



Development of a Process to Meet JCAHO Requirements in Imaging Areas

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Challenges in Imaging Areas

- **Changing the Culture**
 - Lack of awareness that contrast media is a medication that may have adverse effects and drug interactions
- **JCAHO Compliance**
 - Lack of routine presence of physician or pharmacist
 - Need for consistent process for medication reconciliation

Changing the Culture

- Refrain from using terms like X-ray dye and IVP dye
- Educate Technologists to begin calling contrast “medication”
- Use terms like “contrast medication” or “a contrast agent that is medication” when talking with patients

Changing the Culture

- Educate technologists how to take a complete medication and allergy history
- Educate staff regarding formulary process and need for compliance
- Require annual review of contrast media formulary agents
- Develop patient education specific to each contrast agent

JCAHO Compliance

- **National Patient Safety Goal 8
Medication Reconciliation**
- **Medication Management
Standard 4.1**
 - All medication orders are reviewed for appropriateness

JCAHO Compliance

- **Perform literature search to determine potential adverse effects & drug interactions with all contrast media formulary agents**
- **Develop educational tools and program for Radiologists and Technologists**
- **Revise screening tool and develop trigger forms for Technologists**

Contrast Media	Drug Interactions	Corrective Actions	Adverse Effects	Contra-indications	Precautions
Omnipaque (Iohexol) Nonionic Isosmolar	<i>Intrathecal</i> <ul style="list-style-type: none"> •Phenothiazine derivatives •MAO Inhibitors •TCA •CNS Stimulants •Analeptics, tranquilizers, antipsychotic <i>Lower seizure threshold</i>	Discontinue medications that may lower seizure threshold at least 48 hours before myelography, and do not resume for at least 24 hours post procedure. Increase monitoring for seizures	Headache Pain Nausea Vomiting Dizziness	<ul style="list-style-type: none"> •Hypersensitivity to iohexol or iodine •Presence of significant local or systemic infection, where bacteremia is likely. •Do not administer corticosteroids intrathecally with iohexol 	<i>Intrathecal</i> <ul style="list-style-type: none"> •History of seizures •Cardiovascular disease •Multiple Sclerosis •Chronic alcoholism •Elderly
	<i>Intravascular and Oral</i> <ul style="list-style-type: none"> •Metformin <i>Increase risk for lactic acidosis</i>	<i>Discontinue metformin at the time of the procedure and at least 48 hours post procedure or when renal function is normal.</i>			<i>Intravascular, Oral or Intrathecal</i> <ul style="list-style-type: none"> •Hypersensitivity to iodinated contrast medium •Sensitivity to iodine •Asthma •Food Allergy

Patient Screening Tool

- **Demographic Information**
 - Age, height and weight
- **Medical History**
 - **Current medical conditions**
 - Hay fever, asthma, skin allergies, emphysema, heart disease, kidney disease, high blood pressure, sickle cell disease, diabetes, immune disorder, and pheochromocytoma
 - **Past experience with contrast media**
 - **Iodine or shellfish allergy**
 - **Serum creatinine level (inpatients)**

Patient Screening Tool

- **Medication History**
 - Prescription, over-the-counter, herbal supplements
 - Name, dose, route, frequency, last dose taken
- **Allergy History**
 - Medication, food, other
 - Description of reaction

The Ohio State University Medical Center Patient History and Screening Form

MRN: _____ Patient: _____ DOB: _____
 Sex: _____ Height: _____ Weight: _____

Patient History

Does the patient experience any of the following:

Yes	No	Hay Fever	Yes	No	Kidney Disorder
Yes	No	Asthma	Yes	No	High Blood Pressure
Yes	No	Skin Allergies	Yes	No	Sickle Cell Disease
Yes	No	Bronchitis/Emphysema	Yes	No	Immune System Disorder
Yes	No	Heart Disease	Yes	No	Diabetes

Has the patient received contrast media prior to this exam? Yes No
 if yes, did the patient have a reaction to the contrast media? Yes No
 Does the patient have an allergy to iodine or shellfish? Yes No

Medication History

Please provide information about each medication the patient is currently taking.

DRUG	DOSE	FREQUENCY	ROUTE

Please provide information about each herbal and over the counter (OTC) medication the patient is currently taking.

DRUG	DOSE	FREQUENCY	ROUTE

Allergy History

Please provide information about the patient's allergies and a description of the reaction.

ALLERGY	REACTION
MEDICATION ALLERGIES	
FOOD ALLERGIES	
OTHER ALLERGIES	

The information I have provided is correct to my knowledge. I give permission to receive contrast media. The potential risks and benefits have been explained to me.

Patient or Guardian _____ Date: _____
 Radiology Technologist _____

Trigger Form

- **Develop for each contrast medication and route of administration due to different interactions (IV vs. IT)**
- **List interacting medications by both brand and generic names**

The Ohio State University Medical Center Contrast Media Drug Interaction Form

Gastrografin® (Diatrizoate)

Please contact the radiologist if the patient is taking any of the following medications:

Medications listed below may increase risk for delayed reactions (fever, rash, flu-like symptoms, joint pain, and pruritus).

<input type="checkbox"/> Aldesleukin	<input type="checkbox"/> Kineret®
<input type="checkbox"/> Anakinra	<input type="checkbox"/> Ontak®
<input type="checkbox"/> Basiliximab	<input type="checkbox"/> Proleukin®
<input type="checkbox"/> Denileukin Diftitox	<input type="checkbox"/> Simulect®

Medications listed below may increase risk for renal toxicity.

<input type="checkbox"/> Avandamet®	<input type="checkbox"/> Metformin
<input type="checkbox"/> Glucophage®	<input type="checkbox"/> Metformin/Glipizide
<input type="checkbox"/> Glucovance®	<input type="checkbox"/> Metformin/Glyburide
<input type="checkbox"/> Metaglip®	<input type="checkbox"/> Metformin/Rosiglitazone

Medications listed below may increase risk for anaphylactoid reaction.

<input type="checkbox"/> Acebutolol	<input type="checkbox"/> Cartral®	<input type="checkbox"/> Levatol®	<input type="checkbox"/> Sotalol
<input type="checkbox"/> Atenolol	<input type="checkbox"/> Carvedilol	<input type="checkbox"/> Lopressor®	<input type="checkbox"/> Tenormin®
<input type="checkbox"/> Betapace®	<input type="checkbox"/> Coreg®	<input type="checkbox"/> Metoprolol	<input type="checkbox"/> Timolol
<input type="checkbox"/> Betapace AF®	<input type="checkbox"/> Corgard®	<input type="checkbox"/> Nadolol	<input type="checkbox"/> Toprol XL®
<input type="checkbox"/> Betaxolol	<input type="checkbox"/> Esmolol	<input type="checkbox"/> Normodyne®	<input type="checkbox"/> Trandate®
<input type="checkbox"/> Bisoprolol	<input type="checkbox"/> Inderal®	<input type="checkbox"/> Penbutolol	<input type="checkbox"/> Viskin®
<input type="checkbox"/> Blocarden®	<input type="checkbox"/> Inderal LA®	<input type="checkbox"/> Pindolol	<input type="checkbox"/> Zebeta®
<input type="checkbox"/> Brevibloc®	<input type="checkbox"/> Kerlone®	<input type="checkbox"/> Propranolol	
<input type="checkbox"/> Carteolol	<input type="checkbox"/> Labetalol	<input type="checkbox"/> Sectral®	

If the patient is taking any of the above medications, both the radiologist and the technologist must sign below indicating that the appropriate measures, if any, were taken and the patient was educated.

Radiologist _____ Date _____
Technologist _____

JCAHO Compliance

- **Technologist responsibilities:**
 - **Completion of History and Screening Form**
 - **Comparison (i.e. reconciliation) of History and Screening Form against contrast specific Trigger Form**
 - **Providing contrast specific patient education**

JCAHO Compliance

- **Radiologist responsibilities:**
 - Ordering the exam
 - Addressing any concerns identified by Technologist with History and Screening or Trigger Form

Keys To Success

- **Collaboration between departments of Pharmacy and Radiology**
- **Utilization of electronic order sets for ordering contrast media**
- **Education of Radiologists and Technologists**
- **Standardization across all imaging areas**

