Guidelines for the Use of MRI contrast in renal cancer

North / North-East London Cancer Network

These guidelines are based on ESUR \(^1\) and RANZCR \(^2\) guidelines, following consultation with The Nephrology Unit at The Royal Free Hospital (many thanks to Dr. Robin Woolfson). Newer agents are believed to be more stable and less prone to cause NSF, but we have taken a slightly more cautious approach, especially in extremely low eGFR / haemodialysis / peritoneal dialysis.

Always use the lowest possible contrast dose and avoid high-risk agents if possible (even if not contraindicated).

**MRI requiring iv contrast**  
(eg for renal mass characterisation, in lieu of triple-phase renal CT)

**Unstable renal function?**

**YES**

**Consider Risks vs Benefits of Contrast**
- Consider other imaging modalities
- Consider postponing until renal function stabilised / improved
- Use low-risk agent, if contrast MRI required

**NO**

**Risk Factors for Chronic Kidney Disease (CKD)?**

1. Known renal disease / dialysis  
2. Family history of renal disease  
3. Age of 60 or over  
4. Diabetes mellitus  
5. Vascular disease (MI / stroke)  
6. Hypertension  
7. BMI of 30 or over  
8. Smoker

**YES**

**Formal measurement of creatinine / eGFR**

- eGFR > 60 : Proceed with MRI contrast  
- eGFR 30 – 60 : Try to avoid high-risk agents  
- eGFR 15-29 : High-risk agents contraindicated  
- eGFR < 15 : No contrast

Haemodialysis : No contrast  
Peritoneal dialysis : No contrast

**NO**

**Proceed with iv contrast**  
Use lowest dose and lowest risk agent

<table>
<thead>
<tr>
<th>Risk of NSF</th>
<th>Trade Name</th>
<th>Generic Name</th>
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<tbody>
<tr>
<td>High</td>
<td>Omniscan</td>
<td>gadodiamide</td>
</tr>
<tr>
<td></td>
<td>Magnevist</td>
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<tr>
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<td>Medium</td>
<td>Primovist</td>
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<tr>
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<td>Dotarem</td>
<td>gadoterate</td>
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**REFERENCES:**


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