

### 3. Indications for recommencement of peritoneal dialysis after treatment for peritonitis

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#### Guidelines

No recommendations possible based on Level I or II evidence

#### Suggestions for clinical care

(Suggestions are based on Level III and IV evidence)

- The available evidence fails to indicate the appropriate timing for reinsertion of a PD catheter that has been removed because of peritonitis.

Various reports exist of individual cases and of small and uncontrolled series in which patients recommenced PD following treatment of peritonitis. Reports also exist of two larger series:

The case series described by Swartz et al (1991) involved 59 patients who underwent simultaneous PD catheter removal and reinsertion. In 36 patients, this was because of persisting or recurring infection and in 23 it was due to mechanical complications. The procedure succeeded in 30 peritonitis patients, with ensuing catheter survival of between 5 months and more than 5 years. The procedure was most successful in patients with *Staphylococcal* infections already controlled with antibiotics and in those without serious systemic or intra-peritoneal complications.

A retrospective review by Szeto et al (2002) looked at a subgroup of 100 patients who failed to respond to standard antibiotic treatment for PD peritonitis; peritoneal sclerosis and bowel adhesions prevented the resumption of PD. Patients had their catheters removed and continued antibiotics for a further 2 weeks, and had the catheters replaced 4 to 18 weeks later. Only a third of those who had the catheter reinserted were still receiving PD 24 months later, albeit often with impaired ultrafiltration (88%).

#### Background

Peritonitis that fails to resolve in peritoneal dialysis (PD) patients with antibiotic treatment alone often responds to removal of the PD catheter. Patients in whom this is the case remain in renal failure and in need of dialysis. PD is one option and recommencement of it necessitates the reinsertion of a peritoneal catheter. Performance of that procedure may not be justified if some or all of such patients

have a predictably unsatisfactory outcome. Those patients who are good candidates for having catheters reinserted in order to resume PD need to be identified.

The objectives of this guideline are to identify those patients whose outcome is likely to be satisfactory and those in whom it is likely to be unsatisfactory.

## **Search strategy**

Databases searched: Not available.

Date of searches: Not available.

## **What is the evidence?**

There is no Level I or Level II evidence.

## **What do the other guidelines say?**

**Kidney Disease Outcomes Quality Initiative:** No recommendation.

**British Renal Association:** Refers to Gokal et al (1993). Following catheter removal in patients without concomitant peritonitis, a new catheter can be implanted in the opposite side, either at the same operation or at a later date. In cases with simultaneous peritonitis that has failed to clear (which often occurs with *Pseudomonas* or fungus), implantation of a new catheter should be postponed at least 2 weeks.

**Canadian Society of Nephrology:** No recommendation.

**European Best Practice Guidelines:** No recommendation.

**International Guidelines:** The optimal period of time between catheter removal for infection and reinsertion of a new catheter is not known. Empirically, a minimum of 3 weeks between catheter removal and reinsertion of a new catheter is recommended. However, removal of the old catheter and insertion of a new one during the same operation has been done successfully in the setting of refractory tunnel infections as well as relapsing peritonitis (Swartz et al 1991; Swartz and Messana 1999). Since a PD-free interval (with or without a catheter in place) may also be helpful in resolving peritonitis, the timing of catheter reinsertion should be individualised.

## **Implementation and audit**

Document the outcome of patients who have had PD catheters reinserted.

## **Suggestions for future research**

Establish a registry of patients who have had PD catheters reinserted and record their outcomes.

## **References**

Gokal R, Ash SR, Helfrich GB et al. 1993. Peritoneal catheters and exit-site practices: toward optimum peritoneal access. *Perit Dial Int* 13: 29-39.

Swartz RD, Messana JM. 1999. Simultaneous catheter removal and replacement in peritoneal dialysis infections: update and current recommendations. *Adv Perit Dial* 15: 205-08.

Swartz R, Messana J, Reynolds J et al. 1991. Simultaneous catheter replacement and removal in refractory peritoneal dialysis infections. *Kidney Int* 40: 1160-65.

Szeto CC, Chow KM, Wong TY et al. 2002. Feasibility of resuming peritoneal dialysis after severe peritonitis and Tenckhoff catheter removal. *J Am Soc Nephrol* 13: 1040-45.