BWH/BWFH/DFCI Guidelines for Assessment and Premedication of Imaging Contrast Agent Allergies:

I. Classification of Imaging Contrast Agent Reactions:

□ Mild: Signs and symptoms appear self-limited without evidence of progression, including:

Physiochemotoxic ** Pre-treatment is not indicated	**Allergic** **Pre-treatment is indicated
□ Headache □ Dizziness □ Altered taste □ Anxiety □ Mild Hypertension □ Vasovagal Reaction that resolves spontaneously **Limited:** □ Nausea □ Vomiting **Transient:** □ Flushing □ Warmth □ Chills	□ Sneezing □ Conjunctivitis □ Rhinorrhea □ Nasal congestion **Limited:** □ Urticaria □ Pruritus □ "Scratchy" throat □ Itchy throat □ Cutaneous edema
Treatment: Observation minimum 30 minutes to confirm resolution and/or lack of progression but usually no treatment. Patient reassurance is usually helpful. Treatment with an antihistamine may be instituted for mild symptomatic allergic-like cutaneous contrast reactions.	

□ Moderate: Signs and symptoms are more pronounced. Moderate degree of clinically evident focal or systemic signs or symptoms, including:

Physiochemotoxic ** Pre-treatment is not indicated	**Allergic** **Pre-treatment is indicated
□ Vasovagal reaction that requires and is responsive to treatment, □ Hypertensive urgency □ Isolated chest pain **Protracted:** □ Nausea □ Vomiting	**Mild or no hypoxia associated with:** □ Bronchospasm /Wheezing **No dyspnea associated with:** □ Facial edema □ Throat tightness □ Hoarseness **Diffuse:** □ Urticaria □ Pruritus □ Erythema with stable vital signs
Treatment: Clinical findings in moderate reactions frequently require prompt treatment. These situations require close, careful observation for possible progression to a life-threatening event.	

□ Severe: Signs and symptoms are often life-threatening, including:

Physiochemotoxic ** Pre-treatment is not indicated	**Allergic** **Pre-treatment is indicated
□ Vasovagal reactions resistant to treatment □ Convulsions/Seizures □ Clinically manifest arrhythmias □ Hypertensive Emergency □ Pulmonary edema	□ Diffuse erythema with hypotension □ Anaphylactic shock □ Laryngeal edema with stridor and/or hypoxia □ Bronchospasm/wheezing with Significant hypoxia
Treatment: Requires *prompt* recognition and aggressive treatment; manifestations and treatment frequently require hospitalization.	

BWH/BWFH/DFCI Guidelines for Assessment and Premedication of Imaging Contrast Agent Allergies:

II. Guide for Planned Administration of IODINATED Contrast Agents:

Previous Reaction to **Allergens** other than Iodinated Contrast		
Mild	**Moderate**	**Severe**
None	None	None

Previous Reaction to **Iodinated Contrast WITHOUT premedication**		
Mild	**Moderate**	**Severe**
Pre-medicate Consider referral to Allergy and Immunology Service	No Iodinated Contrast until review by Allergy & Immunology Service	Iodinated Contrast is typically withheld**

**A patient with a well-documented history of a severe reaction to an iodinated contrast agent (oral or intravenous) should not receive the same agent (oral or IV). If in the opinion of the referring physician, the potential benefits outweigh the potential risks, consultation with an allergist and supervising radiologist should be sought. The specific indications and reason(s) for exception should be documented in the medical record prior to contrast administration.

Breakthrough Reaction to **Iodinated Contrast WITH premedication**		
Mild	**Moderate**	**Severe**
No Iodinated Contrast until review by Allergy & Immunology Service	No Iodinated Contrast until review by Allergy & Immunology Service	Iodinated Contrast is typically withheld**

**A patient with a well-documented history of a severe reaction to an iodinated contrast agent (oral or intravenous) should not receive the same agent (oral or IV). If in the opinion of the referring physician, the potential benefits outweigh the potential risks, consultation with an allergist and supervising radiologist should be sought. The specific indications and reason(s) for exception should be documented in the medical record prior to contrast administration.

BWH/BWFH/DFCI Guidelines for Assessment and Premedication of Imaging Contrast Agent Allergies:

III. Guide For Planned Administration of GADOLINIUM Contrast Agents:

Previous Reaction to **Allergens** other than Gadolinium		
Mild	**Moderate**	**Severe**
None	None	None

Previous Reaction to **Gadolinium Based Contrast WITHOUT premedication**		
Mild	**Moderate**	**Severe**
Change Agent	Change Agent Pre-Medicate	No GBCM until reviewed by Allergy & Immunology Service

Breakthrough Reaction to **Gadolinium Based Contrast WITH premedication**		
Mild	**Moderate**	**Severe**
No GBCM Contrast until review by Allergy & Immunology Service	No GBCM Contrast until review by Allergy & Immunology Service	No GBCM until reviewed by Allergy & Immunology Service

BWH/BWFH/DFCI Guidelines for Assessment and Premedication of Imaging Contrast Agent Allergies:

IV. Accepted elective pre-medication regimens for outpatients or patients with a history of allergic like reaction to gadolinium:

I. Three Dose Protocol (Preferred)
• 50mg Prednisone PO 13, 7 and 1 hour(s) before contrast administration. • And 10 mg Cetirizine* (Zyrtec) PO 1 hour before contrast administration. *or* 50 mg Diphenhydramine (Benadryl) IV within 1 hour of contrast administration

*Cetirizine is considered non-sedating, Diphenhydramine is considered sedating.

II. Two Dose Protocol (Not able to tolerate Greenberger, i.e. diabetes, steroid intolerance, prior success with Modified Lasser, etc.)
• 32 mg Methylprednisone PO 12, 2 hour(s) before the injection. • And 10 mg Cetirizine* (Zyrtec) PO 1 hour before contrast administration. *or* 50 mg Diphenhydramine (Benadryl) IV within 1 hour of contrast administration.

*Cetirizine is considered non-sedating, Diphenhydramine is considered sedating.

V. Accepted elective pre-medication regimens for inpatients/ER patients with a history of mild/moderate allergic like reaction to iodinated contrast:

"Expedited" Protocol (Preferred)
• 200 mg Hydrocortisone sodium succinate (Solu-Cortef) 200 mg IV 5 hours and 1 hour prior to the study • 50 mg Diphenhydramine (Benadryl) PO, IM, or IV within 1 hour of contrast administration.

Note: This protocol should not be used in patients with a history of severe prior allergic like reaction without an allergy consultation. Additionally, patients with a gadolinium allergy should undergo the standard 13-hour oral prep.

VI. Medical Judgment:

A patient with a well-documented history of a severe reaction to an iodinated contrast agent (oral or intravenous) should not receive the same contrast (oral or IV). In an EMERGENCY SITUATION, contrast may be administered if in the opinion of the referring clinician and supervising radiologist the potential benefits outweigh the potential risks. In these instances, specific indications and reason(s) for exception should be documented in report.

As with all guidelines, these guidelines have been developed by an assembly of current data and expert medical opinion. They are intended to inform a reasonable course of action given the typical medical practice. These guidelines are not absolute, nor are they all encompassing, especially in the context of the wide range of medical practice at this

institution. Assistance from members of the Contrast Agent Safety Committee should be sought if any help is needed in determining an appropriate course of action.

BWH/BWFH/DFCI Guidelines for Assessment and Premedication of Imaging Contrast Agent Allergies:

References:

1. Greenberger PA, Patterson R, Radin RC. Two pretreatment regimens for high-risk patients receiving radiographic contrast media. J Allergy Clin Immunol 1984; 74:540–543 5.
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3. Lasser EC, Berry CC, Talner LB, et al. Pretreatment with corticosteroids to alleviate reactions to intravenous contrast material. N Engl J Med 1987; 317:845–849
4. Lasser EC, Berry CC, Mishkin MM, et al. Pretreatment with corticosteroids to prevent adverse reactions to nonionic contrast media. AJR 1994; 162:523–526
5. Mervak BM, Cohan RH, Ellis JH, Khalatbari S, Davenport MS. Intravenous Corticosteroid Premedication Administered 5 Hours before CT Compared with a Traditional 13-Hour Oral Regimen. Radiology. 2017 Nov;285(2):425-433.