Acute Peritoneal Dialysis Prescription

CATHETER

☐ Tunnelled catheter ☐ Non-tunnelled catheter

Tenckhoff straight	Cook's catheter
☐ Neonatal 31cm ☐ Paediatric 30cm ☐ Paediatric 31cm	☐ 8.5Fr 8cm

MANUAL PERITONEAL DIALYSIS (PD)

1. Dialysate should be warmed to body temperature (especially for neonates)
2. Dialysate: _____% Dextrose

   ☐ Dianeal ☐ Bicarbonate-based dialysate prepared by Pharmacist
3. Weight of Patient: _____ kg
4. PD Cycle

Fill Volume (ml)	_____ ml	_____ ml/kg (10-50ml/kg/cycle)
Cycle Duration (min)	_____ min	
	Filling Phase (In)	_____ min
	Dwell	_____ min
	Drain (Out)	_____ min
Strict input & output (IO) monitoring, keep final fluid balance between _____ to _____ ml		
Hourly parameters, stop PD and inform if MAP is below _____ mmHg		

5. Additives (per litre of dialysate)

Heparin 500 Units/L	☐ Yes	☐ No
Cefazolin 250mg/L	☐ Yes	☐ No
Others	_____ per litre	
	_____ per litre	

6. Monitoring

- Daily PD fluid white blood cell (WBC) count, inform if WBC count > 100 cells/µL
- Hourly fluid tally during initiation (especially for neonates/ young infants) and review
- Urea, creatinine and serum electrolytes 12 hourly for the first 24 hours then daily
- Hypocount monitoring [ ] hourly (6–12 hourly) and inform if above [ ] mmol/L

DOCTOR'S NAME & MCR No.: _____ DATE: _____

GUIDELINES FOR PERITONEAL DIALYSIS PRESCRIPTION

THERMOREGULATION

- Hourly body temperature monitoring
- Dialysate should be warmed to body temperature and applies especially for neonates

FILL VOLUME

- Recommended initial fill volume: 10–20 ml/kg (300 to 600 ml/m^2)
- Desired: 30 ml/kg (800 ml/m^2), as tolerated by the patient
- For patients with Tenckhoff catheters: up to 40–50 ml/kg (1100–1400 ml/m^2)
- < 2 years old: not to exceed fill volumes of >800 ml/m^2
- Measure IPP (intra peritoneal pressure) if required to optimize fill volume
    - Tolerable IPP up to 8–10 cm water (800 ml/m^2) (<2 years old) and 13–14 cm water (1400 ml/m^2) (>2 years old)
- Watch for intolerance to fill volume (e.g. distended shiny abdomen, splinting of diaphragm with difficulty in ventilation, leak around catheter exit site)

DWELL TIME

- Initial exchange time recommended to be hourly: inflow 10 min, dwell 30–40 min, outflow 20 min
- In neonates and small infants, the cycle may need to be reduced to achieve adequate ultrafiltration

Notes for adjustment of PD Adequacy based on requirements

1. To increase ultrafiltration (UF), can consider increasing fill volume and/or dialysate with higher dextrose concentration and/or reduction of dwell time
2. To improve solute removal, can consider increasing fill volume and/or a longer dwell time

DIALYSATE AND ADDITIVES

- The lowest glucose concentration which can achieve desired UF should be used
- IP Heparin: 500 U/L (If the drain outflow is heavily bloodstained, this can be increased to a maximum of 1000 U/L dialysate)
- IP Cefazolin: 250mg/L for the first 72 hours after insertion of peritoneal dialysis catheter.
- Potassium: can be gradually increased to a dialysate concentration of ≤ 4 mmol/L. solution (only if persistent hypokalaemia, NOT routinely in all patients)
- Insulin to be added into dialysis solution (only if persistent hyperglycemia, NOT routinely in all patients). Recommended initial doses of insulin to be added into dialysis solution:
    - 4 – 5 units/L for dialysate dextrose concentration of 1.5%
    - 5 – 7 units/L for dialysate dextrose concentration of 2.5%
    - 7 – 10 units/L for dialysate dextrose concentration of 4.25%
    - Adjust based on frequent blood glucose monitoring

PERITONEAL FLUID CELL COUNT AND CULTURE

- The diagnosis of peritonitis is made based on the presence of abdominal pain, cloudy dialysate, and a leukocyte count of > 100 cells/µL (or polymorphonuclear cells > 50%) after a 2-hour dwell (2-hour dwell may not be applicable to all patients)
- Other features such as abdominal pain and fever should also prompt further investigation

MONITORING

- Blood glucose should be monitored more frequently if using 2.5 or 4.25% dextrose based dialysis fluid

THERAPEUTIC DRUG MONITORING (TDM)

- There may be enhanced clearance of medication (e.g. antibiotics)
- Doses to be adjusted accordingly and, where possible, levels should be monitored

NOTES FOR NURSING TEAM

Nursing team should notify physicians immediately on the following:

1) Poor dialysate flow
2) Severe abdominal pain or distension
3) Bright red blood or cloudy dialysate drain
4) Dialysate leak or purulent drainage around catheter exit site
5) New onset of fever
6) 2 consecutive positive exchanges (inadequate ultrafiltration)
7) Negative balance exceeds _____ml over _____hours (excessive ultrafiltration)

REFERENCES

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