

Ambulance clinicians Acute Kidney Injury Information

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Disclaimer

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1. Purpose

This document has been created for ambulance staff to help you understand what acute kidney injury is.

Think Kidneys' vision is a future in which health and care professionals think about kidney status in the same way that they do now about blood pressure and heart rates.

2. What is acute kidney injury?

'Acute' is a term used to describe something that has occurred over hours or days. 'Kidney injury' describes evidence of damage to the kidneys usually with a change in the kidney function.

The best way to assess kidney function in the short term is to measure a waste product in the blood called creatinine and also to assess urine output.

AKI is common, serious and harmful.

We know quite a lot about AKI and about the havoc it wreaks on lives and the damage it does:

- In the UK, up to 100,000 deaths a year are associated with AKI
- up to a third of those deaths could be avoided
- 1 in 5 people admitted to hospital as an emergency has AKI
- over 60% of AKI starts in the community
- the additional cost of AKI to the NHS is estimated at £500m each year

The NHS is the first health system in the world to tackle AKI. It is recognised as a patient safety priority by NHS England. The Think Kidneys programme aim is to raise awareness of AKI among health and care professionals so that care for people with AKI is transformed and rates of AKI are reduced.

Cause and Risk

The causes of AKI are many and varied and occur most often in people living with long term conditions, although it can affect anyone. It can occur as a result of an infection causing stress on the kidneys, dehydration reducing the flow of blood to the kidneys or the altered effect of medication caused by illness, surgical or radiological procedures.

The most common underlying risk factors for AKI include:

- pre-existing chronic kidney disease
- age – people aged 75 years or over
- heart failure
- vascular disease
- diabetes
- liver disease

AKI may then be triggered by:

- infection (sepsis)
- dehydration, bleeding (hypovolaemia)
- low blood pressure (hypotension) – for example after a serious heart attack
- certain medications or drugs – this includes prescribed and over the counter medicines

AKI is a challenge for us all. It is a cause of harm and death, yet in many instances we can stop it happening or improve outcomes by detecting it early.

3. Communities at risk of AKI

Older patients with chronic (long-term) medical conditions e.g. chronic kidney disease, diabetes mellitus, heart failure, cancer, and medications are at increased risk of AKI if they become acutely ill (NICE, 2013). It is estimated that one in five emergency admissions into hospital are associated with AKI (Wang et al, 2012). Up to 100,000 deaths in hospitals are associated with AKI and a quarter to a third could potentially be prevented as reported by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD, 2009) Adding Insult to Injury 2009 – see link. The financial burden of AKI upon the NHS is significant with estimates indicating the cost is £1.02 billion in England for the acute care and £179 million following the episode related to an increase in patients with CKD and end stage kidney disease (Kerr et al, 2014).

Full details of identifying communities at risk of AKI can be found in the Think Kidneys publication: “Communities at risk of developing acute kidney injury”, and can be found here:

<https://www.thinkkidneys.nhs.uk/aki/wp-content/uploads/sites/2/2015/07/Communities-at-risk-v16.pdf>

4. Additional reading and activities

Listed below are some extra reading and activities which you may be interest in to develop your knowledge of AKI:

- Acute Kidney Injury in Primary Care Video - this short film: <https://www.thinkkidneys.nhs.uk/aki/videos/acute-kidney-injury-in-primary-care/> has been made by the Think Kidneys team to be shown in GP surgeries. After watching it you should have a better understanding of AKI.
- NICE have an AKI learning module for health and care professionals. This learning programme will give you more information, and you will be able to contribute to the assessment of patients at risk of AKI by undertaking and recording urinalysis via dipstick, vital signs and physical observations. You can access the module here: <http://elearning.nice.org.uk/enrol/index.php?id=5>

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