N2 — Dialysate Prescription Check **FRONT**

Confirm sodium, calcium, bicarbonate, magnesium, glucose, and temperature before the patient connects.

When: machine setup, before every treatment.

Do this

1. **Read the acid concentrate label against the order:** potassium, calcium (mEq/L), magnesium, dextrose, and acid type (acetate or citrate). Read the printed label, not the jug color.
2. Confirm the machine is set for the proportioning ratio of the concentrate you hung [5].
3. Enter sodium, bicarbonate, and any profile exactly as ordered. The alkali the patient receives is bicarbonate **plus** the acetate in the acid concentrate — know whether your machine's number includes it [7].
4. **Check conductivity and pH with an independent meter or strip before every treatment** and compare with the machine reading. Recheck whenever a new acid concentrate is hung mid-treatment [5].
5. Set dialysate temperature per your unit protocol (cooling and intradialytic hypotension: N5: Intradialytic Hypotension: Chair-Side Response).
6. Diabetic patient on insulin or a sulfonylurea with a low pre-dialysis glucose: check glucose during and after treatment per protocol [6].

Call the nephrologist when

- The ordered concentrate is unavailable and a substitute would change calcium, potassium, magnesium, or glucose.
- Pre-dialysis serum sodium is below 130, above 145, or 5 or more below the patient's usual value — **before starting**.
- Pre-dialysis bicarbonate (total CO2) is below 18 or above 28 mEq/L [7].
- Low calcium with symptoms, or a patient on a calcimimetic with palpitations, tingling, or a prolonged QTc.
- Glucose is below 70 mg/dL during or after treatment [6].
- Symptoms suggest a composition problem: early cramps, hypotension out of proportion to fluid removal, tingling around the mouth, headache or confusion, or back or chest pain with dark venous blood (hemolysis — N12: Chair-Side Emergencies).

Don't

- **Don't silence or override a conductivity or pH alarm** to start or continue treatment [5].
- Don't change dialysate sodium, or add a sodium profile, to treat cramps or low BP without an order [1].
- Don't substitute a different acid concentrate without an order.
- Don't use 3.5 mEq/L calcium or anything below 2.5 mEq/L as a routine bath [2,3].

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BACK

Why

1. Raising dialysate sodium from 135 to 140 mEq/L cut the odds of intradialytic hypotension by a third but raised pre-dialysis BP by 7/4 mmHg and weight gain by 0.2 kg [1].
2. Dialysate calcium below 2.5 mEq/L was associated with double the odds of sudden cardiac arrest in the unit [2]; KDIGO suggests 2.5–3.0 mEq/L [3].
3. Each 4 mEq/L higher dialysate bicarbonate was associated with 8% higher mortality (DOPPS) [4].
4. A wrong concentrate can make dialysate that harms the patient, and several patients are often exposed before the error is found. That is why CMS requires an independent pH check before every treatment [5].
5. Even with glucose in the dialysate, 21% of diabetic patients had silent hypoglycemia during or after dialysis on continuous glucose monitoring [6].

Go deeper

- Mastery page: Dialysate sodium: BP, thirst, IDH, and the RESOLVE question
- Mastery page: Dialysate calcium, bicarbonate, magnesium, and glucose
- All dialysis nursing reference cards

References

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