

UW Department of Radiology Contrast Prophylaxis Guidelines

2026 Update – Based Upon a Consensus Statement from the
American College of Radiology and the American Academy of
Allergy, Asthma, and Immunology



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**Most important slides
are slides 10-14**

(Guideline summary slides)

What's New in 2026?

New Consensus Guidelines per ACR & AAAI



Radiology

REVIEWS AND COMMENTARY • STATEMENTS AND GUIDELINES

Management and Prevention of Hypersensitivity Reactions to Radiocontrast Media: A Consensus Statement from the American College of Radiology and the American Academy of Allergy, Asthma & Immunology

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Radiology 2025; 315(2):e240100 • <https://doi.org/10.1148/radiol.240100> • Content codes:  

First time Radiology and Allergy guidelines are fully aligned on iodinated contrast media.

Abbreviations

ICM = iodinated contrast media

GBCA = gadolinium-based contrast media

What is New?

- No longer required to prescribe steroid prophylaxis **for mild hypersensitivity reactions** to contrast media. Prioritizes **contrast swapping** over steroids in this scenario.
- Diphenhydramine is considered optional in all cases (and never a suitable replacement prophylactic medication).
- Consensus guidelines define what “mild”, “moderate”, and “severe” hypersensitivity reactions are.
- Clarity on historic (older than 1985) ICM hypersensitivity reactions and delayed hypersensitivity reactions.

What is Contrast Swapping?

- The practice of switching to a different type of contrast agent for a given imaging modality.
 - Examples
 - Iohexol to iodixanol
 - Gadopiclenol to gadobenate
- Dependent on knowing an inciting agent, availability of an alternative agent, contrast function, or other institutional constraints.

Guidelines for Gadolinium-based Contrast Agents (GBCA)

- The consensus guidelines were written with iodinated contrast agents at the forefront of discussion because iodinated contrast media (ICM) related hypersensitivity reactions are significantly more common than GBCA-related reactions.
 - Incidence for ICM: 0.6% (0.04% for severe reactions)
 - Incidence for GBCA: 0.01-0.22% (0.001-0.01% for severe reactions)
- Data to support GBCA swapping is emerging.

What about Gadolinium-based Contrast Agents (GBCA)?

While GBCA contrast swapping is work in progress, based on evolving data, the Department of Radiology will adopt contrast swapping for GBCA when feasible, given the extreme low baseline incidence of mild hypersensitivity reactions to GBCA. This harmonizes contrast guidelines for both CT and MRI.

The Guidelines

What type of adverse contrast reaction did the patient experience?

**Non-allergic
Reaction**



No prophylaxis required

**Immediate
Hypersensitivity
Reaction**



Prophylaxis contingent upon severity of reaction
(See Algorithm for next steps)

**Unknown
Reaction**



**Prophylaxis contingent upon date of reaction and type
of contrast used**
(See Algorithm for next steps)

**Delayed
Hypersensitivity
Reaction**



**Reactions that occur 1 hour or later post injection.
Prophylaxis and performance of CT contingent on
reaction details.**
(See Algorithm for next steps)

Non-Allergic Reaction Severity Definitions



Mild

- Isolated self-resolving nausea/vomiting
- Transient flushing, warmth, chills
- Headache, dizziness, anxiety, altered taste
- Mild hypertension
- Vasovagal reaction that resolves spontaneously



Moderate

- Protracted but isolated nausea or vomiting
- Hypertensive urgency
- Isolated chest pain
- Vasovagal reactions that require and are responsive to treatment



Severe

- Arrhythmias
- Convulsions or seizures
- Hypertensive emergencies
- Vasovagal reaction resistant to treatment

No prophylaxis
required for any
severity level

Hypersensitivity Reaction Severity Definitions



Mild

- Localized itching or hives (*less than 50% body surface area*)
- Itchy or scratchy throat
- Nasal congestion, sneezing, redness around eyes, runny nose



Moderate

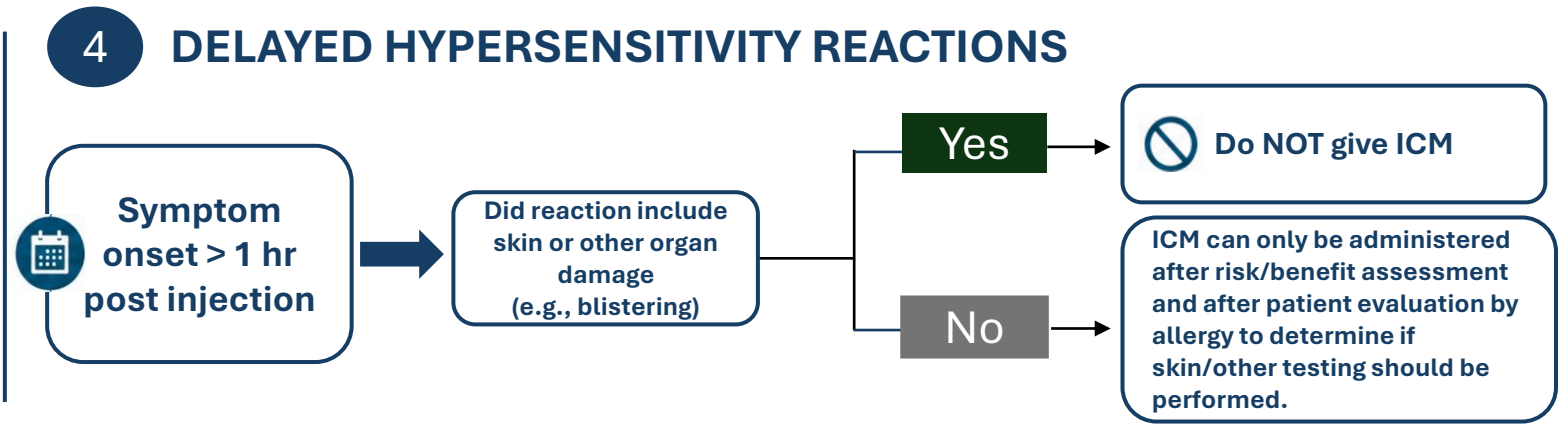
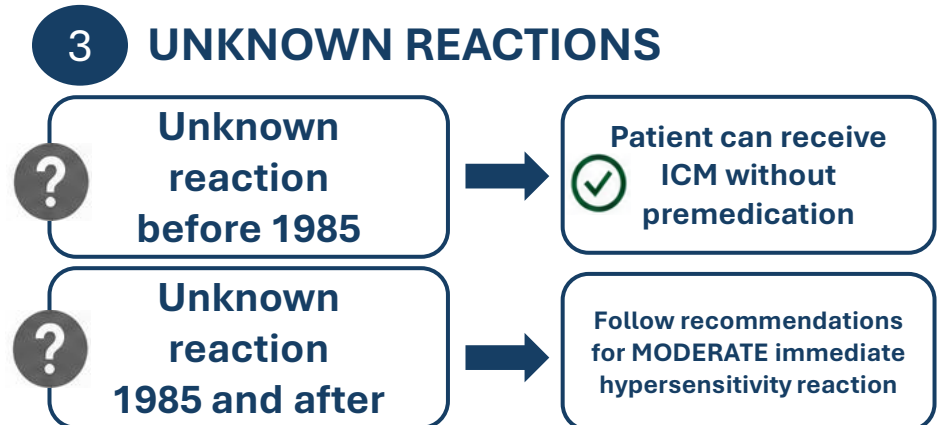
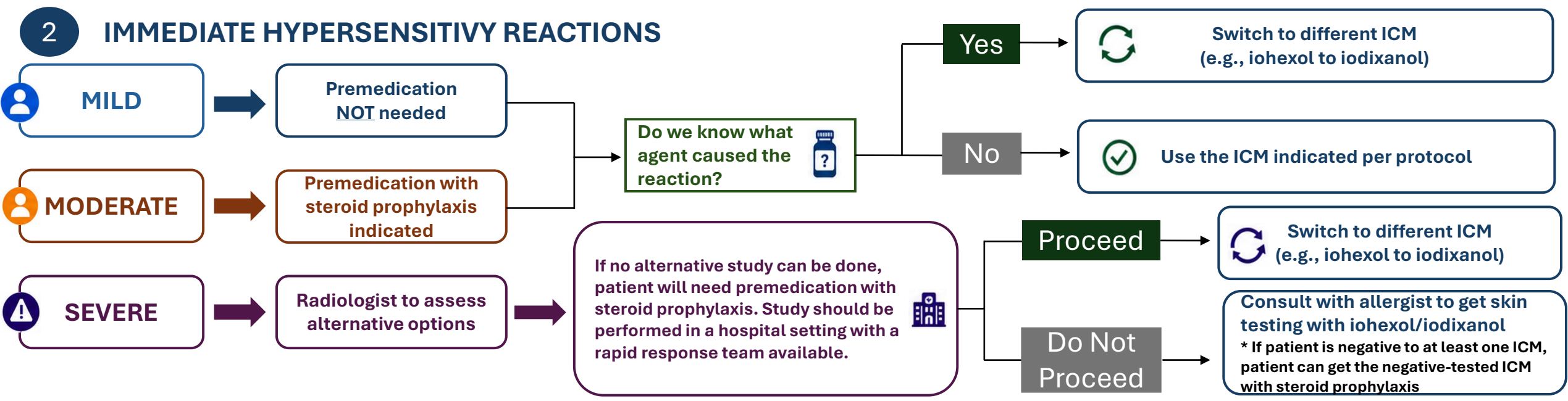
- Diffuse hives (*rapidly spreading/greater than 50% body surface area*)
- Facial angioedema, throat tightness/hoarseness **without** stridor
- Wheezing, bronchospasm **without** hypoxia



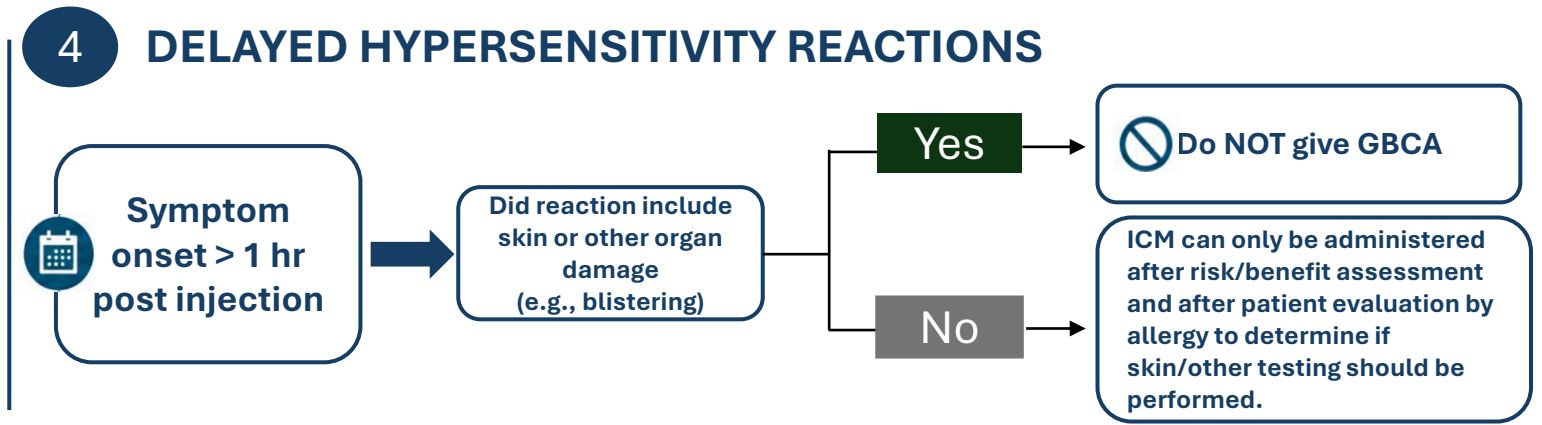
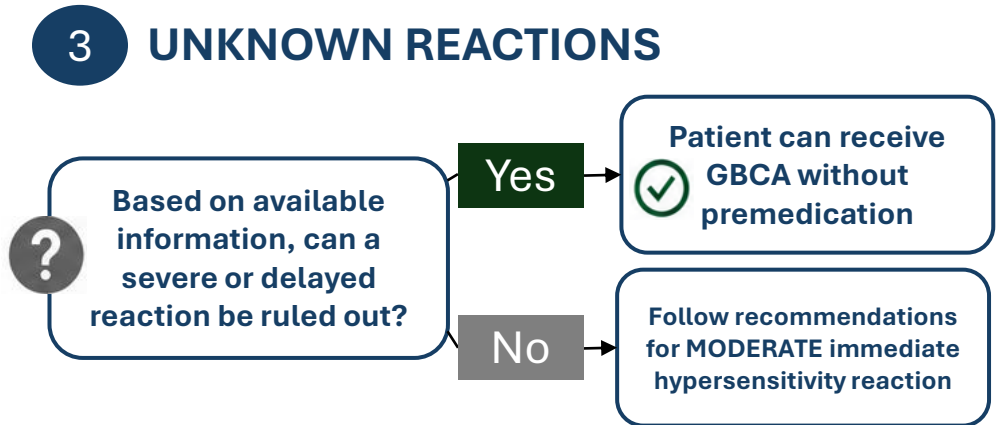
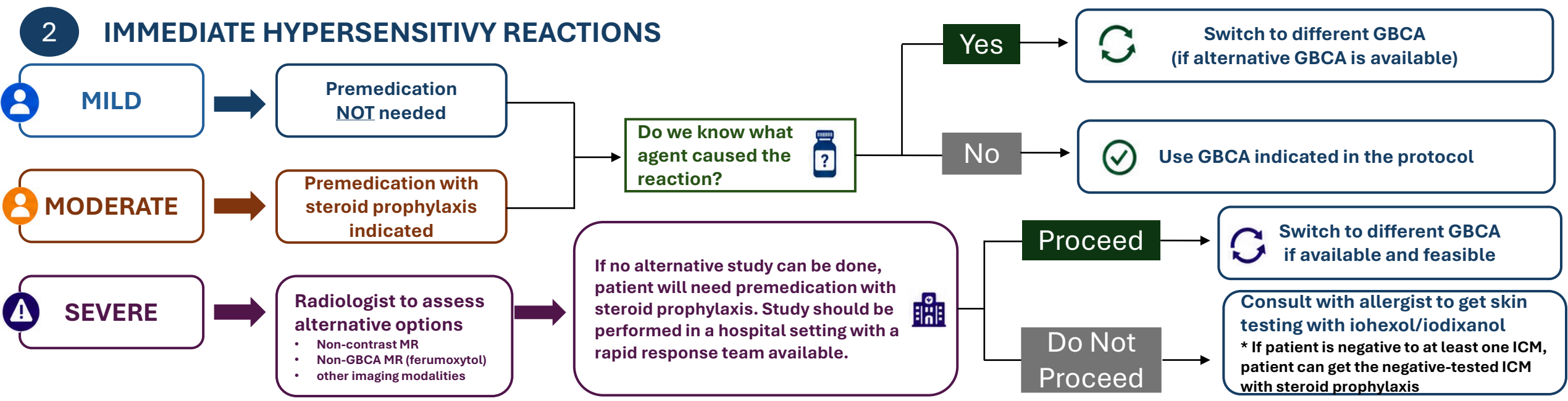
Severe

- Reaction involving 2 or more moderate symptoms
- Anaphylaxis
- Facial angioedema with shortness of breath
- Throat tightness/hoarseness **with** stridor, (laryngeal edema)
- Wheezing, bronchospasm **with** hypoxia
- Low blood pressure

CT Iodinated Contrast Media (ICM) Prophylaxis Algorithm



MR Gadolinium Based Contrast Agent (GBCA) Prophylaxis Algorithm



Helpful Information

Anaphylaxis - Definition

Anaphylaxis to contrast media should be considered likely when acute onset of illness occurs **within minutes** after administration without other known allergens/triggers and **2 or more** of the following criteria are met:

- Involvement of skin, mucosal tissue or both
- Respiratory compromise
- Reduced blood pressure or assisted symptoms of end-organ dysfunction
- Significant/persistent vomiting and/or severe diarrhea (significantly more severe than a typical quickly resolving emesis that can be seen as a side effect)

*** Severe hypotension may preclude any other manifestations of anaphylaxis. If present, it should be considered if there is no source of acute onset severe hypotension within minutes of IV ICM administration.**

Corticosteroid Premedication Adult Order Sets

- OP - Intravenous Iodinated/Gadolinium Contrast Prophylaxis - Adult - Supplemental [5093]
- IP - Intravenous Iodinated/Gadolinium Contrast Prophylaxis - Adult - Supplemental [5046]
- IP/ED- Radiology Rapid Contrast Reaction Prophylaxis - Adult - Supplemental [6458]

Diphenhydramine is NOT an acceptable substitute for steroid prophylaxis. It can only assist with possible cutaneous hypersensitivity reactions symptoms

Diphenhydramine must be used with the understanding that the patient will not drive a car or operate heavy machinery until 4-6 hours after administration

Corticosteroid Premedication Pediatric Order Sets

- OP - Intravenous Iodinated/Gadolinium Contrast Prophylaxis - Pediatric - Supplemental [10882]
- IP - Intravenous Iodinated/Gadolinium Contrast Prophylaxis - Pediatric - Supplemental [10884]
- IP/ED - Radiology Rapid Contrast Reaction Prophylaxis - Pediatric - Supplemental [10886]

Diphenhydramine is NOT A REPLACEMENT for steroid prophylaxis. It assists with cutaneous hypersensitivity reactions symptoms if they were to occur.

Diphenhydramine must be used with the understanding that the patient does not drive a care or operate heavy machinery 4-6 hours after administration

Contrast Myths That Persist Around Iodinated Contrast Media (ICM)

- No need to premedicate for:
 - **Non-Allergic Reactions**
 - **Seafood/shellfish allergies** – these are IgE-mediated reactions due to tropomyosin in crustaceans
 - **“Iodine” allergy** – iodine itself is NOT an allergen. Patients can be allergic to topical povidone-iodine but does not have cross-reactivity with iodinated contrast media.
 - **Prior delayed hypersensitivity reaction** – reactions with onset greater than 1 hour from injection. These are often cutaneous reactions.
 - **Prior gadolinium-based contrast media hypersensitivity reaction** – no cross-reactivity between gadolinium and iodine containing contrast products.
 - **Isolated history of asthma**
 - **Isolated histories of alternative drug or food allergy, stinging insect allergy, family history of hypersensitivity reaction to ICM, beta blockers, ACE inhibitors, or history of cardiovascular disease**

Additional Scenarios

- **Iodinated Oral Contrast** – 1-2% of oral contrast could be absorbed
 - If patient is undergoing premedication for IV contrast already, you may use iodinated oral contrast
 - Otherwise, if only getting oral contrast, use dilute barium (on formulary) instead.
 - If patient cannot get dilute barium (e.g., suspicion for perforation, leak) and has a severe iodinated contrast allergy, premedicate patient for oral contrast
- **Arthrograms** – hypersensitivity reactions are dose independent and since arthrograms use a needle and cross the bloodstream, the same premedication strategy should be used for arthrograms as for IV contrast media.

Additional Scenarios

- **Hysterosalpingograms and CT peritoneography** – in patients with patent fallopian tubes, there is peritoneal spill of contrast during the exam. Intraperitoneal contrast is absorbed. Because of the dose independency to hypersensitivity reactions, the same contrast premedication strategies should be employed.

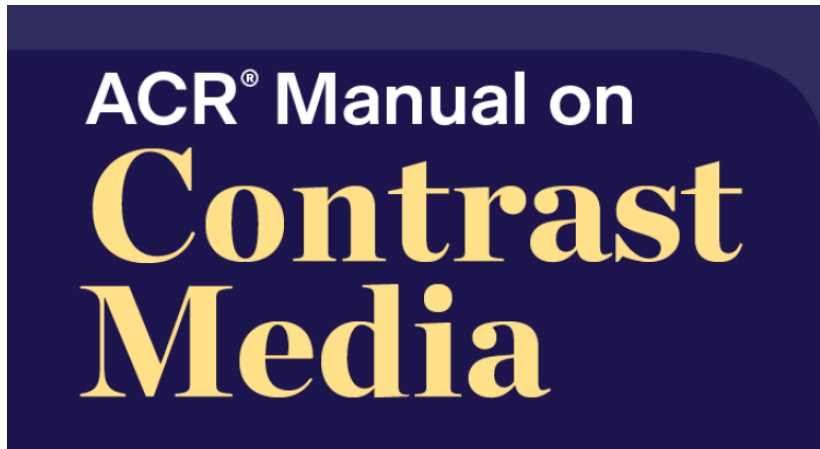


Record Keeping

- Document the indexed hypersensitivity reaction in the EMR under the allergies section
 - What agent (e.g., iohexol)
 - Severity of reaction (mild, moderate, severe)
 - When it happened if known
- Epic Notes
 - **.radcontrastreaction** (for adverse reactions)
 - **.radcontrastextrav** (for extravasations)



Resources



<https://www.acr.org/Clinical-Resources/Clinical-Tools-and-Reference/Contrast-Manual>

A screenshot of the RSNA Radiology website. The top navigation bar includes the RSNA logo and links for Journals, About, CME, Subscribe, Subspecialties, Email Alerts, and Sign In/Register. Below this is a dark green header with 'Radiology' and navigation links for Latest Articles, All Issues, Collections, Authors/Reviewers, Diagnosis Please, Multimedia, and Information. The main content area features a 'FREE ACCESS' badge, the article title 'Management and Prevention of Hypersensitivity Reactions to Radiocontrast Media: A Consensus Statement from the American College of Radiology and the American Academy of Allergy, Asthma & Immunology', a list of authors, and a 'PUBLISHED IN' section showing the journal cover for Radiology, Volume 315, Number 2, May 2025. At the bottom, there are social media icons and a 'PDF' button.



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