

Title	Iodine based IV contrast guideline
Section on CEM site	Radiology
Date Published	17 th January 2022
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Does the patient have kidney problems, a kidney transplant, diabetes, or take Metformin?

YES
Check eGFR (preferably within 3 months)

NO

eGFR < 30 No eGFR eGFR ≥ 30 Proceed with examination

1. Discuss with ED senior – is this examination really necessary?
Proceed despite eGFR < 30 if urgent indication
2. Consider giving IV 0.9% Saline, 250 ml over 1 hour before, and 500 ml over 4 – 6 hours after, if not already receiving IV fluids as part of current ED management.
3. Avoid other nephrotoxic drugs in ED
4. Advise omit Metformin for up to 48 hours after

**Emergencies:
Proceed without eGFR if
urgent indication**



RCEM
Royal College
of Emergency
Medicine



Joint Advisory Statement between Royal College of Radiologists & Royal College Emergency Medicine regarding Emergency Computed Tomography scans and the use of Intravenous Iodinated Contrast Agents

31/05/2023

This position statement concerns the use of intravenous iodinated contrast agents in computed tomography (CT) scans for patients undergoing emergency imaging in relation to concerns regarding Contrast Induced Acute Kidney Injury (CI-AKI).

There is now a significant body of evidence supporting the use of iodinated contrast agent for CT scans in the emergency setting even if baseline renal function is abnormal or the patient is taking metformin. The evidence for the routine use of fluid therapy prior to intravenous contrast in the emergency setting is weak.

In the emergency setting the balance of risk of CI-AKI is highly likely to be offset by the risk of delay in diagnosis (delayed scan waiting for blood results) and in some cases (especially the elderly and those with known heart failure) the requirement for pre-hydration.

The definition of 'emergency' is often situation specific as well as specialty specific. In this statement we are using emergency to highlight those patients who potentially have a condition which could be considered a risk to 'life or limb' or in whom a delay in diagnosis will delay the commencement of immediate definitive therapy with potentially adverse consequences. The requesting clinician has the responsibility for deciding whether the request constitutes an emergency or not and emergency departments should have systems in place to ensure senior clinical decision makers have been involved in the decision to request computed tomography (CT) scans involving the use of intravenous iodinated contrast agent.

Emergency departments are strongly encouraged to use the iRefer guidelines when deciding which radiological investigations to request.

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Recommendations for Emergency scans

Patients requiring emergency iodinated intravenous contrast CT imaging should proceed to scanning without delay. Specifically:

- Measurement of renal function should **not** be considered a pre-requisite prior to scanning (the electronic requesting system should reflect this).
- Pre-existing renal disease, diabetes mellitus or medication such as metformin should **not** delay scanning (the electronic requesting system should reflect this).
- Age is not an independent risk factor for CI-AKI and should **not** delay scanning
- Intravenous fluid administration should **not** be considered a pre-requisite prior to scanning.

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References

The Royal Australian and New Zealand College of Radiologists. Iodinated Contrast Media Guideline. Sydney: RANZCR; 2018. <https://www.ranzcr.com/college/document-library/ranzcr-iodinated-contrast-guidelines> Accessed 20.03.2023

iRefer Guidelines: Making the best use of clinical radiology, version 8.0.1. Royal College of Radiologists. 2017. <https://www.irefer.org.uk/>

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