

VALLEY DIAGNOSTIC
IMAGING SERVICES

Olympic Building

**MRI POLICY ON GADOLINIUM CONTRAST AGENTS
IN PATIENTS WITH RENAL FAILURE/DISEASE**

The American College of Radiology recently announced new guidelines to reduce the risk of the development of Nephrogenic Systemic Fibrosis/Nephrogenic Fibrosing Dermopathy (NSF/NFD) in patients who receive gadolinium-based contrast agents (GBCA).

Recent reports have demonstrated a correlation between the development of NSF/NFD in patients with renal disease and the administration of GBCA. NSF/NFD is a rare, but potentially fatal, disorder in which patients with renal disease develop severe contractures in the skin and fibrosis in other organs, including the heart, lungs, and muscles. Initial indications suggest that prolonged exposure to free gadolinium ion (i.e. unchelated) represents a risk factor. In an effort to decrease the risk of developing NSF/NFD, certain precautions should be taken.

- 1) The use of GBCA's should be **strongly discouraged** in the following populations:
 - a. Patients on **dialysis**.
 - b. Patients with a history of **stage 4 or 5 chronic kidney disease (<30mL/min/1.73 m²)**.
 - c. Patients with **acute kidney injury** or **acute renal failure**.
 - d. Patients in the **perioperative liver transplantation period**, or who develop **acute renal insufficiency of any severity due to hepato-renal syndrome**.

Alternatives to GBCA-enhanced imaging should be sought.

- 2) The following patient populations should be screened for renal disease by calculating a glomerular filtration rate (GFR) prior to GBCA administration:
 - a. Patients with a history of "renal disease" or "renal dysfunction". This includes patients with a solitary kidney, a history of renal transplant, or a history of renal tumor.
 - b. Age over 60 y.o.
 - c. History of hypertension.
 - d. History of diabetes mellitus.

For the above patients, a GFR from the 6 weeks prior to GBCA administration should be evaluated. A GFR should also be determined for patients with severe hepatic disease, a liver transplant, or have a pending liver transplant.

This policy is consistent with guidelines published by the ACR Blue Ribbon Panel on MR Safety in June, 2007, ACR Screening Recommendations on Gadolinium-Based MR Contrast Agents, Renal Disease Patients, and Nephrogenic Systemic Fibrosis (NSF) published in July, 2007, and the FDA Alert as updated on May 23, 2007. It is anticipated that this policy will be updated as new information on the association between NSF/NFD and GBCA's becomes available.