Preoperative recommendations for patients with Chronic Renal Failure:

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Summary

- Volume management tips
- Electrolyte management
- Drugs to avoid
- Hypertension
- Renal dosing of antibiotics
- General anesthesia pointers
- IV Access

Volume Management

- Avoid Fluid overload or volume depletion.
- Give IVF as intermittent boluses as needed instead of maintenance IV's which may inadvertently be continued
- Resist urge to use potassium routinely

Potassium

- Follow potassium pre- and post-op, remembering that labwork drawn within 6 hours of dialysis will reflect the low K in dialysate and is **NOT** reflective of true hypokalemia. Avoid the urge to give potassium supplements!
- This includes using Lactated Ringer's solution which has potassium in it.
- Avoid acidosis and hypocalcemia which can exacerbate the problem.

Drug management

- Avoid NSAID's including Toradol,
- Avoid Demerol as the metabolite normeperidine may accumulate and cause seizures,
- and avoid potassium sparing diuretics.

Hypertension

- Treat hypertension as you would normally. For parenteral control in NPO patients, may use the following IV drugs:
- Labetolol, Lopressor, Diltiazem.
- Vasotec IV is OK unless there is a true allergy or acute renal failure is present.
- Nitroglycerine, Labetolol, or Corlepam drips
- If Nipride used, try to wean off or replace within 24 hours due to risk for cyanide toxicity.
  - I substitute Procardia XL 30 mg PO q6h with an order to hold once SBP is less than 140, then add up the dose to give on BID schedule

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Renal Dosing of Meds

- Remember to renally dose medications, ask the Nephrologist or use reference.
- Bennett and Aronoff. *Drug Prescribing in Renal Failure*. American College of Physicians, Philadelphia.
- Epocrates

Renal Dosing of Meds

- Penicillins and cephalosporins usually have 30% reduction in ESRD
  - Zosyn 3.25 gm q6 to 2.25 Gm q8 or 3.25 gm q12
  - Augmentin 500 BID instead of TID
    - Avoid use of 850 mg dose
  - Cipro reduced to daily dosing in ESRD
  - Levaquin reduced to Every other day
- Flagyl, Doxycycline no dose adjustment needed.

Anesthetic agents

- With general anesthesia, some agents are metabolized to fluoride and can cause direct renal toxicity. In the dialysis pt, this is not a problem generally, since their kidneys have already failed.
- Isoflurane is the anesthetic of choice for chronic renal failure.
- Atracurium is the muscle relaxant of choice.
  - Succinyl Choline can cause a rapid hyperkalemia, and pancuronium in multiple doses can result in prolonged paralysis.
  - Vecuronium is appropriate for rapid intubation, but prolonged use should be avoided.
- One or two doses of a sedative agent will usually not be a problem.
- Modify dosing of narcotic analgesics according to the GFR. We usually use Percocet or Vicodin for PO pain medication

IV Access in Dialysis patient

- For nonfistula surgery, avoid BP's, IV's or blood draws from the fistula arm.
- The fistula or dialysis catheter may be used in an emergency, or as a last resort if no other access is possible with approval by the dialysis nurse or nephrologist.
- If the dialysis catheter is to be used, be SURE to remove 10 cc of blood and waste this first, to remove the heparin from the line before infusion. (each port may contain up to 5000 units!)