CT guidelines for patients taking Metformin

In patients with no evidence of acute kidney injury and with eGFR ≥ 30ml, there is no need to discontinue metformin either prior to or following the intravenous administration of iodinated contrast media, nor is there a need to reassess the patient’s renal function following the test or procedure.

In patients taking metformin who are known to have acute kidney injury or severe chronic kidney disease  eGFR  <30,  metformin should be temporarily discontinued at the time of the procedure and withheld for 48hrs subsequent to the procedure and reinstituted only after renal function has been re-evaluated and found to return to the patient’s baseline.

1. **Outpatients scheduled for contrast-enhanced CT examinations**

Before scheduling/injecting any outpatient where:

**1. Patients 70 and over**

**2. History of diabetes**

**3. Hypertension requiring medication**

**4. ANY problems with kidneys (such as transplant, single kidney, kidney cancer, kidney surgery, dialysis)**

Obtain creatinine.  Creatinine should be obtained within 3 months of the CT exam.

Time Saver: Technologist will only need to check estimated GFR (eGR)  if creatinine is 1.6 or higher. (Creatinine values less than 1.6 will result in an eGFR>30 ml/min using the MDRD calculator, so no need to check!)

Calculate eGFR. Use the calculator: <http://mdrd.com> or laboratory calculation based upon the MDRD method for calculating the eGFR.

Technologists will not administer contrast if eGFR is less than 30ml/min or if the patient has acute kidney injury without first consulting with the radiologist.

If GFR is lower than 40 and contrast is administered, the patient will be notified that oral hydration is recommended. After the procedure, the patient should drink at least 1 cup of water per hour for 8 hours. These recommendations for hydration would not apply to patients under fluid restriction, eg. patients with CHF or on dialysis.

1. **Inpatients scheduled for contrast-enhanced CT examinations**

Obtain creatinine for all inpatients. Creatinine should be obtained within 48 hours of CT exam.

Time Saver: Technologist will only need to check estimated GFR (eGR)  if creatinine is 1.6 or higher. (Creatinine values less than 1.6 will result in an eGFR>30 ml/min using the MDRD calculator, so no need to check!)

Calculate eGFR. Use the calculator: <http://mdrd.com> or laboratory calculation based upon the MDRD method for calculating the eGFR.

Technologists will not administer contrast if eGFR is less than 30ml/min or if the patient has acute kidney injury without first consulting with the radiologist.

**Additional guidelines:**

These guidelines apply only to patients with chronic renal failure, and not to patients with acute kidney injury. No serum creatinine or eGFR threshold is adequate to stratify risk for patients with acute kidney injury because serum creatinine in this setting is unreliable. In addition, patients with acute kidney injury are particularly susceptible to nephrotoxin exposure and therefore it is probably prudent to avoid intravascular iodinated contrast medium in these patients when possible.