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| **GFR Levels for Contrast Injection - Imaging**  |
| **Applicable Campus:**   | **Department Name:** Imaging Services - CT |
| **Final Approval:**  2012 **Effective:** 2012 | **Next Review Date:** November 2019 |
| **List all stakeholder(s) and dates of approval:****Stakeholder Position(s)/Committee:** Director, Imaging Services Date: 10/17/2016 Reviewed [x]  Revised [ ] **Stakeholder Position(s)/Committee:** Medical Director, Imaging Services Date: 09/22/2016 Reviewed [x]  Revised [ ] **Stakeholder Position(s)/Committee:** Manager, Imaging Services Date: 11/17/2016 Reviewed [ ]  Revised [x] **Stakeholder Position(s)/Committee:**       Date:       Reviewed [ ]  Revised [ ]  |

**Describe briefly the most recent revision made to this policy, procedure or protocol & why:**

### Changed from creatinine levels to GFR levels for contrast.

### Purpose/Policy Statement:

To protect patients from contrast induced nephropathy using best practices.

### Definitions:

* Nephropathy: describes a disease process of the kidneys.
* GFR-glomerular filtration rate is a test to measure the level of kidney function. It is calculated from the results of blood creatinine test, age, body size, and gender.
* **EPOC® (Epocal Inc.):** an advanced, handheld blood analyzer that provides real-time, lab-quality results within minutes

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| **POLICY CONTENT** |

It is the policy at Salem Hospital that all Patients 60 years old and over or diabetic or on **metformin**, that require iodinated IV contrast for their CT or X-ray imaging procedure, must have a creatinine level drawn no more than six weeks prior to scan date.

**STEPS / KEY POINTS (Procedures / Protocols)**

1. Scheduler to fill out screening questionnaire to identify patients who present with known risk for contrast-induced nephropathy.

II. Referring physician should identify possible patients at risk for contrast-induced nephropathy.

1. All Patients 60 years old and over, have chronic renal disease, diabetic history, or are on **metformin**, must have a creatinine level drawn no more than six weeks prior to scan date if they are to receive contrast.
2. The GFRlevel will be reviewed and documented by the technologist prior to the contrast injection.
3. The technologist will follow these guidelines when injecting IV contrast:
	1. **GFR > or equal to 30 ml/min: contrast appropriate**

**GFR < 30 ml/min: do not give contrast**

* 1. **Trauma patients:**
		1. Due to the urgent nature of trauma system patients, the technologist should not wait for GFR levels to be processed prior to injecting and scanning the patient, but will make every effort to look up and record any available GFR level that is resulted.

**c. Dialysis patients:**

* + 1. Dialysis patients may receive the standard dose of nonionic contrast (up to 200 ml) regardless of current GFR level unless the referring physician requests something different.
		2. When possible, outpatients should be scheduled for a contrast study no more than two days prior to their next dialysis appointment.
1. If the referring physician or radiologist feels it is necessary to deviate from this policy due to patient condition, the technologist will document this and complete the study with the recommendations of the physician.
2. If scheduling is unable to get creatinine results (which are used to determine the GFR) prior to the patient arriving for their contrast enhanced study, trained imaging staff will perform an EPOC creatinine test in the department prior to injecting contrast in order to obtain the GFR level.
3. **Patients on Metformin:**

If the GFR is 30-59, hold Metformin for 48 hours after imaging contrast

If the GFR is 60 or greater, do not hold metformin after imaging contrast

### Equipment/Supplies (If Applicable):

EPOC Blood analyzer

### Form Name & Number or Attachment Name (If Applicable):

### n/a

### Author Position:

Imaging Services Manager

### Review/Revision Authority (Position Not Individual Name):

Imaging Services Manager

### Expert Consultant Position/s (Not Individual Name/s):

### Radiologist, Pharmacist, Nephrologist

References (Required for Clinical Documents): American College of Radiology (ACR) Manual on Contrast Media Version 10.1, 2015.

### Is there a Regulatory Requirement? Yes [ ]  No [x]

If yes, insert requirement information here:

### Review History (No Changes):

8/03, 3/04, 6/06, 06/08,

### Revision History (Note changes in area under header):

11/08, 12/09, 02/12, 11/12, 12/15, 11/16

### Computer Search Words:

CIN, Creatinine Level, Injected Contrast, GFR

### Policy, Procedure or Protocol Cross Reference Information:

Prevention of Contrast Nephropathy - Physician Order #424469