J.1 Recommendation for research

What validated risk assessment tools could be used to predict the occurrence of contrast associated acute kidney injury following the administration of intravenous iodine-based contrast media?

J.1.1 Why this is important

An accurate risk assessment tool may assist clinicians in balancing the diagnostic benefit of contrast media CT-scans against the potential risks of contrast associated acute kidney injury. Currently avoidance in the use of iodine-based contrast media in people perceived to be at higher risk can lead to poorer outcomes resulting from unnecessary delay or cancellation of scans when the risk of post-contrast acute kidney injury is low for most people.

J.1.2 Rationale for the recommendation for research

Importance to 'patients' or the population	Intravenous iodine-based contrast media (ICM) is often required for clinically vital tests and treatments for serious diseases, many of which convey substantial proven benefit for patients. Delayed intravenous ICM use or avoidance risks serious adverse outcomes, especially when test or treatment benefits are time sensitive. Currently, people are often denied timely access to ICM based contrast enhanced CT-scans when their additional risk of developing acute kidney injury (AKI) as a result of intravenous modern ICM use is relatively low.
Relevance to NICE guidance	Risk assessment tools and questionnaires have been considered in this guideline and no evidence was identified that examined risk assessment tools to predict risk of acute kidney injury in the context of intravenous contrast administration.
Relevance to the NHS	There is variation in current practice in when and in whom eGFR measurement is carried out before doing a contrast -enhanced CT scan, and in the interpretation of who is at higher risk of an acute kidney injury. Further research may provide greater clarity on the level of the risk and a reliable tool for identifying risk factors.
National priorities	High
Current evidence base	Minimal large-scale data within an older population reflective of those seen in current practice.
Equality considerations	None known

J.1.3 Modified PICO table

Population	Adults receiving intravenous administration of ICM for contrast-enhanced CT scans.
Risk assessment tools	Validated risk assessment tools
Outcomes	• Contrast-associated acute kidney injury (definition to be determined by author (KDIGO, RIFLE, AKIN definition) • Dialysis • Mortality due to acute kidney injury
Study design	Prospective cohort studies
Timeframe	Contrast-associated acute kidney injury (within 7 days of intravenous ICM for a contrast-enhanced CT scan).