

Contrast: I-02C

STEROID PREMEDICATION GUIDELINE

Issued: 10/11/2017; Last Reviewed: 11/26/2019; Last Revised: 11/27/2019

I. POLICY STATEMENT

Patients who have had a prior allergic-like reaction to intravenous iodinated contrast injections or intravenous gadolinium-based contrast injections shall be cared for under the following guidelines.

II. POLICY PURPOSE

To provide a standard of care for patients who have a history of allergic-like reaction to contrast materials. These guidelines will specifically address steroid premedication of patients who have experienced a reaction to intravenous iodinated contrast injections (e.g., CT/IVP) or intravenous gadolinium-based contrast injections (e.g., MRI).

III. APPLICABILITY

Any adult or pediatric patient who has previously experienced an allergic-like reaction of any severity to iodinated contrast or gadolinium-based contrast.

IV. DEFINITIONS

- A. **Iodinated contrast:** A form of intravenous radiocontrast agent (radiographic dye) containing iodine, which enhances the visibility of vascular structures and organs during radiographic procedures.
- B. **Gadolinium-based contrast:** A chemical substance, which when injected intravenously, enhances the visibility of vascular structures and organs during radiographic procedures. Primarily used in MRI.
- C. **Allergic-like reaction:**
 1. The following **ARE** considered an indication for steroid premedication:
Hives, itching, acute rash, wheezing, bronchospasm, stridor, laryngeal edema, and anaphylaxis.
 2. The following **ARE NOT** considered an indication for steroid premedication:
Asthma, reactions to other substances (regardless of number or severity, including shellfish and betadine), and any physiologic reactions to contrast material such as a vasovagal reaction, nausea, or vomiting.

Rationale: The benefits of preps are very small relative to their indirect harms (e.g., delayed care, prolonged hospitalization). The vast majority of patients who receive a steroid prep derive no benefit (e.g., breakthrough reaction, incomplete efficacy).

- D. **PO:** Treatment that is taken orally.
- E. **IM:** Intramuscular injection.

V. POLICY STANDARDS

- A. **Contrast Reaction Policy/Guidelines for Use of Iodinated Contrast Material in Children and Adults Including Premedication/Guidelines for use of Gadolinium-Based Contrast Material in Children and Adults Including Premedication/Department of Radiology Steroid Premedication Guideline.**

VI. PROCEDURES AND ACTIONS

- A. There is **one** indication for steroid premedication prior to **intravenous iodinated contrast injection (e.g., CT, IVP)**:
1. Prior allergic-like reaction to iodinated contrast (any severity).
- B. There is **one** indication for steroid premedication prior to **intravenous gadolinium-based contrast injection (e.g., MRI)**:
1. Prior allergic-like reaction to gadolinium-based contrast (any severity).

HOW TO PREMEDICATE for an adult patient:

A. Standard oral premedication regimen:

1. **Prednisone** - 50 mg PO, taken 13, 7, and 1 hour prior to the procedure*
2. **Diphenhydramine** - 50 mg PO, taken 1 hour prior to the procedure**

*Note: Doses may be distributed unevenly to allow the patient to get a reasonable night's sleep the evening prior to the exam; however, the first dose should be taken more than 11 hours before the time the exam is scheduled to be performed.

**Note: It is not critical to administer diphenhydramine as part of the premedication regimen (there are published regimens using corticosteroids only). In other words, although it is part of the UM premedication protocol, it is not considered mandatory.

B. Urgent IV premedication protocol (indications: ED patients, inpatients, and medically urgent outpatients):

1. **Hydrocortisone** - 200 mg IV, 5 hours and 1 hour prior to the procedure.
2. **Diphenhydramine** - 50 mg PO (or IM or IV, if patient cannot take PO), one hour prior to the procedure.

Note: If preferred, methylprednisolone 40mg IV can be substituted for hydrocortisone 200 mg, dose for dose.

HOW TO PREMEDICATE for an pediatric patient:

A. Standard oral premedication regimen:

1. **Prednisone** - 0.5-0.7 mg/kg PO, taken 13, 7, and 1 hour prior to the procedure (50 mg maximum dose)
2. **Diphenhydramine** - 1.25 mg/kg PO, taken 1 hour prior (50 mg maximum dose)

B. Urgent IV premedication protocol (indications: ED patients, inpatients, and medically urgent outpatient):

1. **Hydrocortisone** - 2 mg/kg IV (to a max of 200 mg), 5 hours and 1 hour prior to procedure.
2. **Diphenhydramine** - 1.25 mg/kg IV, IM, or PO (to a max of 50 mg), 1 hour prior to procedure.

Please note: If a patient requires premedication that includes diphenhydramine (Benadryl), they will need to arrange for a driver to and from the appointments, due to the possibility of drowsiness from the required medication.

VII. EXHIBITS

No exhibits for this policy.

VIII. REFERENCES AND RELATED POLICIES

A. References

1. Contrast Reaction Policy:
https://iteams.med.umich.edu/umhhc/radiology/Policies/_layouts/15/WopiFrame2.aspx?sourcedoc=%7b7C6CB8E1-311B-43AD-8605-64BF5F0048F0%7d&file=Contrast%20Reaction%20Policy.docx&action=default
2. Guidelines for Use of Iodinated Contrast Material in Children and Adults Including Premedication:
https://iteams.med.umich.edu/umhhc/radiology/Policies/_layouts/15/WopiFrame.aspx?sourcedoc={C54897C0-BC48-4F68-B2CE-FF3017FFE7F3}&file=Guidelines%20for%20Use%20of%20Iodinated%20Contrast%20Material%20in%20Children%20and%20Adults%20Including%20Premedication.docx&action=default
3. Guidelines for use of Gadolinium-Based Contrast Material in Children and Adults Including Premedication:
https://iteams.med.umich.edu/umhhc/radiology/Policies/_layouts/15/WopiFrame.aspx?sourcedoc={E36D0CA3-D572-4E03-AE50-5BD74ECC23A3}&file=Guidelines%20for%20Use%20of%20Gadolinium-Based%20Contrast%20Material%20in%20Children%20and%20Adults%20Including%20Premedication.docx&action=default

B. Sources

1. Adult patient premedication: MD/RHC/JHE/EK 9-5-17
2. Pediatric patient premedication: PJS 10-11-17

C. Search Terms

1. Iodinated contrast- https://en.wikipedia.org/wiki/Iodinated_contrast
2. Gadolinium based contrast- <https://www.insideradiology.com.au/gadolinium-contrast-medium/>

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1. Department of Radiology Policy and Safety Committee 11-26-19

IX. POLICY / GUIDELINE HISTORY

- Issued: 10-11-17
- Reviewed: 11-26-19 Department of Radiology Policy and Safety Committee
- Last Revised: 11-27-19 Tresa Griffith R.T.(R)(MR)(ARRT)