

Supplemental Materials for
Peritoneal Dialysis-Associated Peritonitis Outcomes Reported in Trials and
Observational studies: A Systematic Review

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Supplementary Item 1. Search strategy.

Database: All Ovid Medline <1946 - present>

Search Strategy:

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- 1 exp Peritoneal Dialysis/ (24910)
 - 2 periton* dialys?s.tw,kf. (23553)
 - 3 PD.tw,kf. (105946)
 - 4 CAPD.tw,kf. (6495)
 - 5 CCPD.tw,kf. (301)
 - 6 1 or 2 or 3 or 4 or 5 (130186)
 - 7 exp Peritonitis/ (26606)
 - 8 Catheter-Related Infections/ (3988)
 - 9 exp Peritoneum/ (40639)
 - 10 exp "Bacterial Infections and Mycoses"/ (1368538)
 - 11 9 and 10 (5059)
 - 12 peritonitis.tw,kf. (29608)
 - 13 ((intraperiton* or periton*) and infection*).tw,kf. (23635)
 - 14 perivisceritis.tw,kf. (34)

- 15 7 or 8 or 11 or 12 or 13 or 14 (61738)
- 16 6 and 15 (7899)
- 17 PDAP.tw,kf. (63)
- 18 16 or 17 (7954)
- 19 exp Animals/ not Humans/ (4464313)
- 20 18 not 19 (7712)
- 21 limit 20 to yr="2007 -Current" (2785)

Supplementary Item 2. Checklist.

Suggested considerations when designing research where peritonitis is a primary outcome - checklist

1	Definitions		PD associated peritonitis is defined as per latest ISPD recommendations.	
			Peritonitis associated mortality is defined.	
2	Outcomes studied		All cause Peritonitis	
			Organism-specific peritonitis	
3	Peritonitis measurement		Episodes per patient year (recommended by ISPD)	
			Episodes per patient month	
			Months between episodes	
			percent of patients with at least one episode	
4	Peritonitis time at risk		From PD catheter insertion	
			From training start (recommended by ISPD)	
			From first PD at home	
5	Peritonitis outcomes reported		Repeat Peritonitis	
			Refractory Peritonitis	
			Relapsing peritonitis	

			Recurrent peritonitis	
			Concomitant Exit Site Infection	
			Concomitant Tunnel Infection	
			Hospitalization	
			Catheter removal and hemodialysis transfer	
			Culture Negative episodes	
6	Method of Peritonitis Analysis		Time to Event	
			Rate Ratio	
			Descriptive	
			Others	

Supplementary Item 3. Organisms classifications provided by the included studies.

Study No.	Gram-positive bacteria	Gram-negative bacteria	Fungal	Culture-negative	Mycobacterial species	Single organism /species only	No organism classification provided
1							
2							
3							

4							
5						Corynebacterium	
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19						Enterococcus	
20							
21							
22							
23						CNS	
24							
25							
26						Staphylococcus Aureus	
27							
28							
29							
30							

31							
32							
33							
34							
35							
36							
37							
38							
39						Acinetobacter species	
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55						Streptococcus	
56							
57							

58							
59							
60							
61							
62							
63							
64							
65						Pseudomonas	
66						Enterococcus	
67							
68							
69							
70							
71							
72							
73						Streptococcus Bovis	
74							
75							
76							
77							

Supplementary Item 4. List of articles included in the review.

1. Abraham, G., et al., Microbiology, clinical spectrum and outcome of peritonitis in patients undergoing peritoneal dialysis in India: Results from a multicentric, observational study. *Indian Journal of Medical Microbiology*, 2017. 35(4): p. 491-498.
2. Abu-Aisha, H., et al., Rates and causes of peritonitis in a National Multicenter Continuous Ambulatory Peritoneal Dialysis program in Sudan: first-year experience. *Saudi Journal of Kidney Diseases & Transplantation*, 2007. 18(4): p. 565-70.
3. Akman, S., et al., Peritonitis rates and common microorganisms in continuous ambulatory peritoneal dialysis and automated peritoneal dialysis. *Pediatrics International*, 2009. 51(2): p. 246-9.
4. Barraclough, K., et al., *Corynebacterium* peritonitis in Australian peritoneal dialysis patients: predictors, treatment and outcomes in 82 cases. *Nephrology Dialysis Transplantation*, 2009. 24(12): p. 3834-9.
5. Barraclough, K., et al., Polymicrobial peritonitis in peritoneal dialysis patients in Australia: predictors, treatment, and outcomes. *American Journal of Kidney Diseases*, 2010. 55(1): p. 121-31.
6. Bechade, C., et al., Centre characteristics associated with the risk of peritonitis in peritoneal dialysis: a hierarchical modelling approach based on the data of the French Language Peritoneal Dialysis Registry. *Nephrology Dialysis Transplantation*, 2017. 32(6): p. 1018-1023.
7. Benabed, A., et al., Effect of assistance on peritonitis risk in diabetic patients treated by peritoneal dialysis: report from the French Language Peritoneal Dialysis Registry. *Nephrology Dialysis Transplantation*, 2016. 31(4): p. 656-62.
8. Bordador, E.B., et al., Epidemiology and outcomes of peritonitis in children on peritoneal dialysis in Australasia. *Pediatric Nephrology*, 2010. 25(9): p. 1739-45.
9. Brown, M.C., et al., Peritoneal dialysis-associated peritonitis rates and outcomes in a national cohort are not improving in the post-millennium (2000-2007). *Peritoneal Dialysis International*, 2011. 31(6): p. 639-50.
10. Burke, M., et al., Relapsing and recurrent peritoneal dialysis-associated peritonitis: a multicenter registry study. *American Journal of Kidney Diseases*, 2011. 58(3): p. 429-36.
11. Chand, D.H., et al., Multicenter study of effects of pediatric peritoneal dialysis practices on bacterial peritonitis. *Pediatric Nephrology*, 2010. 25(1): p. 149-53.
12. Cho, Y., et al., Association of biocompatible peritoneal dialysis solutions with peritonitis risk, treatment, and outcomes. *Clinical Journal of The American Society of Nephrology: CJASN*, 2013. 8(9): p. 1556-63.
13. Cho, Y., et al., Seasonal variation in peritoneal dialysis-associated peritonitis: a multi-centre registry study. *Nephrology Dialysis Transplantation*, 2012. 27(5): p. 2028-36.
14. Cho, Y., et al., Effects of climatic region on peritonitis risk, microbiology, treatment, and outcomes: a multicenter registry study. *Peritoneal Dialysis International*, 2013. 33(1): p. 75-85.

15. Cho, Y., et al., The effects of living distantly from peritoneal dialysis units on peritonitis risk, microbiology, treatment and outcomes: a multi-centre registry study. *BMC Nephrology*, 2012. 13: p. 41.
16. Davenport, A., Peritonitis remains the major clinical complication of peritoneal dialysis: the London, UK, peritonitis audit 2002-2003. *Peritoneal Dialysis International*, 2009. 29(3): p. 297-302.
17. Davenport, A., D. Wellsted, and G. Pan Thames Renal Audit Peritoneal Dialysis, Does antifungal prophylaxis with daily oral fluconazole reduce the risk of fungal peritonitis in peritoneal dialysis patients? The Pan Thames Renal Audit. *Blood Purification*, 2011. 32(3): p. 181-5.
18. Duquennoy, S., et al., Is Peritonitis Risk Increased in Elderly Patients on Peritoneal Dialysis? Report from the French Language Peritoneal Dialysis Registry (RDPLF). *Peritoneal Dialysis International*, 2016. 36(3): p. 291-6.
19. Edey, M., et al., Enterococcal peritonitis in Australian peritoneal dialysis patients: predictors, treatment and outcomes in 116 cases. *Nephrology Dialysis Transplantation*, 2010. 25(4): p. 1272-8.
20. Eriguchi, M., et al., Extended Swan-Neck Catheter With Upper Abdominal Exit-Site Reduces Peritoneal Dialysis-Related Infections. *Therapeutic Apheresis & Dialysis: Official Peer-Reviewed Journal of the International Society for Apheresis, the Japanese Society for Apheresis, the Japanese Society for Dialysis Therapy*, 2016. 20(2): p. 158-64.
21. Evans, D.W., et al., Peritonitis-free survival in peritoneal dialysis: an update taking competing risks into account. *Nephrology Dialysis Transplantation*, 2010. 25(7): p. 2315-22.
22. Fahim, M., et al., Coagulase-negative staphylococcal peritonitis in Australian peritoneal dialysis patients: predictors, treatment and outcomes in 936 cases. *Nephrology Dialysis Transplantation*, 2010. 25(10): p. 3386-92.
23. Fahim, M., et al., Culture-negative peritonitis in peritoneal dialysis patients in Australia: predictors, treatment, and outcomes in 435 cases. *American Journal of Kidney Diseases*, 2010. 55(4): p. 690-7.
24. Figueiredo, A.E., et al., Impact of patient training patterns on peritonitis rates in a large national cohort study. *Nephrology Dialysis Transplantation*, 2015. 30(1): p. 137-42.
25. Gadola, L., et al., Peritonitis in peritoneal dialysis patients in Uruguay. *Peritoneal Dialysis International*, 2008. 28(3): p. 232-5.
26. Govindarajulu, S., et al., *Staphylococcus aureus* peritonitis in Australian peritoneal dialysis patients: predictors, treatment, and outcomes in 503 cases. *Peritoneal Dialysis International*, 2010. 30(3): p. 311-9.
27. Hildebrand, A., et al., Peritonitis and exit site infections in First Nations patients on peritoneal dialysis. *Clinical Journal of The American Society of Nephrology: CJASN*, 2010. 5(11): p. 1988-95.
28. Hooman, N., et al., Fungal peritonitis in Iranian children on continuous ambulatory peritoneal dialysis: a national experience. *Iranian journal of Kidney Diseases*, 2007. 1(1): p. 29-33.
29. Jarvis, E.M., et al., Predictors, treatment, and outcomes of non-Pseudomonas Gram-negative peritonitis. *Kidney International*, 2010. 78(4): p. 408-14.
30. Jegatheesan, D., et al., The Relationship Between Body Mass Index and Organism-Specific Peritonitis. *Peritoneal Dialysis International*, 2018. 38(3): p. 206-214.

31. Jiang, S.H., et al., Non-tuberculous mycobacterial PD peritonitis in Australia. *International Urology & Nephrology*, 2013. 45(5): p. 1423-8.
32. Johnson, D.W., et al., Antibacterial honey for the prevention of peritoneal-dialysis-related infections (HONEYPOT): a randomised trial. *The Lancet Infectious Diseases*, 2014. 14(1): p. 23-30.
33. Johnson, D.W., et al., The effects of biocompatible compared with standard peritoneal dialysis solutions on peritonitis microbiology, treatment, and outcomes: the balANZ trial. *Peritoneal Dialysis International*, 2012. 32(5): p. 497-506.
34. Kanjanabuch, T., et al., The incidence of peritoneal dialysis-related infection in Thailand: a nationwide survey. *Journal of the Medical Association of Thailand*, 2011. 94 Suppl 4: p. S7-12.
35. Kazancioglu, R., et al., Fungal peritonitis among the peritoneal dialysis patients of four Turkish centres. *Journal of Renal Care*, 2010. 36(4): p. 186-90.
36. Kerschbaum, J., et al., Treatment with oral active vitamin D is associated with decreased risk of peritonitis and improved survival in patients on peritoneal dialysis. *PLoS ONE [Electronic Resource]*, 2013. 8(7): p. e67836.
37. Kumar, V.A., et al., Predictors of peritonitis, hospital days, and technique survival for peritoneal dialysis patients in a managed care setting. *Peritoneal Dialysis International*, 2014. 34(2): p. 171-8.
38. Lanot, A., et al., Efficacy of Prophylactic Antibiotics at Peritoneal Catheter Insertion on Early Peritonitis: Data from the Catheter Section of the French Language Peritoneal Dialysis Registry. *American Journal of Nephrology*, 2016. 44(6): p. 419-425.
39. Li, P.H., et al., Epidemiology and Clinical Characteristics of Acinetobacter Peritoneal Dialysis-Related Peritonitis in Hong Kong-With a Perspective on Multi-Drug and Carbapenem Resistance. *Peritoneal Dialysis International*, 2017. 37(2): p. 177-182.
40. Lim, W.H., et al., Remote indigenous peritoneal dialysis patients have higher risk of peritonitis, technique failure, all-cause and peritonitis-related mortality. *Nephrology Dialysis Transplantation*, 2011. 26(10): p. 3366-72.
41. Lim, W.H., et al., Compared with younger peritoneal dialysis patients, elderly patients have similar peritonitis-free survival and lower risk of technique failure, but higher risk of peritonitis-related mortality. *Peritoneal Dialysis International*, 2011. 31(6): p. 663-71.
42. Lloyd, A., et al., The risk of peritonitis after an exit site infection: a time-matched, case-control study. *Nephrology Dialysis Transplantation*, 2013. 28(7): p. 1915-21.
43. Martin, L.C., et al., Geographic and educational factors and risk of the first peritonitis episode in Brazilian Peritoneal Dialysis study (BRAZPD) patients. *Clinical Journal of The American Society of Nephrology: CJASN*, 2011. 6(8): p. 1944-51.
44. McGuire, A.L., et al., Effects of a Statewide Protocol for the Management of Peritoneal Dialysis-Related Peritonitis on Microbial Profiles and Antimicrobial Susceptibilities: A Retrospective Five-Year Review. *Peritoneal Dialysis International*, 2015. 35(7): p. 722-8.

45. McQuillan, R.F., et al., A randomized controlled trial comparing mupirocin and polysporin triple ointments in peritoneal dialysis patients: the MP3 Study. *Clinical Journal of The American Society of Nephrology: CJASN*, 2012. 7(2): p. 297-303.
46. Miles, R., et al., Predictors and outcomes of fungal peritonitis in peritoneal dialysis patients. *Kidney International*, 2009. 76(6): p. 622-8.
47. Munshi, R., et al., Fungal peritonitis in the Standardizing Care to Improve Outcomes in Pediatric End Stage Renal Disease (SCOPE) Collaborative. *Pediatric Nephrology*, 2018. 33(5): p. 873-880.
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49. Najafi, I., et al., Epidemiology of culture-negative peritonitis in Iranian patients on continuous ambulatory peritoneal dialysis. *Iranian journal of Kidney Diseases*, 2011. 5(5): p. 332-7.
50. Nessim, S.J., et al., Predictors of peritonitis in patients on peritoneal dialysis: results of a large, prospective Canadian database. *Clinical Journal of The American Society of Nephrology: CJASN*, 2009. 4(7): p. 1195-200.
51. Nessim, S.J., et al., Impact of age on peritonitis risk in peritoneal dialysis patients: an era effect. *Clinical Journal of The American Society of Nephrology: CJASN*, 2009. 4(1): p. 135-41.
52. Nessim, S.J., J.M. Bargman, and S.V. Jassal, Relationship between double-cuff versus single-cuff peritoneal dialysis catheters and risk of peritonitis. *Nephrology Dialysis Transplantation*, 2010. 25(7): p. 2310-4.
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55. O'Shea, S., et al., Streptococcal peritonitis in Australian peritoneal dialysis patients: predictors, treatment and outcomes in 287 cases. *BMC Nephrology*, 2009. 10: p. 19.
56. Ong, L.M., et al., Risk of Peritoneal Dialysis-Related Peritonitis in a Multi-Racial Asian Population. *Peritoneal Dialysis International*, 2017. 37(1): p. 35-43.
57. Pi, H.C., et al., Serum 25-Hydroxyvitamin D Level Could Predict the Risk for Peritoneal Dialysis-Associated Peritonitis. *Peritoneal Dialysis International*, 2015. 35(7): p. 729-35.
58. Ponce, D., et al., Peritonitis in Children on Chronic Peritoneal Dialysis: The Experience of a Large National Pediatric Cohort. *Blood Purification*, 2018. 45(1-3): p. 118-125.
59. Raaijmakers, R., et al., Fungal peritonitis in children on peritoneal dialysis. *Pediatric Nephrology*, 2007. 22(2): p. 288-93.
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61. Schaefer, F., et al., Worldwide variation of dialysis-associated peritonitis in children. *Kidney International*, 2007. 72(11): p. 1374-9.
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63. Shea, Y.F., et al., Prevalence of Cognitive Impairment Among Peritoneal Dialysis Patients, Impact on Peritonitis and Role of Assisted Dialysis. *Peritoneal Dialysis International*, 2016. 36(3): p. 284-90.
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66. Sutherland, S.M., et al., Enterococcal peritonitis in children receiving chronic peritoneal dialysis. *Nephrology Dialysis Transplantation*, 2010. 25(12): p. 4048-54.
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