

Acute Kidney Injury & Acute Kidney Disease

Definitions and staging, risk prediction, fluid/hemodynamic management, nephrotoxin and contrast stewardship, renal replacement therapy, and post-AKI follow-up.

Acute Kidney Injury (AKI) and Acute Kidney Disease (AKD). Public Review Draft, March 2026

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FORMAT Condensed from recommendations + practice points across Chapters 1–6. Content reflects a public review draft and may change before final publication.

1 Definitions & Staging

	GUIDANCE
AKI	SCr ↑≥0.3 mg/dl in 48h, OR ≥1.5× baseline in 7d, OR cystatin C ↑≥1.5× in 7d, OR UOP <0.5 ml/kg/h ≥6h, OR damage biomarker rise in 7d
AKD	AKI, OR GFR fall <60, OR GFR fall ≥35 ml/min/1.73m² from baseline, OR SCr rise >50%, OR damage marker — duration ≤3mo
Staging	Combine SCr (C0–C3), urine output (U0–U3), and biomarker (B0/B1) components per severity table
Transient vs persistent	≤48h change = transient; >48h to 7d = persistent
Resolution	Complete: SCr/cystatin C <1.2× baseline (AKI: 7d; AKD: eGFR >80% baseline, 3mo). Partial: 1.2–1.5× baseline or eGFR 66–80%

2 Risk Prediction & Diagnostic Evaluation

	GUIDANCE
Cystatin C	Suggested when SCr is less accurate (2B)
Risk models	Use externally validated models to identify at-risk patients (2C) and predict RRT need for shared decision-making (1C)
EHR alerts	Against isolated creatinine-based alerts without a systematic response strategy (1B)
FST / KeGFR	Furosemide stress test to assess Stage-3 progression risk in euvolemic/hypervolemic Stage 1–2 AKI (adults 2C, children 2B); kinetic eGFR when non-steady-state estimate affects decisions (2B)
Biomarkers	Tubular stress/damage biomarkers for early identification of moderate-severe AKI risk (2B/2C); UACR adds prognostic value to eGFR
Urine microscopy / biopsy	Suggested when etiology unclear (2D) — muddy brown casts suggest ATI. Biopsy for unexplained AKI when findings will change management

3 Fluid & Hemodynamic Management

	GUIDANCE
Fluid choice	Crystalloids over colloids (1B); buffered crystalloids over 0.9% saline unless traumatic brain injury (1B)
Severe acidemia	pH <7.20: IV bicarbonate preferred over RRT unless another urgent RRT indication (2C)
Major abdominal surgery	Liberal IV fluid strategy (+1–2 kg at 24h) over restrictive/net-zero strategy (1B)
MAP target	>65 mm Hg to guide fluid/vasopressor therapy in critically ill adults at risk of/with AKI (2C)
Vasopressors	Against low-dose dopamine for kidney protection (1A); multicomponent kidney-protection bundle for high-risk surgical adults (1B)

4 Diuretics, Nutrition & Special Scenarios

	GUIDANCE
Diuretics	For clinically significant volume overload (2B); preferred over extracorporeal fluid removal absent another RRT indication (1C)
Glucose / nutrition	Target 140–180 mg/dl; enteral route preferred; avoid protein restriction and excess protein; caloric targets unchanged unless on RRT
Hepatorenal syndrome	Vasoconstrictor therapy recommended (1C) — terlipressin or norepinephrine preferred; midodrine + octreotide if unavailable
Tumor lysis syndrome	Volume expansion without alkalization; rasburicase over allopurinol/febuxostat unless G6PD deficiency (1B)
Cardiac surgery prevention	Prophylactic IV amino acids (2A); remote ischemic preconditioning without propofol (adults 2B, children 2D)

5 Nephrotoxin & Contrast Stewardship

	GUIDANCE
Drug stewardship	Multimodal approach (1C) — discontinue/substitute/dose-reduce nephrotoxins, therapeutic drug monitoring, interaction surveillance
Dosing in AKI	Don't base on steady-state GFR equations during evolving AKI/AKD — use SCr/UOP trends or KeGFR
Contrast prevention	Iso-/low-osmolar media at lowest diagnostic dose; periprocedural 0.9% saline (not bicarbonate/hypotonic/no fluid) for high-risk adults without overload (1B)
Peri-contrast/surgery	Don't routinely hold RASi before contrast (2C) or elective cardiac (2D)/non-cardiac (2B) surgery. Metformin: continue if eGFR >30 and no AKI; hold if AKI or eGFR ≤30, restart after 48h if stable
Sick-day rules	Temporarily stop drug classes predisposing to volume depletion during acute illness (2D); document a clear restart plan

6 RRT — Timing, Modality & Dose

	GUIDANCE
Timing	Deferred RRT initiation preferred over early/pre-emptive (1C); initiate for refractory fluid/electrolyte/acid-base/uremic complications per goals of care
Modality	CRRT or acute PD over conventional IRRT for hemodynamically unstable critically ill adults (2C); CRRT preferred with raised ICP/cerebral edema; PIRRT an acceptable alternative
Dose-intensity	Effluent 20–25 ml/kg/h (CRRT) or Kt/V 3.9/wk (IRRT/PIRRT) (1B); avoid high-volume hemofiltration in sepsis (1B); acute PD weekly Kt/V 2.2
Anticoagulation	Regional citrate preferred over heparin for CRRT (1B); argatroban, danaparoid, or bivalirudin for HIT requiring systemic anticoagulation

7 RRT — Access, Circuit & Discontinuation

	GUIDANCE
Catheters	Consider cuffed tunneled catheter if prolonged RRT anticipated or dialysis-dependent at discharge; avoid routine/scheduled catheter exchange; avoid AV fistula/graft use for CRRT
Hemofilters	Biocompatible membranes for CRRT/IHD; CVVHD/CVVHDF preferred over CVVH to preserve filter lifespan
Dialysate buffer	Bicarbonate preferred over lactate in shock, liver failure, or lactic acidemia
Discontinuation	Stop when AKI resolved or no longer aligned with goals of care. Predictors of success: UOP >450 ml/24h (no diuretics) or >2300 ml/24h (with diuretics) + 2h creatinine clearance ≥23 ml/min

8 Follow-Up Care After AKI/AKD

	GUIDANCE
Coordination	Personalized, coordinated follow-up for all patients (1B); discharge summary with episode details, resolution status, medication changes, follow-up plan
Post-discharge assessment	BP/volume status, medication reconciliation, kidney function + albuminuria; risk-stratify with a validated tool to identify candidates for nephrology referral (2D)
Medications	Start/resume RASi unless contraindicated by 3mo (adults 1B, children 1D); reassess SGLT2i/GLP-1 RA/MRA indications at discharge and 3mo
CKD evaluation	Reassess kidney function and albuminuria at 3mo to evaluate resolution vs new/worsening CKD
Children	Assess functional status/growth at discharge and follow-up; resume RASi with AKI/AKD resolution unless contraindicated