

# How To QC MRI Safety Standards

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## MRI Safety:

At a minimum, we should be able to define MRI safety as the prevention of MRI-caused injury.

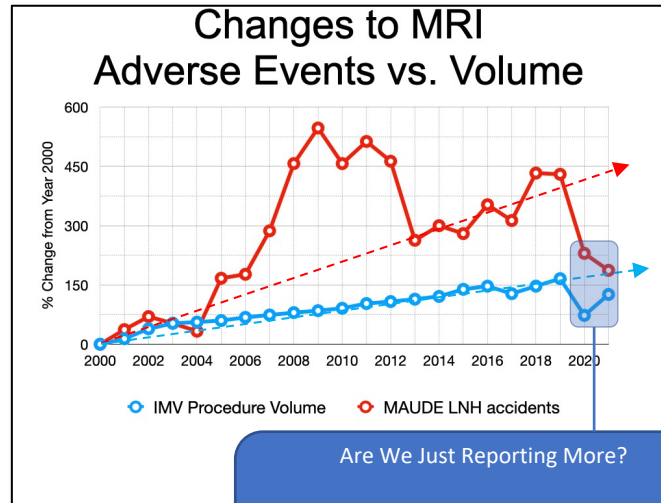
Accreditation programs that promise safety should – minimally – reduce the occurrence of MRI adverse events.

> 90% Of US MRI Providers are Accredited

All Accreditation Orgs Promise Safety

## Safety Trend:

Contrary to our minimum expectations of MRI safety accreditation, MRI accidents have been increasing at a linearly-regressed rate of approximately 2.9-times the increase in MRI patient volume.



Are We Just Reporting More?

If we were, then the COVID years would show a smaller drop / higher gains in adverse events than MRI volume. (It doesn't)

## Accreditation Criteria vs. MRI Safety Practices:

In the prior table, injury accident preventions have been identified from ACR MRI safety publications, and their ability to prevent injuries was quantified. Two different studies, each evaluating 2 years of US MRI injury accidents, found that three existing best-practices for each burns, projectiles, and hearing damage could have prevented approximately 80% of evaluated MRI injury accidents. Unfortunately, these very effective existing best practices aren't minimum accreditation requirements.

	Burns	Projectiles	Hearing	Total
TJC (H)	0/3 <sup>1</sup>	1/3 <sup>1</sup>	0/3 <sup>1</sup>	1/9
DNV (H)	0/3	0/3	0/3	0/9
ACR (OP)	0/3 <sup>2</sup>	0/3 <sup>2</sup>	0/3 <sup>2</sup>	0/9
IAC (OP)	0/3	0/3	0/3	0/9

1. Requires training, but does not require practice.
2. Requires policy, but does not require practice.

Of the major accrediting organizations (both H and OP), virtually none of the specific injury-preventing best practices are minimum accreditation requirements.

## Conclusion:

MRI safety accreditation standards should – at a minimum – be measured against their broad ability to reduce MRI accident rates, and specifically interrupt MRI injury accident causes.

Contemporary minimum MRI safety standards fare poorly when so measured.



for sources, citations, and extended narrative.

## Accreditation and MRI Safety:

All accreditation orgs, both hospital (H) and outpatient (OP), indicate that their accreditation is a promise of quality and safety, but how strong is that promise when it comes to MRI Safety?

The ACR gold seal of accreditation represents the highest level of image quality and patient safety. It is awarded only to facilities meeting ACR Practice Guidelines and Technical Standards after a post-review examination by board-certified physicians and...

Even though MRI image quality standards are typically very specific and prescriptive, MRI safety accreditation criteria are often considerably less specific and – as a result – less enforceable than the same accrediting organization's image quality standards.

## Top MRI-Classified Injury Types

	Burns	Projectiles	Hearing
% Of Injuries	70% ('12) 55% ('18)	12% ('12) 23% ('18)	11% ('12) 16% ('18)
Preventable %	97% ('12) 94% ('18)	94% ('12) 69% ('18)	29% ('12) 11% ('18)