

Title: Peritoneal Dialysis for Neonates

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Purpose of protocol:

Peritoneal dialysis for neonates

1. **Dialysis Fluids**

There are three different glucose concentrations available (1.5%, 2.5%, 4.25%) in a range of bag sizes between 1 litre and 6 litres.

- 4.25% most hypertonic - neonates often get hyperglycaemic on this.
- 3.3% two bags of fluid, one 4.25% and 2.5% joined and mixed in Pharmacy. This provides extra water clearance and sugar is usually tolerated.
- 2.5% the standard solution to begin on, but if you stay on indefinitely, then water is cleared in excess of Na⁺ and hypernatraemia will develop.
- 1.5% once the water has been shifted and Na is starting to rise, this is the one to finish up on.

2. **Supply**

- (a) Dialysis fluid is available from Ward M3 (ring M3 Coordinator on 23827)
- (b) Dialysis setup and management as per Nursing Standard and Procedure.

3. Catheter is inserted by surgeon by dissection down to peritoneum.

4. Usually begin with no added K⁺ but when the K⁺ is beginning to fall, i.e. down to 5, it is time to add 3.5mmols/L to the bag to ensure you don't overshoot. Remember once total body K⁺ is affected serum K⁺ falls impressively. K⁺ in the bag will need to be adjusted according to serum K⁺.

5. **Volume of Cycles**

Range = 10ml/kg - 30ml/kg wt.

30ml/kg is required to really be effective in complete renal failure. (volumes < 20 ml/kg are unlikely to be effective). Sometimes this volume causes pulmonary and circulatory embarrassment seen as a child who deteriorates each in-cycle.

6. **Frequency**

As rapid as possible to begin with, i.e. 10 mins in, 10 mins dwell and 10 mins out. When under control, space the interval to: 15, 15, and 15
or: 20, 20, and 20.

7. Don't forget creatinine will not become normal. As long as it stops rising, dialysis is satisfactory.
8. When urine flow returns, slow down dialysis by reducing volume to 10ml/kg, and then if satisfactory, clamp the catheter and rely on the kidneys.
9. If peritoneal dialysis not possible/fails - contact Starship Paediatric Nephrologist re: haemofiltration (usually need a MAP > 50 mmHg for this to be an option).

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