



Complete Summary

GUIDELINE TITLE

Selection of patients for automated peritoneal dialysis versus continuous ambulatory peritoneal dialysis.

BIBLIOGRAPHIC SOURCE(S)

Selection of patients for automated peritoneal dialysis versus continuous ambulatory peritoneal dialysis. *Nephrology* 2005 Oct;10(S4):S89-94.

Selection of patients for automated peritoneal dialysis versus continuous ambulatory peritoneal dialysis. *Westmead NSW (Australia): CARI - Caring for Australians with Renal Impairment*; 2004 Jan. 14 p. [38 references]

GUIDELINE STATUS

This is the current release of the guideline.

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SCOPE

DISEASE/CONDITION(S)

End-stage kidney disease (ESKD)

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Nephrology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To review the evidence for choosing automated peritoneal dialysis versus continuous ambulatory peritoneal dialysis

TARGET POPULATION

Patients with end-stage kidney disease (ESKD) being evaluated for peritoneal dialysis

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

Selection of peritoneal dialysis modality based on patient peritoneal membrane transport characteristics and preferences

- Automated peritoneal dialysis (APD)
- Continuous ambulatory peritoneal dialysis (CAPD)

Treatment

1. Prescription of peritoneal dialysis modality: APD or CAPD
2. Enhancement of sodium removal in patients on APD: icodextrin

MAJOR OUTCOMES CONSIDERED

- Hospitalization
- Peritonitis
- Exit-site infection
- Tunnel infection
- Hernia
- Mechanical complications
- Quality of life
- Mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Databases searched: Medline (1966 to September Week 3 2003). Medical Subject Headings (MeSH) terms and text words for automated peritoneal dialysis (APD) were combined with MeSH terms and text words for continuous ambulatory peritoneal dialysis (CAPD). The results were then combined with the Cochrane highly sensitive search strategy for randomised controlled trials. The Cochrane Renal Group Specialised Register of randomised controlled trials was also searched for relevant trials not indexed in Medline.

Date of searches: 1 October 2003.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Recommendations of Others. Recommendations regarding selection of patients for automated peritoneal dialysis versus continuous ambulatory peritoneal dialysis from the following groups were discussed: Kidney Disease Outcomes Quality Initiative, British Renal Association, Canadian Society of Nephrology, European Best Practice Guidelines, International Guidelines, and the International Society for Peritoneal Dialysis (ISPD) Ad Hoc Committee on Ultrafiltration Management in Peritoneal Dialysis.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the levels of evidence (I–IV) can be found at the end of the "Major Recommendations" field.

Guidelines

- a. Patients receiving automated peritoneal dialysis (APD) treatment report significantly more time for work, family and social activities (*Level II evidence*; single good quality randomized controlled trial (RCT), clinically relevant outcome, strong precise effect). APD should be prescribed in preference to continuous ambulatory peritoneal dialysis (CAPD) for patients in whom minimizing the time spent performing peritoneal dialysis (PD) is an important consideration (e.g., workers, school pupils, students, carers of elderly or debilitated patients).
- b. APD treatment is associated with lower rates of peritonitis, overall hospital admissions and hospital admissions for dialysis-related problems (*Level II*

- evidence*; single small RCT of questionable quality, clinically relevant outcome, strong but inconsistent effect).
- c. APD does not enhance peritoneal ultrafiltration in PD patients with high and high-average transport status (*Level II evidence*; single, underpowered good quality RCT, clinically relevant outcome, weak effect).
 - d. There is no convincing evidence that APD offers any other advantages or disadvantages over CAPD with respect to quality of life (other than additional social time), small solute clearance, residual renal function (RRF) decline or mechanical complications (*Level II evidence*; two small underpowered, variable quality RCTs, clinically relevant outcomes, weak effects).

Suggestions for Clinical Care

(Suggestions are based on Level III and IV sources)

- Patients with low peritoneal membrane transport characteristics are less well suited to APD, particularly in the setting of poor RRF. In such patients, poorer small solute clearances may be achieved relative to CAPD (*Level IV evidence*; several prospective studies of variable quality, surrogate outcome measure, inconsistent effects).
- APD is associated with poorer sodium removal than CAPD (*Level III evidence*; several prospective studies of reasonable quality, surrogate outcome measure, consistent strong effect). Sodium removal can be enhanced in APD patients by the use of icodextrin, supplementary diurnal exchanges and longer nocturnal dwell times (*Level IV evidence*; several prospective studies of variable quality, surrogate outcome measure, consistent effects).

The bulk of observational studies suggest that RRF decline is no different between CAPD and APD (*Level III evidence*; numerous prospective and retrospective cohort studies of variable quality, mostly consistent effect).

Definitions:

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate management of patients with end-stage kidney disease (ESKD) on peritoneal dialysis
- Automated peritoneal dialysis (APD) associated with more time for work, family and social activities
- APD associated with lower rates of peritonitis, overall hospital admissions and hospital admissions for dialysis-related problems

POTENTIAL HARMS

Poorer solute clearances may be achieved with APD in patients with low peritoneal membrane transport characteristics.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation and Audit

The Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) should report outcome data such as patient survival, peritonitis rates and renal and peritoneal small solute clearances, by dialysis modality.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2005 Oct

GUIDELINE DEVELOPER(S)

Caring for Australasians with Renal Impairment - Disease Specific Society

SOURCE(S) OF FUNDING

Industry-sponsored funding administered through Kidney Health Australia

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All guideline writers are required to fill out a declaration of conflict of interest.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

Print copies: Available from Caring for Australasians with Renal Impairment, Locked Bag 4001, Centre for Kidney Research, Westmead NSW, Australia 2145

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- The CARI guidelines. A guide for writers. Caring for Australasians with Renal Impairment. 2006 May. 6 p.

Electronic copies: Available from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

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