (1994)
A comparison of clearences on tidal peritoneal dialysis and intermittent peritoneal dialysis.
EXC - not adressing the clinical question. Comparing small molecule clearance

Peritonitis - does peritoneal dialysis modality make a difference?. [Review] [26 refs].
EXC - not systematic review. Reference list checked

Plotast, H. and others. (1996)
A comparison of bone scans in uremic patients treated with intermittent peritoneal dialysis or hemodialysis.
EXC - not experimental evaluation of effectiveness of modality

Port, F. K. and others. (1996)
The study of outcomes for CAPD versus hemodialysis patients.
EXC - not experimental evaluation of effectiveness of modality

Potter, D. E. and others. (1986)
Comparison of continuous ambulatory peritoneal dialysis and hemodialysis in children.
EXC - not available from British library

Qamar, M. and others. (2009)
Clinical outcomes in peritoneal dialysis: impact of continuous quality improvement initiatives.
EXC - not experimental evaluation of effectiveness of modality

Qamar, M. and others. (2009)
The United States’ perspectives on home dialysis. [Review] [40 refs].
EXC - not systematic review. Checked reference list (mainly focus on US literature alone)

Quinn, R. R., Austin, P. C., and Oliver, M. J. (2008)
Comparative studies of dialysis therapies should reflect real world decision-making. [Review] [30 refs].
EXC - opinion piece on methodological considerations

Quinn, R. R., Thorpe, K. E., and Bargman, J. M. (2010)
The higher risk of death on peritoneal dialysis in the United States is not explained by background general population mortality: The CANUSA study revisited.
EXC - not experimental evaluation of effectiveness of modality

Acute pancreatitis in patients on chronic peritoneal dialysis: an increased risk?
EXC - not experimental evaluation of effectiveness of modality

Hybrid dialysis: recirculation peritoneal dialysis revisited.
EXC - cross over trial of APD and hybrid dialysis (not relevant to Scope)

Mortality trends in pediatric patients with chronic renal failure.
EXC - not addressing the clinical question. involved the 3 modalities of RRT

Dose and efficiency of renal replacement therapy: continuous renal replacement therapy versus intermittent hemodialysis versus slow extended daily dialysis. [Review] [56 refs].
EXC - acute renal disease, not CKD stage 5

Sodium removal in patients undergoing CAPD and automated peritoneal dialysis.
EXC - cross sectional observational study

Compared time profiles of ultrafiltration, sodium removal, and renal function in incident CAPD and automated peritoneal dialysis patients.
EXC - not experimental evaluation of effectiveness of modality

Rodriguez, A. M. and others. (1998)
Automated peritoneal dialysis: a Spanish multicentre study.
EXC - Not addressing clinical outcomes and not a controlled trial

Ross, S. and others. (2000)
Meta-analysis of outcome studies in end-stage renal disease.
EXC - meta-analysis limited by pausity of data. Indirect comparison with non-registry reports

Roth, J. M. and others. (2008)
Genotoxicity evaluation in chronic renal patients undergoing hemodialysis and peritoneal dialysis, using the micronucleus test.
EXC - not experimental evaluation of effectiveness of modality

Hemodialysis vs. peritoneal dialysis: results of a 3-year prospective controlled study.
EXC - not experimental evaluation of effectiveness of modality
(allocation to groups by patient preference with matching)

Patient Ratings of Dialysis Care with Peritoneal Dialysis vs Hemodialysis.
EXC - patient information

Survival on dialysis therapy: one center's experience.
EXC - not experimental evaluation of effectiveness of modality

Contrasting feelings of helplessness in peritoneal and hemodialysis patients: a pilot study... including commentary by Counts CS with author response.
EXC - not experimental evaluation of effectiveness of modality

Mortality and treatment modality of end-stage renal disease.
EXC - opinion piece

Selgas, R. and others. (2001)
Comparisons of hemodialysis and CAPD in patients over 65 years of age: A meta-analysis.
EXC - not 'true' meta-analysis. Checked reference list

Shu, K. H. and others. (1998)
Soluble interleukin 2 receptor in dialyzed patients.
EXC - not experimental evaluation of effectiveness of modality

Shusterman, N. H. and others. (1987)
Controlled study of renal osteodystrophy in patients undergoing dialysis.
Improved response to continuous ambulatory peritoneal dialysis compared with hemodialysis.
EXC - outcomes not of relevance to current practice

Siersema, P. D. and others. (1995)
EXC - not experimental evaluation of effectiveness of modality

Silang, R. and others. (2001)
Prokinetic agents increase plasma albumin in hypoalbuminemic chronic dialysis patients with delayed gastric emptying.
EXC - not experimental evaluation of effectiveness of modality

Simmons, R. G. and Abress, L. (1990)
Quality-of-life issues for end-stage renal disease patients.
EXC - not experimental evaluation of effectiveness of modality

Singh, S. and others. (1992)
Multicenter study of change in dialysis therapy-maintenance hemodialysis to continuous ambulatory peritoneal dialysis.
EXC - not experimental evaluation of effectiveness of modality

Sitter, T. and others. (1997)
[Patient survival, a change in methods, and hospitalization in CAPD abd hemodialysis].
EXC - not English language paper

[Lipoprotein (a) in children with end stage renal failure on maintenance hemodialysis and continuous ambulatory peritoneal dialysis].
EXC - article not in English language

An audit of nutritional status in renal replacement therapy patients -- is there a place for hand dynamometry.
EXC - not experimental evaluation of effectiveness of modality

Smith, P. S. (1998)
Management of end-stage renal disease in children.
EXC - not systematic review

Soleymanian, T. and others. (2006)
Survival and morbidity of HIV patients on hemodialysis and peritoneal dialysis: one center's experience and review of the literature.
**EXC - not experimental evaluation of effectiveness of modality**

**Stall, S. and others. (1998)**
Percentage body fat determination in hemodialysis and peritoneal dialysis patients: a comparison.
**EXC - not experimental evaluation of effectiveness of modality**

**Stanley, M. (2010)**
Peritoneal dialysis versus haemodialysis (adult).
**EXC - guideline. Refs. checked**

**Strid, H. and others. (2009)**
Impact of dialysis on gastroesophageal reflux, dyspepsia, and proton pump inhibitor treatment in patients with chronic renal failure.
**EXC - not experimental evaluation of effectiveness of modality**

**Struijk, D. G. (2007)**
Volume status in CAPD and APD: Does treatment modality matter and is more always better?
**EXC - review on fluid overload in PD**

**Stuart, S. and others. (2009)**
Complications of continuous ambulatory peritoneal dialysis. [Review] [74 refs].
**EXC - review on the complications of continuous ambulatory peritoneal dialysis. Ref. checked**

**Suzuki, T. and others. (2003)**
Peritoneal dialysis versus hemodialysis: a five-year comparison of survival and effects on the cardiovascular system, erythropoiesis, and calcium metabolism.
**EXC - not experimental evaluation of effectiveness of modality**

**Szabo, A. and others. (1998)**
Hepatitis G virus infection in children on dialysis and after renal transplantation.
**EXC - infection after renal transplantation**

**Tamura, M. K. (2009)**
Incidence, management, and outcomes of end-stage renal disease in the elderly. [Review] [35 refs].
**EXC - not systematic review. Reference list checked**

**Tang, S. C. and others. (2006)**
Alleviation of sleep apnea in patients with chronic renal failure by nocturnal cycler-assisted peritoneal dialysis compared with conventional continuous ambulatory peritoneal dialysis.
**EXC - reducing sleep apnea in patients with chronic renal failure**

Economic evaluation of palliative management versus peritoneal dialysis and hemodialysis for end-stage renal disease: evidence for coverage decisions in Thailand.

**EXC - health economic evaluation**

**Teitelbaum, I. (2006)**
Peritoneal dialysis is appropriate for elderly patients. [Review] [23 refs].

**EXC - not systematic review**

**Termorshuizen, F. and others. (2003)**
Time trends in initiation and dose of dialysis in end-stage renal disease patients in the Netherlands.

**EXC - not experimental evaluation of effectiveness of modality**

**Tilki, H. E. and others. (2004)**
Effects of haemodialysis and continuous ambulatory peritoneal dialysis on P300 cognitive potentials in uraemic patients.

**EXC - P300 cognitive potentials in patients with chronic renal failure (CRF)**

**Timmers, L. and others. (2008)**
Illness perceptions in dialysis patients and their association with quality of life.

**EXC - illness perceptions in pts with ESRF**

**Tokgoz, B. (2009)**
Clinical advantages of peritoneal dialysis. [Review] [19 refs].

**EXC - review on the advantages of PD. Ref. checked**

**Torres, A. and others. (1995)**
Bone disease in predialysis, hemodialysis, and CAPD patients: evidence of a better bone response to PTH.

**EXC - not experimental evaluation of effectiveness of modality**

**Trevino-Becerra, A. (2009)**
Substitute treatment and replacement in chronic kidney disease: peritoneal dialysis, hemodialysis and transplant. [Review] [7 refs].

**EXC - not available at British Library**

**Troidle, L. K. and others. (1998)**
Continuous cycler therapy, manual peritoneal dialysis therapy, and peritonitis.

**EXC - not experimental evaluation of effectiveness of modality**

**Turk, S. and others. (2001)**
Erectile dysfunction and the effects of sildenafil treatment in patients on haemodialysis and continuous ambulatory peritoneal dialysis.

**EXC - not experimental evaluation of effectiveness of modality. Erectile dysfunction in uremic pts.**

**Twardowski, Z. J. and others. (1990)**
Chronic nightly tidal peritoneal dialysis.

**EXC - not experimental evaluation of effectiveness of modality**
Oxidative stress and cardiovascular disease in dialyzed patients.
EXC - oxidative stress and cardiovascular disease in dialysed pts

Uzun, H. and others. (2008)
The effects of renal replacement therapy on plasma, asymmetric dimethylarginine, nitric oxide and C-reactive protein levels.
EXC - not experimental evaluation of effectiveness of modality

Vale, L. and others. (2003)
Continuous ambulatory peritoneal dialysis (CAPD) versus hospital or home haemodialysis for end-stage renal disease in adults. [Review] [9 refs][Update in Cochrane Database Syst Rev. 2004;(4):CD003963; PMID: 15495072].
EXC - see Vale CR 2004 updated

Van, Biesen W. and others. (2006)
The impact of the pre-transplant renal replacement modality on outcome after cadaveric kidney transplantation: the ghent experience. [Review] [13 refs].
EXC - not systematic review

Vanholder, R. and others. (1999)
Reduced incidence of acute renal graft failure in patients treated with peritoneal dialysis compared with hemodialysis.
EXC - not experimental evaluation of effectiveness of modality

Varela, Lema L. and Ruano, Ravina A. (2007)
Effectiveness and safety of different hemodialysis modalities: a review.
EXC - systematic review of haemodialysis modalities, not peritoneal dialysis

Verrina, E. and others. (1996)
Comparison of patient hospitalization in chronic peritoneal dialysis and hemodialysis: A pediatric multicenter study.
EXC - not experimental evaluation of effectiveness of modality (data based on national registry)

A multicenter experience on patient and technique survival in children on chronic dialysis.
EXC - statistics based on renal registry

Incremental peritoneal dialysis: effects on the choice of dialysis modality, residual renal function and adequacy.
EXC - not experimental evaluation of effectiveness of modality

Vonesh, E. F. and others. (2006)
Mortality studies comparing peritoneal dialysis and hemodialysis: what do they tell us?. [Review] [23 refs].
EXC - review. Ref. checked
Wang, H. T., Chen, Y., and Huang, Y. H. (2007) [Comparative study on sequential colon dialysis, hemodialysis and peritoneal dialysis in patients with hyperuricemia].
EXC - article written in chinese

Wang, M.-C. and others. (2001) Blood pressure and left ventricular hypertrophy in patients on different peritoneal dialysis regimens.
EXC - not experimental evaluation of effectiveness of modality

EXC - electrophysiological changes in periferal nerves in dialysed pts.

EXC - review. Ref. checked

Wight, J. P. and others. (1998) The SF36 as an outcome measure of services for end stage renal failure.
EXC - using sf36 questionnaire as an outcome measure

EXC - not experimental evaluation of effectiveness of modality

EXC - not experimental evaluation of effectiveness of modality

EXC - not experimental evaluation of effectiveness of modality

EXC - not experimental evaluation of effectiveness of modality (renal transplant)

EXC - letter to the editor on dialytic clearance of microglobulin and cresol
Zimakoff, J. and others. (1996)
Staphylococcus aureus carriage and infections among patients in four haemo-
and peritoneal-dialysis centres in Denmark. The Danish Study Group of
Peritonitis in Dialysis (DASPID).
EXC - not experimental evaluation of effectiveness of modality

Zurowska, A. and others. (2001)
[Peritonitis in children treated with automated peritoneal dialysis].
EXC - article not in English language

Registry studies
NOTE: only studies from 2000 onwards were agreed to be reviewed. 103
studies from before this year were therefore not included.

(2003)
The current state of chronic dialysis treatment in Japan (as of December 31,
2000).
EXC - demographic study

(2009)
UK renal registry 11th annual report (December 2008): Appendix A the UK
renal registry statement of purpose.
EXC - methods section, not data

Andrade, M. V. and others. (2010)
Allocation of initial modality for renal replacement therapy in Brazil.
EXC - analysis of factors related to allocation to HD or PD. Outcomes
agreed as key for this guideline not reported

Ansell, D. and others. (2009)
UK renal registry 11th annual report (December 2008): Chapter 7 survival and
causes of death of UK adult patients on renal replacement therapy in 2007:
National and centre-specific analyses.
EXC - not differentiated by modality. Also more recent data available in
the 2010 publications from the 2009 report

UK renal registry 11th annual report (December 2008): Chapter 2 introduction
to the 2008 UK renal registry report.
EXC - introduction, not data

Ansell, D. (2009)
UK renal registry 11th annual report (December 2008): Chapter 1 summary of
findings in the 2008 UK renal registry report.
EXC - overview of data, not full results
Aslam, N. and others. (2006)
Comparison of infectious complications between incident hemodialysis and peritoneal dialysis patients.
EXC - not national registry data

Boehm, M. and others. (2005)
Risk factors for peritonitis in pediatric peritoneal dialysis: a single-center study.
EXC - not national registry data

Carvalho, M. S. and others. (2003)
Survival of hemodialysis patients: modeling differences in risk of dialysis centers.
EXC - not national registry data

Caskey, F. J. and others. (2006)
Social deprivation and survival on renal replacement therapy in England and Wales.
EXC - association between social deprivation and RRT treatment, not comparison of effectiveness of different dialysis modalities

Chalem, Y. and others. (2005)
Access to, and outcome of, renal transplantation according to treatment modality of end-stage renal disease in France.
EXC - association between waiting times and transplant outcome (not agreed as key outcomes for this guideline)

EXC - see more recent figures from the Korean Renal Registry in Kim 2003

De Lima, J. J. and others. (2010)
Treatment of coronary artery disease in hemodialysis patients evaluated for transplant-a registry study.
EXC - not national registry data. Data from a single institution

Del Peso, G. and others. (2001)
Diverticular disease and treatment with gastric acid inhibitors do not predispose to peritonitis of enteric origin in peritoneal dialysis patients.
EXC - not national registry data

Del Peso, G. and others. (2003)
Risk factors for abdominal wall complications in peritoneal dialysis patients.
EXC - not national registry data

Vascular access for hemodialysis: the impact on morbidity and mortality.
EXC - not available at the British Library

Charlson Comorbidity Index is a predictor of outcomes in incident hemodialysis patients and correlates with phase angle and hospitalization.

**EXC - not national registry data**

Di, Iorio B. and others. (2007)
Prevalence and correlates of anemia and uncontrolled anemia in chronic hemodialysis patients--the Campania Dialysis Registry.

**EXC - not national renal registry data**

Di, Napoli A. and others. (2005)
Determinants of hospitalization in a cohort of chronic dialysis patients in central Italy.

**EXC - not national registry data**

Drechsler, C. and others. (2009)
Glycemic control and cardiovascular events in diabetic hemodialysis patients.

**EXC - not national registry data. Also outcomes reported not agreed as not key for this guideline**

Exiara, T. and others. (2009)
Peritonitis in continuous ambulatory peritoneal dialysis: Five-year experience in our hospital.

**EXC - abstract only, no full published paper identified**

Fadrowski, J. J. and others. (2006)
Clinical course associated with vascular access type in a national cohort of adolescents who receive hemodialysis: findings from the Clinical Performance Measures and US Renal Data System projects.

**EXC - comparison of different access**

Farrington, K. and others. (2007)
All patients receiving renal replacement therapy in the United Kingdom in 2005 (chapter 4).

**EXC - more recent data available in the 2010 publications from the 2009 report**

Fernandes, N. and others. (2008)
The Brazilian Peritoneal Dialysis Multicenter Study (BRAZPD) : characterization of the cohort.

**EXC - not national registry, although does cover a 'significant number of centers'**

Fluck, R. and others. (2009)

**EXC - more recent data available in the 2010 publications from the 2009 report**

Garcia-Garcia, G. and others. (2007)
Risk of peritonitis among disadvantaged CAPD patients in Mexico.
EXC - not national renal registry data

Harper, J. and others. (2009)
EXC - more recent data available in the 2010 publications from the 2009 report

Ho, Y.-W. and others. (2005)
Hong Kong Registry Report 2004.
EXC - not national registry data

Hodsman, A. and others. (2009)
EXC - more recent data available in the 2010 publications from the 2009 report

Holley, J. L. and others. (2001)
The influence of demographic factors and modality on loss of residual renal function in incident peritoneal dialysis patients.
EXC - not national registry data

Huijbregts, H. J. and others. (2007)
Hospital specific aspects predominantly determine primary failure of hemodialysis arteriovenous fistulas.
EXC - not national renal registry data

Hussain, F. and others. (2010)
EXC - comparison of transplantation and dialysis. Analysis by modality not reported

Relationship of age and psychosocial factors with biological ratings in patients with end-stage renal disease undergoing dialysis.
EXC - not national registry data

Johnson, D. W. and others. (2009)
Frequencies of hepatitis B and C infections among haemodialysis and peritoneal dialysis patients in Asia-Pacific countries: analysis of registry data.
EXC - outcomes reported not agreed as key to this guideline

Encapsulating peritoneal sclerosis in Japan: prospective multicenter controlled study.
EXC - see Kawanishi 2004 for results from the same cohort

Kotsanas, D. and others. (2007)
Risk factors for peritoneal dialysis-related peritonitis: can we reduce the incidence and improve patient selection?
EXC - not national renal registry data

Krairittichai, U. and others. (2006)
Anemia and survival in Thai hemodialysis patients: evidence from national registry data.
EXC - not available at the British Library

A registry of haemodialysis patients and the progress of haemodialysis services in Lithuania.
EXC - report of changes in practice and impact of the registry on quality improvement

Lameire, N. and Van, Biesen W. (2009)
What can we learn from registry data on peritoneal dialysis outcomes?
EXC - not systematic review

Age and comorbidity may explain the paradoxical association of an early dialysis start with poor survival.
EXC - analysis of factors affecting decision to initiate dialysis, not natural history once on dialysis

Factors affecting haemodialysis-access survival in a single centre retrospective cohort study.
EXC - not national registry data

Lee, J. E. and others. (2009)
Cancer in patients on chronic dialysis in Korea.
EXC - reported outcomes not agreed as key for this guideline

Lewis, M. A. and others. (2009)
EXC - demographic overview, not analysis of outcomes by modality of dialysis

Lewis, M. A. and others. (2010)
EXC - demographic overview, not analysis of outcomes by modality of dialysis

Is there a survival advantage in Asian peritoneal dialysis patients?. [Review] [68 refs].

EXC - narrative review

Higher rate and earlier peritonitis in Aboriginal patients compared to non-Aboriginal patients with end-stage renal failure maintained on peritoneal dialysis in Australia: analysis of ANZDATA.

EXC - association between ethnicity - Aboriginal patients - and technique failures in an ethnic group not relevant to UK practice

Lorenzo, V. and others. (2006)
Renal replacement therapy in the Canary Islands: demographic and survival analysis.

EXC - not national registry data

Macdougall, I. C. and others. (2010)
Relative risk of death in UK haemodialysis patients in relation to achieved haemoglobin from 1999 to 2005: an observational study using UK Renal Registry data incorporating 30,040 patient-years of follow-up.

EXC - analysis of association between target haemoglobin and risk of death, related to treatment once on dialysis, not factor that may influence choice of modality

Home haemodialysis-international trends and variation.

EXC - narrative review

Maitra, S. and others. (2001)
Increased mortality of elderly female peritoneal dialysis patients with diabetes— a descriptive analysis.

EXC - not national registry data

Malberti, F. and others. (2001)
Parathyroidectomy in patients on renal replacement therapy: an epidemiologic study.

EXC - not national registry data

Associations of hemodialysis dose and session length with mortality risk in Australian and New Zealand patients.

EXC - association of HD prescription with outcomes

Design and validation of a model to predict early mortality in haemodialysis patients.

EXC - development of a predictive model, not influence of modality

EXC - development of a predictive model, not influence of modality

Obesity is associated with worse peritoneal dialysis outcomes in the Australia and New Zealand patient populations.

EXC - determining the association between BMI and PD effectiveness (not agreed as relevant outcome for this guideline)

McDonald, S. P. and others. (2004)
Obesity is a risk factor for peritonitis in the Australian and New Zealand peritoneal dialysis patient populations.

EXC - determining the association between BMI and PD effectiveness (not agreed as relevant outcome for this guideline)

McGregor, D. and others. (2000)
Thirty years of universal home dialysis in Christchurch.

EXC - not national registry data


EXC - not national registry data

Moist, L. M. and others. (2008)

EXC - association of vascular access in HD with mortality

Effects of serum calcium, phosphorous, and intact parathyroid hormone levels on survival in chronic hemodialysis patients in Japan.

EXC - not association of modality on outcomes, but variables associated with mortality

Nesrallah, G. E. and others. (2009)

EXC - study design description, not results

Nitsch, D. and others. (2007)
Patients with diabetic nephropathy on renal replacement therapy in England and Wales.

EXC - more recent data available in the 2010 publications from the 2009 report

Paniagua, R. and others. (2007)
Chronic kidney disease and dialysis in Mexico.

EXC - not national renal registry data

Panichi, V. and others. (2008)
Chronic inflammation and mortality in haemodialysis: effect of different renal replacement therapies. Results from the RISCAVID study.
EXC - not national registry data

Clinical outcome in children with acute renal failure treated with peritoneal dialysis after surgery for congenital heart disease.
EXC - acute renal failure

Perez-Contreras, J. and others. (2000)
A prospective multicenter comparison of peritonitis in peritoneal dialysis patients aged above and below 65 years. Levante PD Multicenter Group.
EXC - not national registry data

Hemodialysis in patients older than 65 years with end-stage renal failure--comparison of outcome in patients with and without diabetes.
EXC - not national registry data

Pliakogiannis, T. and others. (2007)
Reverse epidemiology in peritoneal dialysis patients: the Canadian experience and review of the literature.
EXC - not comparison of modality, but factors associated with increased survival

Epidemiology of vascular access in the Australian hemodialysis population.
EXC - vascular access patterns in HD

Vascular access and all-cause mortality: a propensity score analysis.
EXC - effect of vascular access in HD

Vascular access practice patterns in the New Zealand hemodialysis population.
EXC - vascular access patterns in HD

Qamar, M. and others. (2009)
Clinical outcomes in peritoneal dialysis: impact of continuous quality improvement initiatives.
EXC - not national registry data. Data from a single institution

Quinn, R. R., Thorpe, K. E., and Bargman, J. M. (2010)
The higher risk of death on peritoneal dialysis in the United States is not explained by background general population mortality: the CANUSA study revisited.
EXC - not national registry data

Rabindranath, K. S. and others. (2005)
Comparison of hemodialysis, hemofiltration, and acetate-free biofiltration for ESRD: systematic review.
EXC - systematic review of HD (and related interventions), not PD
Rabindranath, K. S. and others. (2007)
Continuous ambulatory peritoneal dialysis versus automated peritoneal dialysis for end-stage renal disease.
EXC - not national renal registry data

Rabindranath, K. S. and others. (2007)
Automated vs continuous ambulatory peritoneal dialysis: a systematic review of randomized controlled trials. [Review] [32 refs].
EXC - not national renal registry data

Rao, P. S. and others. (2007)
Renal transplantation in elderly patients older than 70 years of age: Results from the scientific registry of transplant recipients.
EXC - transplant patients not focus on dialysis

Effect of change in renal replacement therapy modality on laboratory variables: a cohort study from the UK Renal Registry.
EXC - analysis of the effect of switching treatment, not initial choice of modality

Ravanan, R. and others. (2009)
EXC - post transplant outcomes, not dialysis related outcomes

Richardson, D. and others. (2009)
EXC - more recent data available in the 2010 publications from the 2009 report

Rocco, M. V. and others. (2000)
Intermediate outcomes by race and ethnicity in peritoneal dialysis patients: results from the 1997 ESRD Core Indicators Project. National ESRD Core Indicators Workgroup.
EXC - not national registry data, but a sample of representative patients

The function of permanent vascular access.
EXC - not national registry data

Ronsberg, F. and others. (2005)
Renal replacement therapy in the over-80s.
EXC - not comparison of dialysis modalities

Predictors of baseline peritoneal transport status in Australian and New Zealand Peritoneal dialysis patients.
EXC - predictors of transport status

Santoro, D. and others. (2009)
Hepatitis status and mortality in hemodialysis population.
EXC - outcomes reported not agreed as key for this guideline. Also data from one centre, not national registry data

EXC - comparisons made by year, not between modalities or sub-groups

Selgas, R. and others. (2001)
Comparisons of hemodialysis and CAPD in patients over 65 years of age: a meta-analysis.
EXC - not true meta-analysis; more similar to a narrative review

Sipahioglu, M. H. and others. (2008)
Patient and technique survival and factors affecting mortality on peritoneal dialysis in Turkey: 12 years’ experience in a single center.
EXC - not national registry data

Stel, V. S. and others. (2009)
Residual renal function at the start of dialysis and clinical outcomes.
EXC - analysis of timing of initiation based on residual renal function, not effect of dialysis modality

Theelen, B. and others. (2002)
Belgian peer review experience on the Achille's heel in haemodialysis care: vascular access.
EXC - vascular access in HD

Tomson, C. and others. (2007)
Comorbidities in UK patients at the start of renal replacement therapy (chapter 6).
EXC - more recent data available in the 2010 publications from the 2009 report

Tonelli, M. and others. (2005)
Use and outcomes of peritoneal dialysis among Aboriginal people in Canada.
EXC - not national registry data

Tonelli, M. and others. (2007)
Association between proximity to the attending nephrologist and mortality among patients receiving hemodialysis.
EXC - not national registry data (random sample of 75%)

Prevalence of hospitalization and prognosis of patients on chronic dialysis.
EXC - not national registry data

Tveit, D. P. and others. (2002)
Risk factors for pulmonary embolism in chronic dialysis patients.
EXC - outcome not identified as key to this guideline

Udayaraj, U. P. and others. (2009)
Blood pressure and mortality risk on peritoneal dialysis.
EXC - association of BP with mortality, not influence of initial modality on survival

Increased severity of Escherichia coli peritonitis in peritoneal dialysis patients independent of changes in in vitro antimicrobial susceptibility testing.
EXC - not national registry data

Vale, L. and others. (2003)
Continuous ambulatory peritoneal dialysis (CAPD) versus hospital or home haemodialysis for end-stage renal disease in adults. [Review] [9 refs][Update in Cochrane Database Syst Rev. 2004;(4):CD003963; PMID: 15495072].
EXC - systematic review

Continuous ambulatory peritoneal dialysis (CAPD) versus hospital or home haemodialysis for end-stage renal disease in adults.
EXC - systematic review, not national registry data

Vats, A. N. and others. (2000)
EXC - transplant outcomes, not dialysis

Epidemiology of end-stage renal disease in an interregional perspective: Registries of Puglia and Basilicata, southern Italy.
EXC - not national registry data

Vonesh, E. F. and others. (2000)
Statistical methods for comparing mortality among ESRD patients: Examples of regional/international variations.
EXC - methods paper looking at impact on results

Vonesh, E. F. and others. (2006)
Mortality studies comparing peritoneal dialysis and hemodialysis: what do they tell us?. [Review] [23 refs].
EXC - narrative review

Differences in survival on peritoneal dialysis between oriental Asians and Caucasians: one center's experience.
EXC - not national registry data

Morbidity and mortality in children with anemia at initiation of dialysis.
EXC - association of risk with anaemia post initiation of dialysis

Wiggins, K. J. and others. (2007)
High membrane transport status on peritoneal dialysis is not associated with reduced survival following transfer to haemodialysis.
EXC - impact on future treatment, not effectiveness of initial modality

Williams, A. J. and others. (2009)
EXC - more recent data available in the 2010 publications from the 2009 report

Yao, Q., Zhang, W., and Qian, J. (2008)
Peritoneal dialysis in shanghai.
EXC - not national registry data

Zurowska, A. and others. (2008)
Gram-negative peritonitis in children undergoing long-term peritoneal dialysis.
EXC - outcome of peritonitis, not probability of developing peritonitis with PD
2.3.4 Review question on types of peritoneal dialysis (review question 2)

What is the effectiveness of different modes of peritoneal dialysis (CAPD, APD, aAPD) in people with CKD stage 5 who need dialysis?

Systematic reviews

One systematic review was identified (Rabindranath 2007). This found three RCTs, all comparing CAPD and APD. These studies were also identified in the guideline searches and the evidence tables can be found below.
Randomised controlled trials
No RCT evidence for children, or on the effectiveness of assisted APD was identified. 3 trials comparing APD and CAPD in adults were identified.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Study Design</th>
<th>Aim</th>
<th>Participants</th>
<th>Intervention</th>
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<th>Outcomes</th>
<th>Source of funding</th>
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<tr>
<td>Bro 1999</td>
<td>RCT Denmark</td>
<td>To determine any differences between APD and CAPD for QoL, and other clinical outcomes</td>
<td>34 patients were included in the study but 25 patients completed the study, 13 allocated to CAPD (median age: 54.2±4.2; 5 females) and 12 to APD (median age: 50.2±4.6; 4 females) treatment. Included if aged 18 years and over, min of 1 month on CAPD, consideration by staff that able to learn to use the APD machine, PET within last 3 months showing high or high-average peritoneal transport characteristics, adequacy test showing Kt/V≥1.70/week and total creatinine clearance ≥50L/week/1.73m² body surface. Excluded if aged under 18 years, pregnant or lactating, learning difficulties or dementia, psychiatric illness, inability to speak Danish, any major medical or surgical event in previous 3 months, malignancy, PET within last 3 months showing low or low-average peritoneal transport characteristics, adequacy test showing Kt/V&lt;1.70/week and total creatinine clearance &lt;50L/week/1.73m² body surface, ultrafiltration failure despite optimised CAPD. The two treatment groups did not differ significantly with respect to sex distribution, primary kidney disease, co-morbidity, and family conditions. Study population was recruited from three CAPD units.</td>
<td>APD</td>
<td>CAPD</td>
<td>6 months</td>
<td>Health related QoL</td>
<td>No difference in the changes of scores (SF-36) from start to end of the study was found between APD and CAPD patients. Patient involvement and satisfaction</td>
<td>Significantly more time for work, family, and social activities was available for patients on APD compared to those on CAPD (p=0.0005). Although the difference was not significant, there was a tendency for less physical and emotional discomfort caused by the dialysis fluid in the APD group. Sleep problems, on the other hand, tended to be more marked in the APD group. Mortality (where reported, also deaths in first 3 months)</td>
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<tr>
<td>Study ID</td>
<td>Study Design</td>
<td>Aim</td>
<td>Participants</td>
<td>Intervention</td>
<td>Comparison</td>
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<td>Outcomes</td>
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CAPD at 6 months (p=ns)

Residual renal clearance (ml/min) mean (sem) 3.0 (0.7) APD and 3.5 (0.7) CAPD at 6 months (p=ns)

Total creatinine clearance (L/week/1.73m²) mean (sem) 74 (8) APD and 76 (6) CAPD at 6 months (p=ns)

P-creatinine (µmol/l) mean (sem) 800 (77) APD and 742 (57) CAPD at 6 months (p=ns)

P-urea (mmol/l) mean (sem) 18 (1.7) APD and 19 (1.5) CAPD at 6 months (p=ns)

Haemoglobin (mmol/l) mean (sem) 6.9 (0.2) APD and 7.2 (0.2) CAPD at 6 months (p=ns)

Technique failure or switch

2 CAPD and no APD patients switched to other forms of dialysis (p value not reported).

Resource use and costs inc
During the study period of 6 months, 3 of the 13 patients on CAPD and 5 of the 12 patients on APD were admitted to hospital for a total of 12 and 11 days, respectively, due to dialysis-related disease (0.15 dialysis-related days in hospital per patient-month for each 8 study group) (no analysis done).

**Adverse events**
- Peritonitis: 2 cases occurred in the CAPD group (0.31 episodes per patient-year); 1 occurred in the APD group (0.17 epi/pt-yr) (no analysis done).
- Exit-Site Infection: 1 case occurred in the CAPD group (this patient also had an episode of peritonitis) (0.15 epi/pt-yr); 1 occurred in the APD group (0.17 epi/pt-yr) (no analysis done).
- Tunnel Infection: None occurred in the CAPD group; there was 1 case in the APD group (0.17 epi/pt-yr) (no analysis done).
- Leakage: There were no occurrences in the CAPD group.
### Hernia

- **APD Group**: 1 case (0.17 epi/pt-yr) (no analysis done).
- **CAPD Group**: No cases.

### Adequacy Rates

- **SBP (mmHg)**
  - **APD**: Mean (SEM) 147 (9) at 6 months.
  - **CAPD**: Mean (SEM) 141 (5) at 6 months.
  - **P-value**: ns

- **DBP (mmHg)**
  - **APD**: Mean (SEM) 92 (6) at 6 months.
  - **CAPD**: Mean (SEM) 86 (2) at 6 months.
  - **P-value**: ns

- **Weekly Kt/V**
  - **APD**: Mean (SEM) 2.3 (0.2) at 6 months.
  - **CAPD**: Mean (SEM) 2.3 (0.1) at 6 months.
  - **P-value**: ns

### Staff Attitude

- Not reported.

### Nutritional Status

- **P-phosphate (mmol/l)**
  - **APD**: Mean (SEM) 1.8 (0.1) at 6 months.
  - **CAPD**: Mean (SEM) 1.5 (0.1) at 6 months.
  - **P-value**: ns

- **P-ionised calcium (mmol/l)**
  - **APD**: Mean (SEM) 1.32 (0.07) at 6 months.
  - **CAPD**: Mean (SEM) 1.28 (0.02) at 6 months.
  - **P-value**: ns

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<th>Aim</th>
<th>Participants</th>
<th>Intervention</th>
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<td>(p=ns)</td>
<td>P-albumin (µmol/l) mean (sem) 502 (20) APD and 515 (20) CAPD at 6 months (p=ns)</td>
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<td>Anaemia</td>
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<tr>
<td>De Fijter 1994</td>
<td>RCT Netherlands</td>
<td>To assess the clinical efficacy and morbidity of APD and CAPD</td>
<td>After drop-outs before the start of treatment 41 patients scheduled to receive CAPD (median age, 56yrs; range, 18-86yrs) and 41 to receive CCPD (median age, 54yrs; range 21-76yrs). Included if ESRD and entering the dialysis programme in a single university hospital. Excluded if absolute CI to PD</td>
<td>APD</td>
<td>CAPD</td>
<td>24 months</td>
<td>Health-related QoL</td>
<td>Dutch Ministry of Education and Sciences</td>
<td>Comorbid factors present at the start of therapy (cerebrovascular or cardiovascular disease, diabetes, dyslipidemia, chronic respiratory disorders, multisystem disease, and malignancy) distributed equally among the two groups. Small sample size and intention to treat analysis not done</td>
</tr>
</tbody>
</table>

- **Health-related QoL**
  - Karnofsky score (0-100 higher better) mean (sd) 83 (8) APD and 77 (7) CAPD at 24 months (p=ns)
  - Patient involvement and satisfaction
    - Not reported.
  - Mortality (where reported, also deaths in first 3 months)
    - 7 APD and 5 CAPD patients died after randomisation, of these 4 APD and 2 CAPD patients died after starting treatment (p value not reported).
  - Preservation of renal function
    - Total creatinine clearance (l/week/1.73m2) mean (sd) 75.9 (24.3) APD and 82.5 (33.2) CAPD at 24 months (p=ns)
    - Endogenous creatinine clearance (ml/min/1.73m2) mean (sd) 2.1 (2.3) APD and 2.8 (3.3) CAPD at 24 months (p=ns)
  - Technique failure or
<table>
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<td>14 CAPD and 8 APD patients switched to other forms of dialysis (p value not reported) at 24 months.</td>
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<td>Of these, 8 CAPD and 4 APD switched to HD (for various reasons, including psychosocial).</td>
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<td>Resource use and costs inc. hospitalisation</td>
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<td>The average number of hospitalizations per patient-year was 1.0 using CAPD and 0.6 per patient-year using APD (p=0.02), with a mean duration of 10.8 and 9.6 days per admission, respectively (p&gt;0.1).</td>
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<td>Admissions for peritonitis (per pt yr) 0.3 CAPD and 0.1 APD (p=0.14)</td>
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<td>Non-dialysis related admissions (per pt yr) 0.4 CAPD and 0.4 APD.</td>
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<td></td>
<td>Adverse events</td>
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<td>Peritonitis rate (episodes per pt yr) 0.94 CAPD and 0.51 episodes (p=0.03)</td>
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<td>Observed difference 0.43</td>
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<td>(episodes per pt yr; 95% CI 0.1 to 0.8)</td>
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<td>39% CAPD patients were free of peritonitis; 53.7% of APD at 24 months</td>
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<td>CAPD: 1 episode in 31.5%, 2 in 4.9%, 3 or more in 24.4%. APD: 1 episode in 26.8%, 2 in 9.8%, 3 or more in 9.8%.</td>
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<td>Median time to first episode 11 months CAPD and 18 months APD (p=0.18)</td>
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<td>Median time to second episode 6 months CAPD and 25 months APD (p=0.18)</td>
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<td>No difference in causative pathogens was observed.</td>
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<td>Exit site infections in 11 CAPD (22 episodes) and 12 APD patients (23 episodes) (p=0.03). Mean infection rate 0.38 episodes per patient-year in both groups.</td>
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<td>No catheter removed because of exit site infection.</td>
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<td>Tunnel infections in 2 CAPD and 1 APD</td>
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<td>Study ID</td>
<td>Study Design</td>
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<td>Participants</td>
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</table>

- Patients.
  - Hernias (umbilical and inguinal) in 3 CAPD and 3 APD patients.
  - PD fluid leaks in 1 CAPD and 0 APD patients.
  - Hydrothorax in 1 CAPD and 1 APD patients.
  - Catheter removed in 11 CAPD and 7 APD patients. Of these 4 and 3 respectively were removed because of peritonitis.

**Adequacy rates**
No significant differences were observed between the patients using CAPD-Y and those using CCPD with regard to the adequacy of the method of dialysis (as assessed by blood pressure control and laboratory and neurologic variables).

- Weekly Kt/V mean (sd) 2.7 (0.7) APD and 2.7 (0.9) CAPD at 24 months (p=ns)

**Staff attitude**
Not reported.
<table>
<thead>
<tr>
<th>Study ID</th>
<th>Study Design</th>
<th>Aim</th>
<th>Participants</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Follow-up</th>
<th>Outcomes</th>
<th>Source of funding</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Iles-Smith 1999</td>
<td>RCT UK</td>
<td>To compare APD and CAPD in terms of effectiveness in reaching adequacy targets, impact on QoL, and nutritional status.</td>
<td>8 stable CAPD patients were investigated after giving informed consent. 5 patients (all male) with mean age 53 years (range 33-69 years) were randomised to receive CAPD larger volumes and the remaining 3 patients (2 male and 1 female) with mean age 42 years (range 29 - 65 years) received APD with an extra daytime exchange. Included if CAPD for 3 months and free from peritonitis and exit site infections for prior 8 weeks minimum; anuric or RRF&lt;500mls/24 hours and inadequately dialysed with Kt/V&lt;1.7/1w or creatinine clearance&lt;50/wk/1.73m²; aged 18 to 80, able to perform APD at home; English speaking. Excluded if co-morbid conditions such as unstable hyper parathyroidism, unstable diabetes, carcinoma, severe coronary disease, those regularly injecting into the CAPD exchanges due to risk of</td>
<td>APD</td>
<td>CAPD</td>
<td>4 weeks</td>
<td>Health-related QoL</td>
<td>Fresenius Medical Care</td>
<td>Randomisation to the groups was performed regardless of peritoneal transport characteristics as measured at baseline using the peritoneal equilibrium test. Small sample size and intention to treat analysis not done. People aged 60 and over tended not to meet the inclusion criteria due to variety of clinical, social, and psychological reasons.</td>
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<td>infection.</td>
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Not reported.

- **Mortality (where reported, also deaths in first 3 months)**
  - No patients died during the duration of the study.

- **Preservation of renal function**
  - The CAPD group at week four showed a small increase in mean creatinine clearance 2.3 (51.4 to 53.7 l/wk/1.73m²). The APD group showed a greater increase of mean creatinine clearance 17.5 (47.8 to 65.3 l/wk/1.73m²).

- **Technique failure or switch**
  - 3 CAPD patients switched to APD during the study period.

- **Resource use and costs inc hospitalisation**
  - Not reported.

- **Adverse events**
  - 1 CAPD patient had an episode of peritonitis and was removed from the study.

- **Adequacy rates**
Appendices DRAFT

<table>
<thead>
<tr>
<th>Study ID</th>
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<th>Aim</th>
<th>Participants</th>
<th>Intervention</th>
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The CAPD group at week four showed a small increase in mean Kt/V 0.14 (1.66 to 1.8 l/wk). The APD group showed a greater increase of mean Kt/V 0.87 (1.68 to 2.55 l/wk).

**Staff attitude**
Not reported.

**Nutritional status**
Not assessed at week 4.

**Anaemia**
Not reported.

---

**Registry studies**
Due to the lack of controlled studies, national registry studies from 2000 onwards were included. See section 2.3.1 for flowchart.

<table>
<thead>
<tr>
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<th>Country</th>
<th>Source of data</th>
<th>Date of data</th>
<th>Aim</th>
<th>N</th>
<th>Included</th>
<th>Excluded</th>
<th>Dialysis modalities</th>
<th>Relevant outcomes reported</th>
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<tbody>
<tr>
<td>Castrale 2010</td>
<td>France</td>
<td>RDPLF French Language Peritoneal Dialysis Registry</td>
<td>2000-2005</td>
<td>To provide information regarding the outcome of elderly patients treated with PD</td>
<td>1,613</td>
<td>Older adults (aged 75 years or older at initiation) receiving PD</td>
<td>Previous PD, HD &gt;90 days, renal transplantation</td>
<td>PD types</td>
<td>- survival - permanent transfer to HD - peritonitis-free survival</td>
<td></td>
</tr>
<tr>
<td>Reference</td>
<td>Study ID</td>
<td>Country</td>
<td>Source of data</td>
<td>Date of data</td>
<td>Aim</td>
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<td>Included</td>
<td>Excluded</td>
<td>Dialysis modalities</td>
<td>Relevant outcomes reported</td>
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<tr>
<td>NAPRTCS</td>
<td>NAPRTCS2008</td>
<td>North America US and Canada</td>
<td>NAPRTCS</td>
<td>2008</td>
<td>To report the data registered through the NAPRTCS</td>
<td>3,224 on PD with modality</td>
<td>Children (aged under 21 at initiation) receiving RRT</td>
<td>...</td>
<td>PD types</td>
<td>- technique switch or failure - peritonitis episodes</td>
</tr>
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<td>Country</td>
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</table>
## Reference Study ID Country Source of data Date of data Aim N Included Excluded Dialysis modalities Relevant outcomes reported

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<th>Date of data</th>
<th>Aim</th>
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<th>Included</th>
<th>Excluded</th>
<th>Dialysis modalities</th>
<th>Relevant outcomes reported</th>
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</table>
Forest plots
NOTE: based on analyses from the Cochrane review (Rabindranath 2007); revised creatinine clearance figure for de Fijter 1994 (CAPD – changed 1.8 to 2.8 as in published paper) and weekly Kt/V for Bro 1999 (CAPD – changed 2.1 to 2.3 as in published paper), added in additional outcomes (for example, preservation of renal function measures), added in zero event data in change to HD for Iles-Smith 1999. Used random effects model as in the original analysis.

Health-related quality of life
Figure 4: APD versus CAPD, outcome: Health related quality of life.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Mean</th>
<th>APD SD</th>
<th>APD Total</th>
<th>CAPD Mean</th>
<th>CAPD SD</th>
<th>CAPD Total</th>
<th>Mean Difference N, Random, 95% CI</th>
<th>Mean Difference N, Random, 95% CI</th>
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<tr>
<td>1.1.1 Karnofsky score</td>
<td>De Fijter 1994</td>
<td>83</td>
<td>8</td>
<td>13</td>
<td>77</td>
<td>7</td>
<td>11</td>
<td>6.00 [-0.00, 12.00]</td>
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</tbody>
</table>

No registry studies reported this outcome.

Patient involvement or satisfaction
Bro 1999 reported that significantly more time for work, family, and social activities was available for patients on APD compared to those on CAPD (p<0.0005). Although the difference was not significant, there was a tendency for less physical and emotional discomfort caused by the dialysis fluid in the APD group. Sleep problems, on the other hand, tended to be more marked in the APD group.
No registry studies reported this outcome.

**Mortality**

Figure 5: APD versus CAPD, outcome: Survival.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>APD Total</th>
<th>APD Weight</th>
<th>M-H, Random, 95% CI</th>
<th>CAPD Events</th>
<th>CAPD Total</th>
<th>CAPD Weight</th>
<th>M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.1 Mortality according to intention-to-treat analysis</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>Not estimable</td>
<td>7</td>
<td>47</td>
<td>5</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>De Fijter 1994</td>
<td>7</td>
<td>47</td>
<td>5</td>
<td>100.0%</td>
<td>1.49 [0.51, 4.37]</td>
<td></td>
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<tr>
<td></td>
<td>Subtotal (95% CI)</td>
<td>59</td>
<td>63</td>
<td>100.0%</td>
<td>1.49 [0.51, 4.37]</td>
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<tr>
<td>Total events</td>
<td>7</td>
<td>50</td>
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<td>Heterogeneity: Not applicable</td>
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<td>Test for overall effect: Z = 0.73 (P = 0.47)</td>
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<tr>
<th>1.2.2 Mortality based on data of patients who actually received the treatment</th>
<th>APD Events</th>
<th>APD Total</th>
<th>APD Weight</th>
<th>M-H, Random, 95% CI</th>
<th>CAPD Events</th>
<th>CAPD Total</th>
<th>CAPD Weight</th>
<th>M-H, Random, 95% CI</th>
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<tbody>
<tr>
<td>Bro 1999</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>Not estimable</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td>Not estimable</td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>4</td>
<td>41</td>
<td>2</td>
<td>100.0%</td>
<td>2.00 [0.39, 10.32]</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>53</td>
<td>54</td>
<td>2</td>
<td>100.0%</td>
<td>2.00 [0.39, 10.32]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events</td>
<td>4</td>
<td>41</td>
<td>2</td>
<td>Not estimable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneity: Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for overall effect: Z = 0.83 (P = 0.41)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**APD and CAPD (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Castrale 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median survival 27.1 months</td>
</tr>
<tr>
<td></td>
<td>By age group, median survival 75 to 79 years 31 months, 80 to 84 years 26.9 months, 85 to 89 years 21.8 months, and for &gt;90 years 14.2 months.</td>
</tr>
</tbody>
</table>

Adjusted HR 1.23 (95% CI 1.04 to 1.44) for death aged 80 to 84 years, 1.53 (1.25 to 1.85) aged 85 to 89 years, and 1.78 (1.35 to 2.34) aged 90 years and over compared to 75 to 79 years (adjusted for age, sex, type of PD, method of assistance, modified CCI, underlying nephropathy)

Adjusted HR 1.17 (95% CI 1.00 to 1.38) for death aged 80 to 84 years, 1.50 (1.23 to 1.82) aged 85 to 89 years, and 1.72 (1.31 to 2.27) aged 90 years and over compared to 75 to 79 years (adjusted for age, sex, type of PD, method of assistance, diabetes)

Adjusted HR 0.78 (95% CI 0.59 to 1.01) for death on AutoPD compared to CAPD (adjusted for age, sex, type of PD, method of assistance, modified CCI, underlying nephropathy)

Adjusted HR 0.72 (95% CI 0.55 to 0.93) for death on AutoPD compared to CAPD (adjusted for age, sex, type of PD, method of assistance, diabetes)

Adjusted HR 1.79 (95% CI 1.24 to 2.59) for death on PD when helped by a family member compared to unassisted PD (adjusted for age, sex, type of PD, method of assistance, modified CCI, underlying nephropathy)

Adjusted HR 1.80 (95% CI 1.25 to 2.61) for death on PD when helped by a family member compared to unassisted PD (adjusted for age, sex, type of PD, method of assistance, diabetes)

Adjusted HR 2.35 (95% CI 1.86 to 2.97) for death on nurse-assisted PD compared to unassisted PD (adjusted for age, sex, type of PD, method of assistance, modified CCI, underlying nephropathy)

Adjusted HR 2.59 (95% CI 2.05 to 3.26) for death on nurse-assisted PD compared to unassisted PD (adjusted for age, sex, type of PD, method of assistance, diabetes)

**Peritonitis related**

39 (4.6%)

**Malnutrition related**

64 (7.5%)
### Mortality (where reported, also deaths in first 3 months)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adjusted HR death 1.03</strong>&lt;br&gt;(95% CI 0.86 to 1.24)&lt;br&gt;AutoPD vs CAPD [not clear what adjusted for]</td>
<td>Peritonitis related death&lt;br&gt;Of 594 cases of peritonitis in CAPD, 22 died (3.7%)&lt;br&gt;Of 334 cases of peritonitis in APD, 3 died (0.9%)</td>
<td><strong>Survival</strong>&lt;br&gt;First yr survival 78.48%&lt;br&gt;(95% CI 77.62 to 79.33)&lt;br&gt;CAPD; 87.24% (95% CI 86.74 to 87.74) APD</td>
<td>Mortality&lt;br&gt;CAPD and APD had the same prognosis (survival curves)</td>
<td></td>
</tr>
</tbody>
</table>

### Survival

- **First yr survival 78.48%**<br>(95% CI 77.62 to 79.33)
- **CAPD**: 87.24% (95% CI 86.74 to 87.74) **APD**
- **p<0.001**

### Mortality (where reported, also deaths in first 3 months)

**APD and CAPD (children)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Hooman 2009</th>
<th>Bakkaloglu 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean survival</strong>&lt;br&gt;1.22 years (95% CI 0.91 to 1.53)&lt;br&gt;RR death 3.25 (95% CI 1.82 to 5.79) for children aged under 24 months compared to those aged 24 months or over&lt;br&gt;No other factors were significantly associated (illiteracy, failure to thrive, peritonitis, home location, sex, year of initiation)&lt;br&gt;<strong>Causes of death were</strong>: infection (40%), pulmonary oedema or ineffective dialysis (29.1%), bowel perforation (5.4%) and undetermined (25.5%). Mean survival time in these patient was 2 years (95% CI 1.45 to 2.56)&lt;br&gt;<strong>Mortality rate</strong> 55% from 1993 to 1997; 60% 1998 to 2001; 23% 2002 to 2006. Mortality was higher in children treated with CAPD before 2001 compared with current practice (RR 2.78; 95% CI 1.64 to 4.72)</td>
<td>Survival 90% at 1 yr, 80% at 3 yrs, and 70% at 5 yrs&lt;br&gt;No significant difference by PD modality (p=0.342)</td>
<td></td>
</tr>
</tbody>
</table>
Preservation of renal function

Figure 6: APD versus CAPD, outcome: Preservation of renal function.
No registry studies reported this outcome.

**Technique failure or switch**

Figure 7: APD versus CAPD, outcome: Technique failure or switch.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD</th>
<th>CAPD</th>
<th>Total</th>
<th>Total</th>
<th>Weight</th>
<th>M-H, Random, 95% CI</th>
<th>M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>13</td>
<td>5.7%</td>
<td>0.22 [0.01, 4.08]</td>
<td></td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>8</td>
<td>41</td>
<td>14</td>
<td>41</td>
<td>87.4%</td>
<td>0.57 [0.27, 1.21]</td>
<td></td>
</tr>
<tr>
<td>Iles-Smith 1993</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>6.9%</td>
<td>0.21 [0.01, 3.12]</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td><strong>56</strong></td>
<td><strong>59</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>60.0%</strong></td>
<td><strong>0.50 [0.25, 1.02]</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events</td>
<td>8</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\tau^2 = 0.00; \chi^2 = 3, df = 2 (P = 0.65); P = 0%$

Test for overall effect: $Z = 1.90$ ($P = 0.06$)

1.4.2 Change to haemodialysis

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD</th>
<th>CAPD</th>
<th>Total</th>
<th>Total</th>
<th>Weight</th>
<th>M-H, Random, 95% CI</th>
<th>M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>13</td>
<td>12.7%</td>
<td>0.22 [0.01, 4.08]</td>
<td></td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>4</td>
<td>41</td>
<td>8</td>
<td>41</td>
<td>87.3%</td>
<td>0.50 [0.16, 1.53]</td>
<td></td>
</tr>
<tr>
<td>Iles-Smith 1993</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>Not estimable</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td><strong>56</strong></td>
<td><strong>59</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>0.45 [0.16, 1.28]</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events</td>
<td>4</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\tau^2 = 0.00; \chi^2 = 1, df = 1 (P = 0.60); P = 0%$

Test for overall effect: $Z = 1.50$ ($P = 0.13$)
**APD and CAPD (adults)**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Technique failure or switch</th>
<th>Castrale 2010</th>
<th>Badve 2008</th>
<th>Kavanagh 2004</th>
<th>Guo 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PD discontinued in 290 patients;</strong>&lt;br&gt;249 (85.9%) transfer to HD, 29 (10.0%) renal function recovery, 9 (3.1%) patient choice, 2 (0.7%) medical decision, 1 (0.3%) renal transplantation.</td>
<td>Causes of failure in 240 patients;&lt;br&gt;55 (22.1%) peritonitis, 27 (10.8%) catheter dysfunction, 39 (15.7%) dialysis adequacy, 16 (6.4%) malnutrition, 19 (7.6%) ultrafiltration failure, 16 (6.4%) patient burnout, 3 (1.2%) loss of assistance, 74 (29.7%) miscellaneous.</td>
<td>Adjusted HR technique survival 1.02 (95% CI 0.77 to 1.35) for technique survival aged 80 to 84 years, 0.91 (0.62 to 1.35) aged 85 to 89 years, and 0.31 (0.11 to 0.85) aged 90 years and over compared to 75 to 79 years (adjusted for centre as random effect)</td>
<td>Technique failure&lt;br&gt;Refractory peritonitis accounted for 42.4% of technique failures&lt;br&gt;Catheter removal&lt;br&gt;Of 594 cases of peritonitis in CAPD, 134 had the catheter removed (22.6%)&lt;br&gt;Of 334 cases of peritonitis in APD, 73 had the catheter removed (21.9%)</td>
<td>Technique survival&lt;br&gt;First yr survival&lt;br&gt;CAPD; 68.81% (95%CI 67.88 to 69.74)&lt;br&gt;APD; 81.30% (95%CI 80.72 to 81.87)&lt;br&gt;p&lt;0.001 (see also review on switching)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjusted HR 1.08 (95% CI 0.91 to 1.27) AutoPD vs CAPD [not clear what adjusted for]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APD and CAPD (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008</th>
<th>Bakkaloglu 2005</th>
<th>Fine 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technique failure or switch</td>
<td>Termination more likely due to change of modality in APD group (19.6%) than in CAPD group (13.2%); but time to termination was not significantly different between groups.</td>
<td>Technique survival  95% at 1 yr, 82% at 3 yrs, and 69% at 5 yrs  No significant difference by PD modality (p=0.107)</td>
<td>Technique survival  80.5% CAPD and 93.4% APD maintained the same mode of dialysis until termination or last reported visit (p=ns)</td>
</tr>
<tr>
<td></td>
<td>CAPD was the first PD modality for 476 (92.6%) patients, 142 of whom switched to APD during follow-up. At the end of follow-up 47.3% remained on PD 15.4% were transplanted, 13.2% switched to HD, and 16.7% died</td>
<td></td>
<td>Reasons for termination of modality  Transplant: 54.4% CAPD and 44.7% APD (p=0.0001)  Change in modality: 11.7% CAPD and 15.3% APD (p=0.13)  No difference for all reasons (p=0.04)</td>
</tr>
</tbody>
</table>

### CAPD alone (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Hooman 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technique failure or switch</td>
<td>Outcomes were: recovery of renal function (6.7%), renal transplantation (8.3%), switch to HD (16.7%), still on CAPD (23.3%), death (43.3%), lost to follow-up (1.7%). Reasons for termination of CAPD were: persistent peritonitis (19.6%), catheter outflow failure (8.7%), generalised oedema or cardiomegaly (4.3%), bowel obstruction (1.1%), transplantation or recovery of renal function (47.8%).</td>
</tr>
<tr>
<td></td>
<td>Mean survival of first catheter 8.16 months (95% CI 6.43 to 9.90). Reasons for exchange were: persistent peritonitis (37.5%), outflow failure (35.4%), catheter displacement (12.5%), and other (14.6%).</td>
</tr>
</tbody>
</table>
Resource use and costs

Figure 8: APD versus CAPD, outcome: Resource use and costs inc hospitalisation.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Events APD</th>
<th>Total APD</th>
<th>Events CAPD</th>
<th>Total CAPD</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>5</td>
<td>12</td>
<td>3</td>
<td>13</td>
<td>29.6%</td>
<td>1.81 [0.55, 5.88]</td>
<td></td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>20</td>
<td>41</td>
<td>27</td>
<td>41</td>
<td>70.4%</td>
<td>0.74 [0.50, 1.09]</td>
<td></td>
</tr>
<tr>
<td>Total (95% CI)</td>
<td>53</td>
<td>54</td>
<td></td>
<td></td>
<td>100.0%</td>
<td>0.96 [0.43, 2.17]</td>
<td></td>
</tr>
</tbody>
</table>

Total events: APD 25, CAPD 30

Heterogeneity: Tau² = 0.20; Chi² = 1.99, df = 1 (P = 0.16); P = 50%

Test for overall effect: Z = 0.09 (P = 0.93)

No registry studies reported this outcome.
### Adverse events

**Figure 9: APD versus CAPD, outcome: Adverse events.**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
</table>
| **1.6.1 Peritonitis**
| Bro 1999          | 1          | 12          | 2            | 13     | 0.54 (0.06, 5.24)           |
| De Fijter 1994    | 13         | 41          | 25           | 41     | 0.78 (0.50, 1.24)           |
| Les-Simon 1989    | 0          | 3           | 1            | 5      | 0.50 (0.03, 8.46)           |
| **Subtotal (95% CI)** | 1            | 56          | 13           | 59     | 0.75 (0.50, 1.11)           |
| **Total events**                      | 20          | 20          |              |        |                             |
| **Heterogeneity:** Tau² = 0.03, CHI² = 0.18, df = 2 (P = 0.92), P = 0% Test for overall effect: Z = 1.43 (P = 0.15) |

**1.6.2 Exit-site infections**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>13</td>
<td>1.08 (0.08, 15.48)</td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>12</td>
<td>41</td>
<td>2</td>
<td>41</td>
<td>1.00 (0.54, 2.18)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>13</td>
<td>53</td>
<td>2</td>
<td>54</td>
<td>1.09 (0.56, 2.13)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>13</td>
<td>53</td>
<td></td>
<td>54</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Tau² = 0.00, CHI² = 0.00, df = 1 (P = 1.00), P = 0% Test for overall effect: Z = 0.25 (P = 0.80)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1.6.3 Tunnel infections**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>13</td>
<td>3.23 (0.14, 7.24)</td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>1</td>
<td>41</td>
<td>2</td>
<td>41</td>
<td>0.50 (0.05, 5.30)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>1</td>
<td>53</td>
<td>2</td>
<td>54</td>
<td>0.99 (0.15, 6.40)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>2</td>
<td>53</td>
<td></td>
<td>54</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Tau² = 0.00, CHI² = 0.88, df = 1 (P = 0.35), P = 0% Test for overall effect: Z = 0.01 (P = 0.99)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1.6.4 Hernias**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>13</td>
<td>3.23 (0.14, 7.24)</td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>3</td>
<td>41</td>
<td>3</td>
<td>41</td>
<td>1.00 (0.21, 4.67)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>4</td>
<td>53</td>
<td>3</td>
<td>54</td>
<td>1.26 (0.32, 5.01)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>4</td>
<td>53</td>
<td></td>
<td>54</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Tau² = 0.00, CHI² = 0.44, df = 1 (P = 0.51), P = 0% Test for overall effect: Z = 0.33 (P = 0.74)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1.6.5 PD fluid leaks**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bro 1999</td>
<td>1</td>
<td>12</td>
<td>0</td>
<td>13</td>
<td>3.23 (0.14, 7.24)</td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>0</td>
<td>41</td>
<td>1</td>
<td>41</td>
<td>0.33 (0.01, 2.99)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>1</td>
<td>53</td>
<td>1</td>
<td>54</td>
<td>1.06 (0.11, 9.83)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>1</td>
<td>53</td>
<td></td>
<td>54</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Tau² = 0.01, CHI² = 1.00, df = 1 (P = 0.32), P = 0% Test for overall effect: Z = 0.05 (P = 0.96)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1.6.6 Hydrothoraces**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Fijter 1994</td>
<td>1</td>
<td>41</td>
<td>1</td>
<td>41</td>
<td>1.00 (0.36, 15.45)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>1</td>
<td>41</td>
<td>1</td>
<td>41</td>
<td>1.00 (0.36, 15.45)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>1</td>
<td>41</td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Not applicable Test for overall effect: Z = 0.00 (P = 1.00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1.6.7 Catheter removal due to all causes**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Fijter 1994</td>
<td>7</td>
<td>41</td>
<td>11</td>
<td>41</td>
<td>0.64 (0.27, 1.49)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>7</td>
<td>41</td>
<td>11</td>
<td>41</td>
<td>0.64 (0.27, 1.49)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>7</td>
<td>41</td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Not applicable Test for overall effect: Z = 1.05 (P = 0.29)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**1.6.8 Number of catheters removed during peritonitis episodes**

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD Events</th>
<th>CAPD Events</th>
<th>Total Events</th>
<th>Weight</th>
<th>Risk Ratio M-H, Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Fijter 1994</td>
<td>3</td>
<td>31</td>
<td>4</td>
<td>35</td>
<td>1.31 (0.31, 5.46)</td>
</tr>
<tr>
<td><strong>Subtotal (95% CI)</strong></td>
<td>3</td>
<td>31</td>
<td>4</td>
<td>35</td>
<td>1.31 (0.31, 5.46)</td>
</tr>
<tr>
<td><strong>Total events</strong></td>
<td>3</td>
<td>31</td>
<td></td>
<td>35</td>
<td></td>
</tr>
<tr>
<td><strong>Heterogeneity:</strong> Not applicable Test for overall effect: Z = 0.37 (P = 0.71)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APD and CAPD (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Castrale 2010</th>
<th>Kavanagh 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peritonitis</strong></td>
<td>Median survival free of peritonitis 32.1 months</td>
<td><strong>Peritonitis</strong></td>
</tr>
<tr>
<td></td>
<td>By age group, 75 to 79 years 29.4 months, 80 to 84 years 34.1 months, 85 to 89 years 37.7 months, and for &gt;90 years 30.4 months.</td>
<td>928 cases of peritonitis in 1487 patient-years; an overall peritonitis rate of 1 episode every 19.2 months.</td>
</tr>
<tr>
<td></td>
<td>Unadjusted HR 0.89 (95% CI 0.74 to 1.08) for survival free of peritonitis aged 80 to 84 years, 0.81 (0.63 to 1.04) aged 85 to 89 years, and 0.91 (0.62 to 1.34) aged 90 years and over compared to 75 to 79 years</td>
<td>Peritonitis rates for APD and CAPD were similar at one episode every 20.3 months and one episode every 18.6 months, respectively.</td>
</tr>
<tr>
<td></td>
<td>Unadjusted HR 0.79 (95% CI 0.59 to 1.04) for survival free peritonitis on AutoPD compared to CAPD</td>
<td></td>
</tr>
</tbody>
</table>

## APD and CAPD (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008</th>
<th>Fine 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peritonitis</strong></td>
<td>Peritonitis exposure in the CAPD group was significantly different to the APD group (p=0.042)</td>
<td><strong>Access revisions</strong></td>
</tr>
<tr>
<td></td>
<td>50% of cases had the first peritonitis episode in CAPD patients by 16.6 months compared to 19.2 months for APD patients.</td>
<td>19.0% CAPD and 25.3% APD</td>
</tr>
<tr>
<td></td>
<td>At 1 year post initiation, 45.2% of CAPD patients had experienced peritonitis compared to 40.5% of APD patients.</td>
<td>Due to peritonitis in 22% CAPD and 18% APD</td>
</tr>
<tr>
<td><strong>Peritonitis</strong></td>
<td>Peritonitis rate significantly better in APD compared to CAPD (p=0.006)</td>
<td><strong>Peritonitis</strong></td>
</tr>
<tr>
<td></td>
<td>Median time to first episode 348 days CAPD and 472 days APD</td>
<td>Peritonitis</td>
</tr>
</tbody>
</table>
| | At 1 yr after initiation, 51% CAPD and 44% APD had 1 episode | }
### CAPD alone (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Rashid 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Peritonitis</strong>&lt;br&gt;1 episode/16 pt months CAPD</td>
</tr>
<tr>
<td></td>
<td><strong>Exit-site infection</strong>&lt;br&gt;1 episode/16 pt months CAPD</td>
</tr>
</tbody>
</table>

### CAPD alone (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Hooman 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Frequent surgical complications were:</strong> hernia in 25 (inguinal 15; umbilical 8; incisional 2) and leakage in 18 children. 14 had bleeding after surgery and hydrocele in 5.</td>
</tr>
</tbody>
</table>
### APD alone (adults)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Verger 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peritonitis</strong></td>
<td>Overall, 1 episode of peritonitis every 34 months; 1 episode every 33 months for autonomous APD; 1 every 45 months for patients assisted at home by a family member; 1 every 36 months for patients assisted by a private nurse (p=0.11).</td>
</tr>
<tr>
<td></td>
<td>Probability of being peritonitis free at 24 months 59.3% (95% CI 55.8 to 62.9) for non-assisted patients; 54.4% (95% CI 45.7 to 63.1) for home nurse-assisted patients; 69.8% (95% CI 59.6 to 80.1) for home family-assisted patients [NOTE: higher mean age in home nurse-assisted group]</td>
</tr>
<tr>
<td></td>
<td>Probability of being peritonitis free at 36 months 45.6% (95% CI 40.3 to 50.9) for non-assisted patients; 39.8% (95% CI 29.2 to 50.4) for home nurse-assisted patients; 52.1% (95% CI 36.2 to 67.9) for home family-assisted patients [NOTE: higher mean age in home nurse-assisted group]</td>
</tr>
<tr>
<td></td>
<td>Probability of being peritonitis free at 24 months 63.8% (95% CI 51.7 to 75.9) and at 36 months 50.8% (95% CI 34.2 to 67.5) for home nurse-assisted patients with home visits from the training centre; at 24 months 42.4% (95% CI 28.9 to 55.9) and at 36 months 33.9% (95% CI 17.4 to 50.3) for home nurse-assisted patients without home visits from the training centre, p=0.028</td>
</tr>
</tbody>
</table>
Adequacy rates

Figure 10: APD versus CAPD, outcome: Adequacy rates.

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD</th>
<th>CAPD</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Total</td>
</tr>
<tr>
<td>1.7.1 Weekly Kt/V</td>
<td>2.3</td>
<td>0.69</td>
<td>12</td>
</tr>
<tr>
<td>Bro 1999</td>
<td>2.7</td>
<td>0.7</td>
<td>13</td>
</tr>
<tr>
<td>De Fijter 1994</td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Heterogeneity: Tau = 0.00, Chi^2 = 0.00, df = 1 (P = 1.00), I^2 = 0%
| Test for overall effect: Z = 0.80 (P = 1.00) |

1.7.2 Systolic blood pressure (mmHg)

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD</th>
<th>CAPD</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Total</td>
</tr>
<tr>
<td>Bro 1999</td>
<td>147</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Heterogeneity: Not applicable
| Test for overall effect: Z = 0.50 (P = 0.65) |

1.7.3 Diastolic blood pressure (mmHg)

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>APD</th>
<th>CAPD</th>
<th>Mean Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Total</td>
</tr>
<tr>
<td>Bro 1999</td>
<td>92</td>
<td>21</td>
<td>12</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Heterogeneity: Not applicable
| Test for overall effect: Z = 0.94 (P = 0.35) |

APD and CAPD (children)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>NAPRTCS 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequacy rates</td>
<td>Kt/V values</td>
</tr>
<tr>
<td>Rates did not differ significantly for CAPD vs APD.</td>
<td></td>
</tr>
</tbody>
</table>
Staff attitude
No studies reported this outcome.

Nutritional status

Figure 11: APD versus CAPD, outcome: Nutritional status.
No registry studies reported this outcome.

**Anaemia**
One RCT reported that there was no observed difference between the number of patients requiring EPO in the two groups (de Fijter 1999).

**Patient factors associated with effectiveness of treatment**
- Aimed to identify patient factors that may influence the choice of modality.
- Focused therefore on outcomes that differ by patient factors by modality; not reported those studies where simply reported the difference by patient groups in the same modality.
- Extracted information from all included registry studies (modality and switching); many studies did not report the impact of patient characteristics on modality choice.
- No information on the impact of ethnicity or gender was identified.
### First year survival (95% CI)

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Age</th>
<th>DM</th>
<th>Modality</th>
<th>%</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guo 2003</td>
<td>All</td>
<td>Yes</td>
<td>CAPD</td>
<td>74.82</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(73.35 to 76.29)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>No</td>
<td>CAPD</td>
<td>82.23</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(81.08 to 83.38)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>Yes</td>
<td>APD</td>
<td>84.60</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(83.70 to 85.50)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>No</td>
<td>APD</td>
<td>89.54</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(88.88 to 90.20)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>Yes</td>
<td>CAPD</td>
<td>75.93</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(74.23 to 77.64)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>No</td>
<td>CAPD</td>
<td>84.27</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(83.03 to 85.50)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>Yes</td>
<td>APD</td>
<td>86.64</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(85.62 to 87.66)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>No</td>
<td>APD</td>
<td>90.80</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(90.10 to 91.50)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>Yes</td>
<td>CAPD</td>
<td>71.87</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(68.97 to 74.78)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>No</td>
<td>CAPD</td>
<td>75.00</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(72.19 to 77.80)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>Yes</td>
<td>APD</td>
<td>79.99</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(78.19 to 81.79)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>No</td>
<td>APD</td>
<td>84.76</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(83.06 to 86.46)</td>
<td></td>
</tr>
<tr>
<td>Study ID</td>
<td>Age</td>
<td>DM</td>
<td>Modality</td>
<td>%</td>
<td>(95% CI)</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>----</td>
<td>----------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Guo 2003</td>
<td>All</td>
<td>Yes</td>
<td>CAPD</td>
<td>67.63</td>
<td>(66.10 to 69.16)</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>No</td>
<td>CAPD</td>
<td>69.87</td>
<td>(68.55 to 71.20)</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>Yes</td>
<td>APD</td>
<td>79.91</td>
<td>(78.93 to 80.89)</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>No</td>
<td>APD</td>
<td>82.41</td>
<td>(81.61 to 83.21)</td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>Yes</td>
<td>CAPD</td>
<td>67.43</td>
<td>(65.64 to 69.22)</td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>No</td>
<td>CAPD</td>
<td>70.87</td>
<td>(69.39 to 72.36)</td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>Yes</td>
<td>APD</td>
<td>80.55</td>
<td>(79.39 to 81.71)</td>
</tr>
<tr>
<td></td>
<td>&lt;55 yrs</td>
<td>No</td>
<td>APD</td>
<td>82.51</td>
<td>(81.61 to 83.40)</td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>Yes</td>
<td>CAPD</td>
<td>68.19</td>
<td>(65.27 to 71.12)</td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>No</td>
<td>CAPD</td>
<td>66.28</td>
<td>(63.34 to 69.22)</td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>Yes</td>
<td>APD</td>
<td>78.41</td>
<td>(76.57 to 80.25)</td>
</tr>
<tr>
<td></td>
<td>&gt;55 yrs</td>
<td>No</td>
<td>APD</td>
<td>82.03</td>
<td>(80.25 to 83.81)</td>
</tr>
</tbody>
</table>
2.3.5 Included studies (types of PD)
See list above in section 2.3.3.

2.3.6 Excluded studies with reasons (types of PD)
See list above in section 2.3.3.

2.4 Sequences of treatment

2.4.1 Review question on switching (review question 3)
What is the most effective sequence of renal replacement therapy which includes peritoneal dialysis in people with CKD stage 5 who need dialysis? And what is the impact of switching on outcomes?

This would then inform any decision to switch treatment – based on both effectiveness and reasons for switching. No RCT studies were identified; 6 registry studies were included.
1,669 Retrieved from searches

50 Ordered full text

EXC Based on title and abstract

6 Included full text

EXC See EXC studies for reasons
<table>
<thead>
<tr>
<th>Reference</th>
<th>Study ID</th>
<th>Country</th>
<th>Source of data</th>
<th>Date of data</th>
<th>Aim</th>
<th>N</th>
<th>Included</th>
<th>Excluded</th>
<th>Dialysis sequence</th>
<th>Relevant outcomes reported</th>
</tr>
</thead>
</table>
Health-related quality of life
No studies reported this outcome.

Patient involvement or satisfaction
No studies reported this outcome.

Mortality
*Adults and children*

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Badve 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialysis sequence</td>
<td>PD transplant-PD</td>
</tr>
<tr>
<td>Mortality (where reported, also deaths in first 3 months)</td>
<td>Adjusted weighted HR for death in PD after transplant vs PD after failure of native kidneys 1.09 (95% CI 0.81 to 1.45), after adjustment for gender, age, race, comorbidities, BMI, smoking, time from commencement of RRT to PD, country of residence; 1.32 (95% CI 0.76 to 2.31), with addition of peritoneal transport status</td>
</tr>
</tbody>
</table>
### Adults

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Guo 2003</th>
<th>Heaf 2002</th>
</tr>
</thead>
</table>
| Dialysis sequence | PD  
PD-HD  
transplant-PD | PD-HD  
HD-PD |
| Mortality (where reported, also deaths in first 3 months) | Rates of survival  
Patients on PD transferred from HD appeared to have lower rates of survival than patients new to dialysis (p<0.0001 for 1999, 2000; p<0.05 for 2001)  
Patients on PD transferred from HD appeared to have lower rates of survival than patients with a failed transplant (no p value or statistical analysis reported)  
1yr survival new to PD 83.12%; 2yr 69.94%; 3yr 58.12%  
1yr survival post transfer from HD 79.87%; 2yr 66.07%; 3yr 56.00%  
1yr survival after failed transplant 91.42%; 2yr 82.71%; 3yr 74.65% (1999 data only) | Mortality  
RR 1.11 (95% CI 1.06 to 1.18) per change of modality independent of age and mortality  
HD patients had increased mortality in the 'second career' compared to the 'first'; with accelerated mortality during first 6 months (37.2% per year; sem 4.6)  
 Patients who changed tended to be sicker (9% HD and 3% PD with increased prevalence of atherosclerosis) |
### Preservation of renal function

No studies reported this outcome.

---

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Huisman 2002</th>
<th>Jaar 2009</th>
<th>Mujais 2006 (case-control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialysis sequence</td>
<td>HD&lt;br&gt;PD-HD</td>
<td>PD&lt;br&gt;PD-HD</td>
<td>PD&lt;br&gt;HD-PD&lt;br&gt;transplant-PD</td>
</tr>
<tr>
<td>Mortality (where reported, also deaths in first 3 months)</td>
<td>Survival&lt;br&gt;No difference in survival between patients in whom PD failed (transferred to HD) and in whom HD was started and maintained (p=0.26)</td>
<td>Mortality rate&lt;br&gt;18.5 per 100 pt-yrs PD non-switchers&lt;br&gt;13.5 for PD switchers to HD&lt;br&gt;RR 0.94 death (95% CI 0.51 to 1.73) switchers vs non-switchers&lt;br&gt;No change in effect when adjusted for baseline variables</td>
<td>Rates of survival&lt;br&gt;Survival was similar across all groups (no p value or statistical analysis reported)&lt;br&gt;1yr survival new to PD 91.10%; 2yr 87.64%; 3yr 81.96%; 4yr 74.37%&lt;br&gt;1yr survival post transfer from HD 89.66%; 2yr 83.34%; 3yr 76.88%; 4yr 73.03%&lt;br&gt;1yr survival after failed transplant 90.71%; 2yr 85.08%; 3yr 78.83%; 4yr 75.80%</td>
</tr>
</tbody>
</table>
Technique failure or switch

**Adults and children**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Guo 2003</th>
<th>Badve 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dialysis sequence</strong></td>
<td>PD</td>
<td>transplant-PD</td>
</tr>
<tr>
<td><strong>Technique failure or switch</strong></td>
<td>Adjusted weighted HR for technique failure in PD after transplant vs PD after failure of native kidneys 0.91 (95% CI 0.75 to 1.10), after adjustment for gender, age, race, comorbidities, BMI, smoking, time from commencement of RRT to PD, country of residence; 1.03 (95% CI 0.75 to 1.42), with addition of peritoneal transport status</td>
<td></td>
</tr>
</tbody>
</table>

**Adults**

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Guo 2003</th>
<th>Mujais 2006 (case-control)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dialysis sequence</strong></td>
<td>PD</td>
<td>transplant-PD</td>
</tr>
<tr>
<td><strong>Technique failure or switch</strong></td>
<td>Rates of transfer to HD</td>
<td>Technique survival</td>
</tr>
<tr>
<td></td>
<td>Transfer to HD was similar across all groups (no p value or statistical analysis reported), with transfer being highest in the first year of dialysis (p&lt;0.0001)</td>
<td>Technique survival was similar across all groups (no p value or statistical analysis reported)</td>
</tr>
<tr>
<td></td>
<td>Patients on PD transferred from HD appeared to have similar rates of transfer to HD to patients with a failed transplant (no p value or statistical analysis reported)</td>
<td>1yr technique survival new to PD 82.74%; 2yr 69.03%; 3yr 57.39%; 4yr 52.08%</td>
</tr>
<tr>
<td></td>
<td>1yr transfer to HD new to PD 19.60%; 2yr 16.13%; 3yr 15.75%</td>
<td>1yr technique survival post transfer from HD 74.74%; 2yr 64.55%; 3yr 54.92%; 4yr 48.72%</td>
</tr>
<tr>
<td></td>
<td>1yr transfer to HD after transfer from HD 23.12%; 2yr 17.33%; 3yr 17.61%</td>
<td>1yr technique survival after failed transplant 77.21%; 2yr64.22%; 3yr53.72%; 4yr 47.75%</td>
</tr>
<tr>
<td></td>
<td>1yr PD transfer to HD after failed transplant 17.61%; 2yr 21.37%; 3yr 12.34%</td>
<td>There were differences in the distribution of reasons for change across groups (p&lt;0.007), with fewer changes due to psychosocial reasons in the failed transplant group</td>
</tr>
</tbody>
</table>
Resource use and costs
No studies reported this outcome.

Adverse events

Adults and children

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Dialysis sequence</th>
<th>Badve 2006</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>PD</td>
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<tr>
<td></td>
<td></td>
<td>transplant-PD</td>
</tr>
<tr>
<td>Adverse events</td>
<td></td>
<td>Adjusted weighted HR for peritonitis in PD after transplant vs PD after failure of native kidneys 0.92 (95% CI 0.72 to 1.16), after adjustment for gender, age, race, comorbidities, BMI, smoking, time from commencement of RRT to PD, country of residence; 0.88 (95% CI 0.60 to 1.30), with addition of peritoneal transport status</td>
</tr>
</tbody>
</table>

Adults

<table>
<thead>
<tr>
<th>Study ID</th>
<th>Dialysis sequence</th>
<th>Guo 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>PD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HD-PD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>transplant-PD</td>
</tr>
<tr>
<td>Adverse events</td>
<td></td>
<td>Infections causing transfer to HD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patients transferring to PD after a failed transplant transferring to HD because of infection (p=ns) were higher that in those new to dialysis (approx 7.3% vs 4.9%; p=0.05) and similar in those who had transferred from HD (approx 7.3% vs 5.9%)</td>
</tr>
</tbody>
</table>

Adequacy rates
No studies reported this outcome.

Staff attitude
No studies reported this outcome.
Nutritional status
No studies reported this outcome.

Anaemia
No studies reported this outcome.
2.4.2 Included studies


2.4.3 Excluded studies with reasons

Adeniyi, M. and others. (2009)
Hospitalizations in patients treated sequentially by chronic hemodialysis and continuous peritoneal dialysis.
EXC - not national level registry data, single institution report

Ashby, D. and others. (2008)
Dialysis survivors: clinical status of patients on treatment for more than 10 years.
EXC - not national level registry data, single institution report

Clinical outcome after transfer from peritoneal dialysis to hemodialysis.
EXC - not national level registry data, single institution report

Cala, S. (2007)
Peritoneal dialysis in Croatia.
EXC - not sequences of treatment

Davies, S. J. (2001)
Peritoneal dialysis in the patient with a failing renal allograft.
EXC - not national level registry data, single institution report

de, Jonge H. and others. (2006)
Comparison of peritoneal dialysis and haemodialysis after renal transplant failure.
EXC - not national level registry data, single institution report

Patients with failed renal transplant may be suitable for peritoneal dialysis.
Fabian, Velasco R. and others. (2008)
Automated peritoneal dialysis as the modality of choice: a single-center, 3-year experience with 458 children in Mexico.

Gorgulu, N. and others. (2009)
Endothelial Dysfunction in Peritoneal Dialysis Patients With and Without Failed Renal Transplants.

Differences in assessment of patients with satisfactory or complicated continuous ambulatory peritoneal dialysis courses.

Held, P. J. and others. (1991)
Treatment modality patterns and transplantation among the United States pediatric end-stage renal disease population: a longitudinal study.

Longitudinal changes in parameters of cardiovascular function in patients treated for 8 years with hemodialysis or peritoneal dialysis.

Jaar, B. G. and others. (2005)
Comparing the risk for death with peritoneal dialysis and hemodialysis in a national cohort of patients with chronic kidney disease.[Summary for patients in Ann Intern Med. 2005 Aug 2;143(3):I17; PMID: 16061913].

The effect of technique failure on outcome in black patients on continuous ambulatory peritoneal dialysis.

Liberek, T. and others. (2009)
Therapy outcome in peritoneal dialysis patients transferred from haemodialysis.

Coming back to dialysis after kidney transplant failure.

Outcomes of patients commencing peritoneal dialysis after failure of their renal allograft: Commentary.

Effect of continuous ambulatory peritoneal dialysis on a British renal unit.
**EXC - not national registry data, single institution report**

Movilli, E. and others. (1986)
Improvement of iron utilization and anemia in uremic patients switched from hemodialysis to continuous ambulatory peritoneal dialysis.
**EXC - not national registry data, single institution report**

**EXC - not national registry data, single institution report**

Ojo, A. O. and others. (1999)
Dialysis modality and the risk of allograft thrombosis in adult renal transplant recipients.
**EXC - risk of RVT post transplant - not specified as key adverse event for this guideline**

Otsuka, Y. and others. (2005)
Restoration of peritoneal integrity after withdrawal of peritoneal dialysis: characteristic features of the patients at risk of encapsulating peritoneal sclerosis.
**EXC - not national registry data, single institution report**

Panagoutsos, S. and others. (2006)
Timely transfer of peritoneal dialysis patients to hemodialysis improves survival rates.
**EXC - not national registry data, single institution report**

Papalois, B. E. and others. (1996)
Long-term peritoneal dialysis before transplantation and intra-abdominal infection after simultaneous pancreas-kidney transplantations.
**EXC - not national registry data, single institution report**

Passalacqua, J. A. and others. (1999)
Increased incidence of postoperative infections associated with peritoneal dialysis in renal transplant recipients.
**EXC - not national registry data, single institution report**

Perl, J. and others. (2008)
Clinical outcomes after failed renal transplantation-does dialysis modality matter?.
[Review] [53 refs].
**EXC - narrative review, references checked**

Piraino, B. and others. (1993)
A comparison of peritoneal dialysis-related infections in short- and long-term peritoneal dialysis patients.
**EXC - not national registry data, single institution report**

Rao, R and others (2009)
Effect of change in renal replacement therapy modality on laboratory variables: a cohort study from the UK Renal Registry.
**EXC - not sequences or switching, but evaluation of effect of transplant**
Sasal, J. and others. (2001)
Late renal transplant failure: an adverse prognostic factor at initiation of peritoneal dialysis.
EXC - not national registry data, single institution report

Influence of pretransplant dialysis modality on the change of lymphocyte subset populations and acute rejection rates after renal transplantation.
EXC - not national registry data, single institution report

Sezer, S. and others. (2000)
What happens after conversion of treatment to continuous ambulatory peritoneal dialysis from hemodialysis?
EXC - not national registry data, single institution report

Shih, Y. C. and others. (2005)
Impact of initial dialysis modality and modality switches on Medicare expenditures of end-stage renal disease patients.
EXC - costs of treatment, not comparison of effect of treatment sequences

Singh, S. and others. (1992)
Multicenter study of change in dialysis therapy-maintenance hemodialysis to continuous ambulatory peritoneal dialysis.
EXC - not national registry data

Sipahioglu, M. H. and others. (2008)
Patient and technique survival and factors affecting mortality on peritoneal dialysis in Turkey: 12 years' experience in a single center.
EXC - not national registry data, single institution report

Switching and the definition of modality in end-stage renal disease treatment.
EXC - not national registry data, nor comparison of treatment sequence effect

Summerfield, G. P. and others. (1983)
Haemoglobin concentration and serum erythropoietin in renal dialysis and transplant patients.
EXC - not national registry data, single institution report

Van, Biesen W. and others. (1998)
Analysis of the reasons for transfers between hemodialysis and peritoneal dialysis and their effect on survivals.
EXC - not national registry data, single institution report

Van, Biesen W. and others. (2000)
An evaluation of an integrative care approach for end-stage renal disease patients.
EXC - not national registry data, single institution report

Vanholder, R. and others. (1999)
Reduced incidence of acute renal graft failure in patients treated with peritoneal dialysis compared with hemodialysis.
EXC - not national registry data, report from two institutions

Wiggins, K. J. and others. (2007)
High membrane transport status on peritoneal dialysis is not associated with reduced survival following transfer to haemodialysis.

EXC - not comparison of treatment sequences

Wilmer, W. A. and others. (2001)
Peritoneal dialysis following failed kidney transplantation is associated with high peritoneal transport rates.

EXC - not national registry data, single institution report

Technique failure in peritoneal dialysis and its impact on patient survival.

EXC - not national registry data, single institution report

Yoo, S. W., Kwon, O. J., and Kang, C. M. (2009)
Preemptive living-donor renal transplantation: outcome and clinical advantages.

EXC - not national registry data, single institution report

Zhang, X. and others. (2008)
Outcomes and risk factors for mortality after transfer from hemodialysis to peritoneal dialysis in uremic patients.

EXC - not full report of primary study, letter