

KDIGO STAGING SYSTEM FOR AKI

Acute kidney injury (AKI) has now replaced the term acute renal failure. Clinically, AKI is characterised by a rapid reduction in kidney function resulting in a failure to maintain fluid, electrolyte and acid-base homeostasis. There have previously been many different definitions of AKI used in the literature which has made it difficult to determine the epidemiology and outcomes of AKI. The international guideline group, Kidney Disease: Improving Global Outcomes (KDIGO) has brought together international experts from many different specialties to produce a universal definition and staging system that harmonises the previous definitions and staging systems proposed by both ADQI and AKIN5. This will allow earlier detection and management of AKI.

This guideline is mainly of importance to secondary care.

AKI is defined when one of the following criteria is met

- Serum creatinine rises by $\geq 26 \mu\text{mol/L}$ within 48 hours **or**
- Serum creatinine rises ≥ 1.5 fold from the reference value, which is known or presumed to have occurred within one week **or**
- Urine output is $< 0.5 \text{ml/kg/hr}$ for >6 consecutive hours

Once a diagnosis of AKI has been established its severity can be determined using the KDIGO staging system.

KDIGO staging system for AKI:

Stage	Serum creatinine concentration*	Urine Output Criteria
1	increase $\geq 26 \mu\text{mol/L}$ within 48hrs or increase 1.5 to 1.9 x reference creatinine	$<0.5 \text{ mL/kg/hr}$ for > 6 consecutive hrs
2	increase 2 to 2.9 x reference creatinine	$<0.5 \text{ mL/kg/ hr}$ for > 12 hrs
3	increase $\geq 3 \text{ X}$ reference creatinine or increase $354 \mu\text{mol/L}$ or commenced on renal replacement therapy (RRT) irrespective of stage	$<0.3 \text{ mL/kg/ hr}$ for > 24 hrs or anuria for 12 hrs

The reference serum creatinine is the lowest value recorded within 90 days.
If a reference serum creatinine value is not available within 3 months and AKI is suspected repeat serum creatinine within 24 hours

References and further information:

1. Clinical Practice Guidelines: "Acute Kidney Injury". UK Renal Association, 5th Edition, 2011 Final Version 08.03.11