



Acute Kidney Injury Clinical Pathway

Provisional diagnosis	Previous lab investigations if any:

CO-MORBIDS	<input type="checkbox"/> Hypertension	<input type="checkbox"/> COPD	<input type="checkbox"/> Immunocompromised	<input type="checkbox"/> Post-Transplant
	<input type="checkbox"/> Type 2 Diabetes Mellitus	<input type="checkbox"/> CLD	<input type="checkbox"/> Malignancy / Chemo Tx	<input type="checkbox"/> Alcoholic
	<input type="checkbox"/> CAD	<input type="checkbox"/> CKD	<input type="checkbox"/> Steroids / Immuno suppressant Drugs	<input type="checkbox"/> Smoker

Recognize

- Increase in Serum Creatinine by > 0.3mg/dl within 48 hours
- Increase in Creatinine by 1.5 times the baseline within 7 days, Baseline Creatinine: _____
- Urine output <0.5ml/kg/hour for 6 hours (KDIGO - Appendix 1)

If patient presents with Serum creatinine > 1.3 mg/dl and previous reports are unavailable:

- USG abdomen for Renal parenchymal changes:
 - Normal in size and echotexture
 - Grade 1 RPC
 - Grade 2 RPC
 - Grade 3 RPC

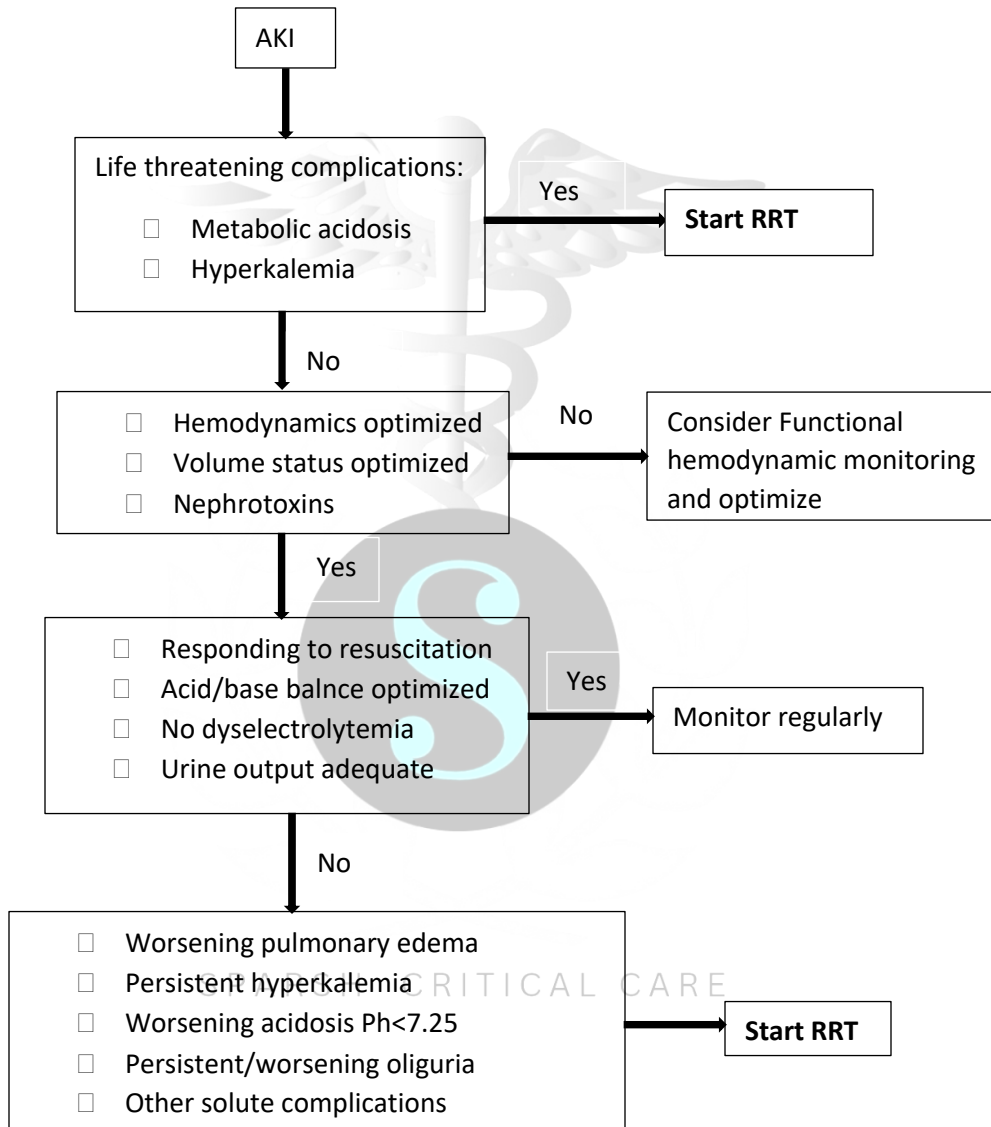
Cause:

- Hypotension
 - o Cause: _____
 - o Vasopressors: _____
- Hemorrhage
 - o Source: _____
 - o Blood and product transfusions: _____
- Hypovolemia
 - o IVF: _____ Bolus: _____ Maintenance _____
- Sepsis
 - o Source: _____
 - o Antibiotics: _____
- Nephrotoxic drugs
 - o Drug responsible: _____

- Contrast Associated - AKI (CA-AKI)
 - IV fluids: _____
(O NS O NaHCO₃ – Appendix 1 for dose and duration) Appendix 2

- Hepatorenal
 - Albumin
 - Terlipressin

Multifactorial: _____



Management:

- Cause managed as per previous section
- All drug doses adjusted as per EGFR

Renal Replacement Therapy:

- Urine output $<0.5\text{ml/kg/hr}$ for >6 hrs
- Metabolic acidosis in ABG despite of medical management.
- Hyperkalemia $K > 6\text{Meq/L}$ despite anti hyperkalemic measures,

If any 1 present, consider Renal replacement Therapy

Hemodynamically stable:

- Yes IHD/SLED
- No SLED/ CRRT (Refer to CRRT pathway)

Dialysis catheter location in the order of preference:

- RIJV If not cannulated, reason:
- Femoral (Rt. or Lt.) If not cannulated, reason:
- LIJV If not cannulated, reason:
- Subclavian
- Other location, please mention:

Efficacy:

Dialysis adequate?

- Duration of dialysis in hours _____
- Metabolic acidosis corrected
- Potassium levels < 5.5
- Calculate Kt/V if possible: _____ (target >1.2)
- If CRRT, Effluent $20\text{-}25\text{ml/kg/hour}$

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Anticoagulation:

Coagulopathy

- Yes:
 - IHD/SLED: Nil
 - CRRT: Regional Citrate anticoagulation
- No:
 - IHD/SLED: Unfractionated Heparin
 - CRRT: Regional Citrate Anticoagulation

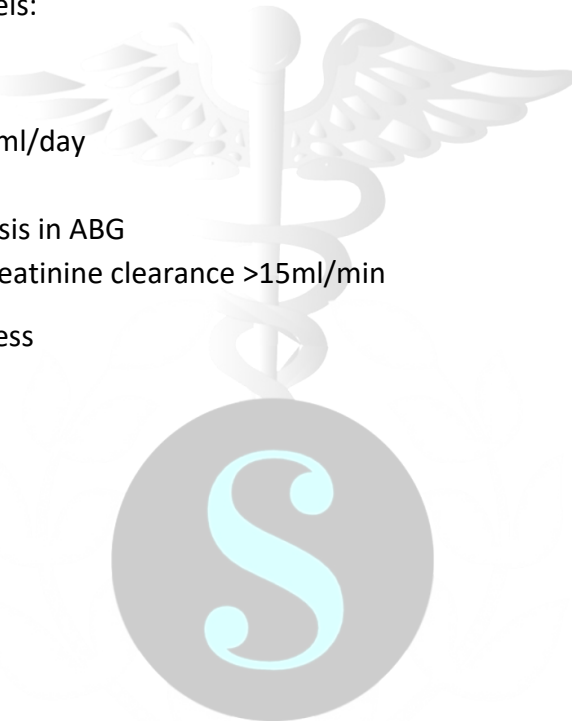
If Citrate anticoagulation: (Refer to CRRT pathway)

- Ionized calcium levels:

Assessment:

- Urine output > 400ml/day
- Electrolytes normal
- No metabolic acidosis in ABG
- If possible, Urine creatinine clearance >15ml/min

Can wait on RRT and reassess



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ICU Days	EVENTS / SUPPORTS				
1	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
2	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
3	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
4	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
5	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
6	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
7	<input type="checkbox"/> MV	<input type="checkbox"/> RRT	<input type="checkbox"/> Vasopressors	<input type="checkbox"/> Organ dysfunction	<input type="checkbox"/> Others
>7 days Course of illness					

Outcome

- I. APACHE II/IV Score: _____ 2. SOFA Score at the time of admission: _____ , 48hr: _____ at the time of transfer out / LAMA / Discharge: _____ 3. Length of ICU Stay: _____ 4.Length of Hospital stay: _____
- II. Organ Failure : AKI Liver failure Coagulopathy Encephalopathy
Myocardial Dysfunction CIPNM MV dependent
- III. Renal replacement therapy _____ day from CRRT / SLED
- IV. MV _____ duration Proning ECMO Tracheostomy
- V. Outcome: Death Survived (Discharged from ICU / Transfer out to stepdown / HDU/ Room) LAMA

Ambulated Bed ridden (with support / without support)

Doctor Name: _____, Sign: _____

Appendix 1:

Definition and staging of AKI

AKI is defined as any of the following (Not Graded):

- Increase in SCr by X0.3 mg/dl (X26.5 μ mol/l) within 48 hours; or
- Increase in SCr to X1.5 times baseline, which is known or presumed to have occurred within the prior 7 days; or
- Urine volume \leq 0.5 ml/kg/h for 6 hours.

Staging of AKI

Stage	Serum creatinine	Urine output
1	1.5–1.9 times baseline OR \geq 0.3 mg/dl (\geq 26.5 μ mol/l) increase	<0.5 ml/kg/h for 6–12 hours
2	2.0–2.9 times baseline	<0.5 ml/kg/h for \geq 12 hours
3	3.0 times baseline OR Increase in serum creatinine to \geq 4.0 mg/dl (\geq 353.6 μ mol/l) OR Initiation of renal replacement therapy OR, In patients < 18 years, decrease in eGFR to < 35 ml/min per 1.73 m ²	<0.3 ml/kg/h for \geq 24 hours OR Anuria for \geq 12 hours

Appendix 2

At-risk patients for CAN:

- All patients with estimated glomerular filtration rate (eGFR) <60 mL/min/1.73 m² who have significant proteinuria (defined as albuminuria >300 mg/day, which corresponds to proteinuria > 500 mg/day).
- All patients with eGFR <60 mL/min/1.73 m² and comorbidities including diabetes, heart failure, liver failure, or multiple myeloma.
- All patients with eGFR <45 mL/min/1.73/m² even in the absence of proteinuria or any other comorbidities.
- Patients who have eGFR <45 mL/min/1.73 m² and have proteinuria and diabetes or other comorbidities and all patients with eGFR <30 mL/min/1.73 m² should be considered at highest risk.

Fluid administration — For all at-risk patients undergoing procedures involving intra-arterial contrast administration, if there are no contraindications to volume expansion, we administer intravenous isotonic [saline](#) prior to and continued for several hours after contrast administration.

Preferred Protocol:

Outpatients — We give 3 mL/kg over one hour pre procedure and 1 to 1.5 ml/kg/hour during and for 4- 6 hours post procedure(6ml/kg post procedure)

Inpatients: We give 1 mL/kg/hour for 6-12 hours pre procedure, during and for 6-12 hours post procedure.

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