Chandler Regional Medical Center and Mercy Gilbert Medical Center
Policy and Procedure

SUBJECT Nephrogenic Systemic Fibrosis **(RAD.030)**

APPLIES TO	☒	Chandler Regional Medical Center
	☒	Mercy Gilbert Medical Center

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PURPOSE
To minimize the risk of Nephrogenic Systemic Fibrosis (NSF), a disease associated with the administration of Gadolinium-Based Contrast Agents (GBCA) in patients with impaired renal function.

PROCEDURE
1. Inpatients and emergency department patients must have eGFR calculated no more than two days prior to GBCA administration. The ordering physician must assess for the possibility of acute kidney injury which may not get detected by eGFR alone. The technologist must assume any recent downward trend in renal function is a marker of acute kidney injury and contact the radiologist with any concerns.

2. Outpatients undergoing imaging of the abdomen must be screened for a history of dialysis.

3. If any of the above are positive, eGFR must be obtained using the CKD-EPI formula at these intervals:

Prior eGFR level (ml/min/1.73 m^2)	When was the last eGFR before MRI?	When should new eGFR be obtained prior to MRI?
None available	Not applicable	Within 6 weeks
> 60	> 6 months	Within 6 weeks
> 60	< 6 months (stable state*)	New eGFR not needed
> 60	< 6 months (possibly unstable state**)	Within 2 weeks
30–59	> 2 weeks	Within 2 weeks
< 30	> 1 week	Within 1 week
On dialysis	Not applicable	New eGFR not needed

* patient does not have a known condition that might result in acute deterioration of renal function

** patient has a known condition that might result in acute deterioration of renal function. Such conditions include severe dehydration, febrile illness, sepsis, heart failure, recent hospitalization, advanced liver disease, abdominal surgery

4. Patients will then be stratified as follows:

    a. Patients with acute kidney injury (AKI): It is recommended that any GBCA be avoided in this patient group. However, if GBCA enhanced MRI is deemed essential by the radiologist and ordering physician, the lowest possible dose needed to obtain a diagnostic study will be used, using an agent classified as Group II by the ACR Manual on Contrast Media. Such agents include gadoteridol (ProHance), gadoxetate disodium (Eovist), and gadopiclenol (Vueway).

b. Patients with end-stage renal disease on chronic dialysis: It is recommended that any GBCA be avoided in this patient group. However, if GBCA enhanced MRI is deemed essential by the radiologist and ordering physician, the lowest possible dose needed to obtain a diagnostic study will be used, using an agent classified as Group II by the ACR Manual on Contrast Media. Such agents include gadoteridol (ProHance), gadoxetate disodium (Eovist), and gadopiclenol (Vueway). Hemodialysis should immediately follow MRI. Peritoneal dialysis should not be considered protective.

c. Patients with CKD 4 or 5 (eGFR < 30 ml/min/1.73 m^2) not on chronic dialysis: It is recommended that any GBCA be avoided in this patient group. However, if GBCA enhanced MRI is deemed essential by the radiologist and ordering physician, the lowest possible dose needed to obtain a diagnostic study will be used, using an agent classified as Group II by the ACR Manual on Contrast Media. Such agents include gadoteridol (ProHance), gadoxetate disodium (Eovist), and gadopiclenol (Vueway).

d. Patients with CKD 3 or less (eGFR ≥ 30 ml/min/1.73 m^2): May proceed with an agent classified as Group II by the ACR Manual on Contrast Media. Such agents include gadoteridol (ProHance), gadoxetate disodium (Eovist), and gadopiclenol (Vueway).

APPROVALS
Radiology Department, September 11, 2024
Medical Executive Committee, October 10, 2024
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