



Department of Radiology
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

Gadolinium Contrast Agents for Magnetic Resonance Imaging

What is a gadolinium contrast agent?

A gadolinium contrast agent is a clear liquid we inject into a vein during some MRI scans to improve the detection of certain diseases. Since 1988, gadolinium contrast agents have been used in hundreds of millions of patients worldwide. They provide an enormous benefit to patients by improving the diagnosis of a large number of diseases. In many circumstances, the use of gadolinium during an MRI scan may be the only way to diagnose a disease, and helps doctors to treat, monitor, and cure the disease.

Are gadolinium contrast agents safe?

Gadolinium contrast agents are extremely safe. However, some patients with an allergy to such agents should consult with their doctor before a gadolinium contrast agent is used. More recently, it has been shown that MRI can detect tiny amounts of the gadolinium in the brains of patients who have received many previous doses of gadolinium. The Food and Drug Administration has been investigating this effect since 2015. To date, no symptoms or diseases are linked to gadolinium deposition in the brain, despite hundreds of millions of doses administered since 1988. There continues to be research in this area to better understand this phenomenon and its possible consequences. However, to date, there are no known side effects related to this observation.

Is it in my best interest to receive an MRI with gadolinium contrast if recommended by my doctor?

Physicians and patients should always weigh the benefit of MRI examinations with gadolinium contrast agents against the uncertain consequences of a small amount of gadolinium depositing in the brain. Any patients with concern of receiving gadolinium contrast agent should freely discuss their concerns with their radiology doctor prior to their MRI exam.

For additional detailed information on this topic, please see the following statements from international experts:

1. [Position paper from the International Society for Magnetic Resonance in Medicine \(ISMRM\).](#)
2. [Joint statement from the American College of Radiology \(ACR\) and the American Society of Neuroradiology \(ASNR\); ACR Contrast Manual, v10.3, 2017, Chapter 13, p.78-79\).](#)
3. [Recent statement from the Food and Drug Administration \(FDA\) regarding gadolinium accumulation in the brain.](#)