

# POST-DISCHARGE CARE FOR ADULTS FOLLOWING ACUTE KIDNEY INJURY

Acute kidney injury (AKI) is common, harmful and costly

Placing an AKI diagnosis in clinical context is important to improve outcomes

‘Appropriate systems and safety net arrangements should be in place in primary and secondary care’

 [NHS England Discharge Standards provide a framework to deliver high quality post-AKI care](#)

## TOP TEN TIPS

<div><div>1</div><div>Place AKI in clinical and social context</div></div> <p>Before and after discharge, involve all patients (and where appropriate their families, carers, care coordinators and key-workers) in planning follow-up care.</p> <p>Key elements of post-AKI care include:</p> <ul style="list-style-type: none"><li>• Timely clinical review of reason(s) for admission</li><li>• Identify and address social needs</li><li>• Understand AKI and the relevance of kidney health</li><li>• Ensure timely drugs review and kidney monitoring</li><li>• Support during future episodes of acute illness</li></ul> <div><div>See discharge standard 1 and download information resources</div></div>	<div><div>2</div><div>Tailored and timely review</div></div> <p>Coordinate follow-up for all people following AKI, with prompt and personalised care for individuals with:</p> <ul style="list-style-type: none"><li>• Heart failure: see Box 7</li><li>• Chronic kidney disease (CKD)</li><li>• Diabetes, hypertension or established cardiovascular disease</li><li>• Other frailty or vulnerability risks</li></ul> <p>NB. Arrange follow-up appointments prior to discharge if clinical concerns or risk of delays.</p> <div><div>See discharge standard 2 Download Post-AKI Guidance</div></div>	<div><div>3</div><div>Accurate discharge hand over</div></div> <p>Hospital clinical teams should have a process in place to confirm or refute the AKI diagnosis prior to discharge. To support continuity and determine urgency of follow-up, key information to communicate to GPs include:</p> <ul style="list-style-type: none"><li>• AKI stage and reason(s)</li><li>• Degree of kidney recovery</li><li>• Baseline and discharge serum creatinine (SCr)</li><li>• Is SCr stable or improving?</li><li>• Reasons for medication changes</li><li>• Evidence of communication with patients/ carers</li></ul> <div><div>See discharge standards 3 to 5 and download discharge standards</div></div>
<div><div>4</div><div>AKI coding in general practice</div></div> <p>Accurately code AKI to reduce future AKI risk by highlighting:</p> <ul style="list-style-type: none"><li>• Patients who need early post-AKI review</li><li>• High risk patients that require early review when unwell</li></ul> <p>Read codes for AKI 1, 2 and 3 respectively are: <b>k04c, k04d, and k04e</b></p> <p>SNOMED CT codes for AKI are: <b>AKI Stage 1: SCTID: 85193100000010</b> <b>AKI Stage 2: SCTID: 851941000000103</b> <b>AKI Stage 3: SCTID: 851951000000100</b></p> <div><div>See discharge standard 6 and download information resources Click here for more information on SNOMED CT</div></div>	<div><div>5</div><div>Optimise drugs management</div></div> <p>Why were drugs stopped / altered?</p> <ul style="list-style-type: none"><li>• Reduced clearance during AKI (e.g. metformin): restart if eGFR back to baseline</li><li>• Risk of hypoglycaemia – accumulation of hypoglycaemic agents (e.g. sulphonylureas) - consider monitor blood glucose levels and adjust dose as necessary</li><li>• Evidence of nephrotoxicity (e.g. interstitial nephritis): do not restart, code</li><li>• Vasoactive drugs: see Box 6</li><li>• NSAIDs: restart only if benefits outweigh risks and no alternative</li></ul> <div><div>Download guidelines for medicines optimisation</div></div>	
<div><div>6</div><div>AKI and drugs affecting renin-angiotension-aldosterone system (RAAS)</div></div> <p>Review original indication for the drug.</p> <p>Identify patients with clinical indication for restarting inhibitors ACE-I/ ARB (unless there is a new contraindication):</p> <div><div><ul style="list-style-type: none"><li>• Heart failure with reduced ejection fraction</li><li>• History of myocardial infarction</li><li>• Diabetes with albumin:creatinine ratio &gt; 3 mg/ mmol</li></ul></div><div><ul style="list-style-type: none"><li>• Hypertension with albumin:creatinine ratio &gt;30 mg/ mmol</li><li>• Albumin:creatinine ratio &gt; 70 mg/ mmol irrespective of hypertension or cardiovascular disease</li></ul></div></div> <div><div>Download guidance on when to restart drugs stopped during AKI</div><div>Download guidance on changes in kidney function and serum potassium during treatment</div></div>		
<div><div>7</div><div>Heart failure with AKI</div></div> <p>Ensure early post-discharge clinical review:</p> <ul style="list-style-type: none"><li>• AKI with heart failure is associated with high rates of unplanned readmission</li><li>• Clinical assessment is key. If oedema is due to heart failure, diuretic treatment to correct congestion is justified even if it causes a rise in serum creatinine</li><li>• Reduce diuretics if there are clinical signs of hypovolaemia</li><li>• Before discharge, where available, inform the heart failure team. This is of particular importance for those heart failure patients where medication that improves prognosis (ACEI, ARB, MRA) has been stopped or dose reduced.</li></ul> <div><div>Download heart failure guidance</div></div> <div><div>AKI, heart failure and end of life care</div><ul style="list-style-type: none"><li>• When a patient with heart failure is approaching end of life, symptom control overrides treatment with potential prognostic impact</li><li>• Deteriorating renal function is common</li><li>• Diuretics should be titrated to prevent distress from fluid overload, irrespective of renal function</li></ul></div>		
<div><div>8</div><div>Coordinate monitoring of kidney function</div></div> <p>Patients who have had AKI are at risk of recurrent AKI and of progressive CKD.</p> <p>Patients at greatest risk are those with:</p> <ul style="list-style-type: none"><li>• More severe and prolonged AKI (e.g. Stage 3; SCr not back to baseline)</li><li>• Intrinsic kidney disease or post-obstructive kidney disease</li><li>• Those with other risk factors for CKD, e.g. diabetes, hypertension, vascular disease</li></ul> <p>Patients require tailored and timely follow-up of their kidney function including:</p> <ul style="list-style-type: none"><li>• Repeat blood (electrolytes, SCr and eGFR) and urine tests (ACR)</li><li>• Align kidney monitoring with existing long-term condition reviews</li><li>• Consider liaising with nephrology if persistent poor kidney recovery and/or eGFR &lt;30 mL/ min /1.73m<sup>2</sup></li></ul> <div><div>See discharge standard 7 and download NICE guidance on referral criteria</div></div>	<div><div>9</div><div>Urine ACR at three months</div></div> <p>Residual CKD following AKI represents a significant adverse outcome and is a risk factor for cardiovascular events, end-stage kidney disease and future AKI:</p> <ul style="list-style-type: none"><li>• Consider Urine ACR in patients at 3 months post AKI</li><li>• If albuminuria is present, development and /or progression of CKD should be monitored, coded and communicated</li></ul> <div><div>Download NICE CKD guidelines</div></div>	<div><div>10</div><div>AKI and quality improvement</div></div> <p>The RCGP case note review templates provide a structured approach to drive quality improvement in:</p> <ul style="list-style-type: none"><li>• Medication safety</li><li>• Safer transitions of care</li><li>• Safety for vulnerable patients</li></ul> <p>Consider share learning within Primary Care Networks/ GP Clusters and establish safety net arrangements across primary and secondary care.</p> <div><div>See discharge standards 7 and 8 and download AKI case note review templates</div></div>
<div><div><div></div><div><div>RCGP AKI TOOLKIT</div><div>Evidence, references and resources</div><div>www.rcgp.org.uk/aki</div></div></div></div>		