

Dialysis/Renal Failure

History

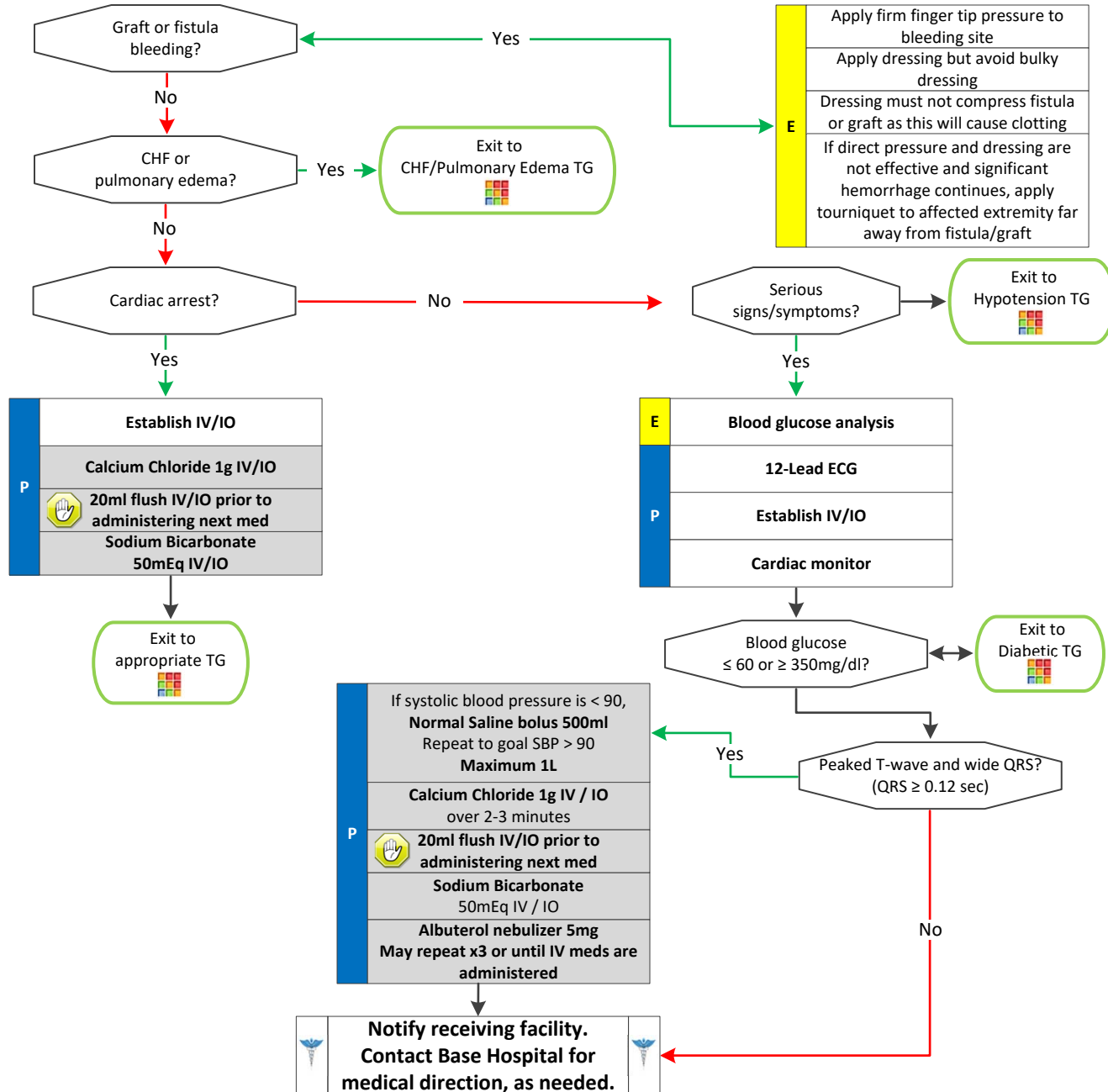
- Peritoneal or hemodialysis
- Anemia
- Catheter access noted
- Shunt access noted
- Hyperkalemia

Signs and Symptoms

- Hypotension
- Bleeding
- Fever
- Electrolyte imbalance
- Nausea or vomiting
- Altered mental status
- Seizure
- Cardiac arrhythmia

Differential

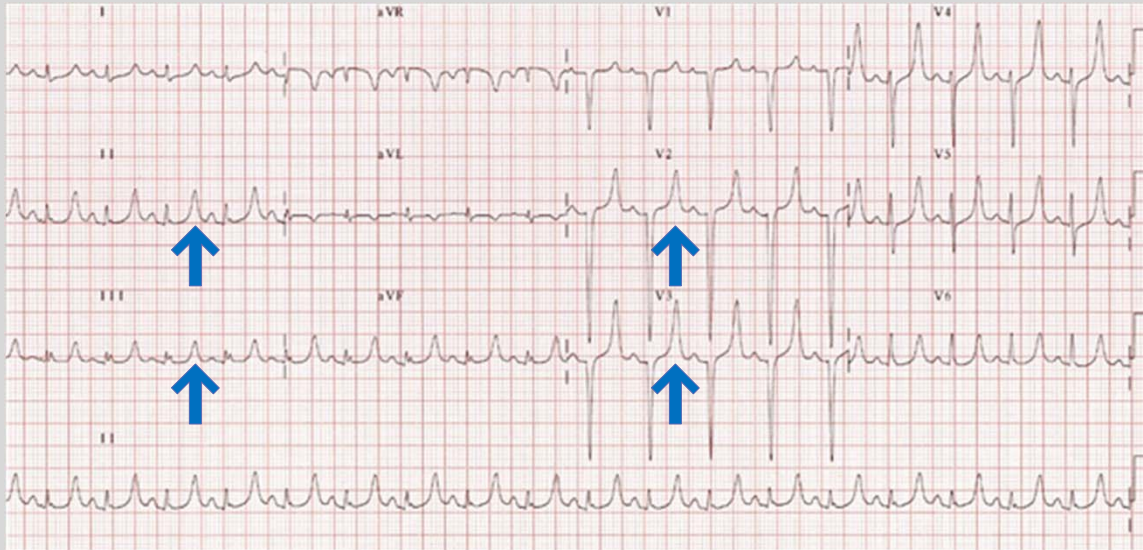
- Congestive heart failure
- Pericarditis
- Diabetic emergency
- Sepsis
- Cardiac tamponade



Adult Medical Treatment Guidelines



Dialysis/Renal Failure



Peaked T-waves are a sign of hyperkalemia. Increased extracellular potassium reduces myocardial excitability, which results in the depression of both pace making and conducting tissues. Progressively worsening hyperkalemia leads to suppression of impulse generation by the SA node and reduced conduction by the AV node and HIS-Purkinje system, resulting in bradycardia and conduction blocks that ultimately lead to cardiac arrest.

In order to treat hyperkalemia in the prehospital setting, the QRS must be ≥ 0.12 seconds. If the patient has not yet arrested, be prepared for the patient to do so. Early recognition and treatment is essential to helping reverse this critical condition.

Pearls

- Do not take blood pressure or start IV in extremity which has a fistula/graft in place.
- For dialysis patients whose peripheral access site (fistula/graft) has already been accessed, the existing IV line may be used by a paramedic for administration of fluids or medications.
- Paramedics may access a dialysis fistula/graft if the patient is in cardiac arrest and attempts at IV and IO access have failed.
- If local pressure does not control significant hemorrhage from dialysis fistula or graft, utilize a tourniquet to stop bleeding. Apply the tourniquet as far away from the fistula/graft as possible.
- Always consider hyperkalemia in all dialysis or renal failure patients.
- Sodium Bicarbonate and Calcium Chloride should not be mixed. Ideally, administer in separate lines.
- Renal failure and dialysis patients generally have numerous medical problems. Hypertension and cardiac disease are prevalent.

