

Recommendations for Administration of Iodinated Contrast Medium

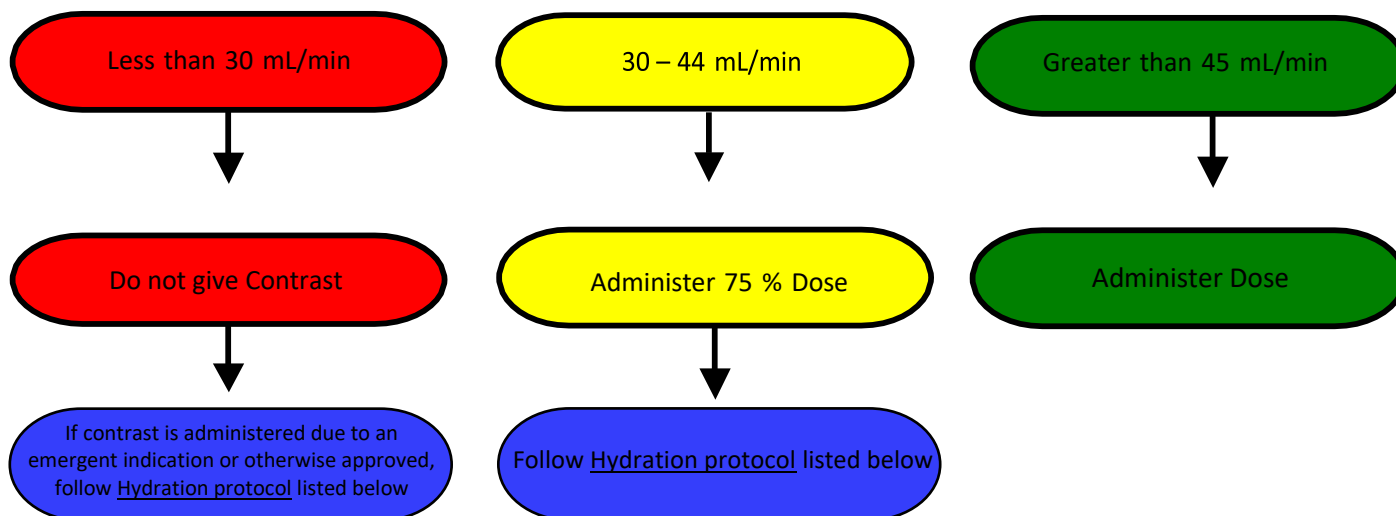
The following patients must have recent (as defined below)
blood creatinine / eGFR:

- All adult inpatients (18 years and older)
- Patients age >60
- History of renal disease (including dialysis, single kidney, kidney transplant, renal cancer, renal surgery)
- History of hypertension requiring medical therapy
- History of diabetes mellitus
- History of multiple myeloma
- History of severe liver disease/liver transplant
- On Metformin or Metformin-containing drug combinations
- Undergoing chemotherapy (or within last 2 months)

Renal function assessment must be within the following:

Within 30 days for ED and outpatients

Within 48 hours for inpatients



Hydration protocol

Inpatients

- Recommend isotonic fluids 100 mL/hr (or 1mL/kg/hr) for 6-12 hours prior to contrast administration as well as for 4-12 hours after exam. The ordering physician is responsible for writing the orders for hydration.

Outpatients

- Give 500 mL of water before contrast administration and encourage 1 cup of water every hour for 8 hours after exam.

Notes:

- In specific cases, if uncertain of need to obtain eGFR results, check with a radiologist.
- Contrast dosage of up to 200mL may be given within a 24-hour period to a single patient without radiologist approval, based on appropriate renal function.
- If stroke protocols have been initiated for a patient or other life-threatening emergency (as determined by a physician), **the need to confirm current lab values is eliminated due to exam urgency.**
- If patient is on hemodialysis, or peritoneal dialysis with acute renal failure, contrast may be given if patient is to have dialysis within 48 hours after iodinated contrast administration. If there are any questions, please contact a radiologist.

Special Cases (unrelated to renal function)

- **Pregnancy** - Iodinated contrast decision making should not be altered for pregnant or potentially pregnant patients. In other words, if iodinated contrast is needed for diagnostic purposes, it does not need to be withheld in pregnant patients.
- **Breast Feeding** - The available data suggests that it is safe for the mother and infant to continue breast feeding after receiving iodinated contrast. Patients should be given this information, and if they remain concerned about any potential ill effects to the infant, can be given the option of abstaining from breast-feeding for 24 hours following contrast administration (i.e. express and discard, or “pump and dump”).

Metformin Management (ACR)

The management of patients taking metformin should be guided by the following:

1. Patients taking metformin are not at higher risk than other patients for post-contrast acute kidney injury.
2. Iodinated contrast is a potential concern for furthering renal damage in patients with acute kidney injury, and in patients with severe chronic kidney disease (stage IV or stage V).
3. There have been no reports of lactic acidosis following intravenous iodinated contrast medium administration in patients properly selected for metformin administration.

The ACR Committee recommends that patients taking metformin be classified into one of two categories based on the patient’s renal function (as measured by eGFR):

Category I

In patients with no evidence of AKI and with eGFR ≥ 30 mL / min/1.73m², ***there is no need to discontinue metformin*** either prior to or following the intravenous administration of iodinated contrast media, nor is there an obligatory need to reassess the patient’s renal function following the test or procedure.

Category II

In patients taking metformin who are known to have acute kidney injury or severe chronic kidney disease (stage IV or stage V; i.e., eGFR < 30), or are undergoing arterial catheter studies that might result in emboli (atheromatous or other) to the renal arteries, **metformin should be temporarily discontinued at the time of or prior to the procedure, and withheld for 48 hours subsequent to the procedure and reinstated only after renal function has been re-evaluated and found to be normal (normal according to the NKF or patients standard according to labs).**

GLOMERULAR FILTRATION RATE (GFR)

Source- <https://www.kidney.org/atoz/content/gfr>
National Kidney Foundation Values

<u>Stage</u>	<u>Description</u>	<u>(GFR)</u>
Increased risk	Risk factors for kidney disease (e.g., diabetes, high blood pressure, family history, older age, ethnic group)	More than 90
1	Kidney damage with normal kidney function	90 or above
2	Kidney damage with mild loss of kidney function	89 to 60
3a	Mild to moderate loss of kidney function	59 to 44
3b	Moderate to severe loss of kidney function	44 to 30
4	Severe loss of kidney function	29 to 15
5	Kidney failure	Less than 15