

# Preventing Gadolinium-Associated Nephrogenic Systemic Fibrosis

*At one U.S. institution, adherence to guidelines has virtually eliminated this condition.*

In 2007, shortly after an association between nephrogenic systemic fibrosis (NSF) and gadolinium-based contrast agents was recognized in patients with impaired renal function, the FDA issued recommendations on administration of these agents. In the current study, radiologists at Massachusetts General Hospital report the incidence of NSF before and after implementation of institutional guidelines.

Of the 113,000 contrast-enhanced magnetic resonance imaging (MRI) studies performed from 2002 through 2007, 1.1% were performed in patients with estimated glomerular filtration rates (eGFRs)  $<30$  mL/minute/1.73 m<sup>2</sup>. Between 2008 and 2010 — after guidelines were implemented — only 0.07% of 53,000 contrast-enhanced MRIs were performed in patients with eGFRs  $<30$  mL/minute/1.73 m<sup>2</sup>. Thirty-four cases of NSF were identified from 2002 through 2007; in contrast, no NSF cases were identified from 2008 through 2010. According to a previous publication from this group, most of the NSF patients from 2002–2007 had end-stage renal disease and were undergoing dialysis ([JW Gen Med Nov 17 2009](#)).

**Comment:** This report suggests that guideline implementation has virtually eliminated NSF at one institution. This hospital's protocol includes the following directives: measure serum creatinine in all patients older than 60 and in younger patients with risk factors for renal disease; whenever possible, use alternative forms of imaging in patients with renal impairment; limit doses of contrast material; and perform dialysis promptly after gadolinium administration in patients with end-stage renal disease.

— [Allan S. Brett, MD](#)

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