

MAG-3 Renal Scan

A Mag-3 Scan is used to assess the general shape and function of the kidneys. It allows the radiologist to assess the perfusion (blood supply) into the kidneys and drainage out of the kidneys through the ureters into the bladder. It can identify potential issues and blockages/obstructions in the urinary system. Your doctor has ordered this scan to assess one or more of the following:

- measure the function of a possible obstructed kidney
- baseline monitoring for any potential loss of kidney function
- determine whether there is a kidney obstruction causing your symptoms
- identify Renal Artery Stenosis
- measure renal function for patients with hydronephrosis
- assess renal transplants

What happens during my Mag-3 Scan?

Preparation:

- please be well hydrated, drink at least 2L of water prior to your appointment
- only consume a light meal prior to your appointment

What to bring:

- your referral
- relevant clinical history
- relevant recent imaging (MRI, CT or Previous PET scans)
- notify nuclear medicine technologist performing the procedure if you may be pregnant or breast feeding
- notify nuclear medicine technologist if you are allergic to CT contrast (iodine) dye or are claustrophobic.
- notify nuclear medicine technologist if you are cytotoxic (chemotherapy)

What to wear:

Wear loose comfortable clothing (i.e. tracksuit), free from metal zips or buttons. A gown will be available for you to change into if required. Avoid wearing jewellery.

Medications:

Take your usual medications. Bring a list of current medications. Some blood pressure medications may need to be stopped if the scan is assessing narrowing of renal arteries in indications for Renal Artery Stenosis. Please check with your referring doctor.

What happens during my MAG-3 Scan?

Upon arrival you will be asked to fill in some paperwork. You will need to empty your bladder immediately prior to the scan. A nuclear medicine technologist will escort you to a room and ask you to lie down underneath a specialised camera called a gamma camera.

An intravenous cannula (small tube) will be put into your arm. You will receive 2 injections through this cannula:

1. A Radiopharmaceutical -99mTc-MAG 3

99mTc-MAG 3 is a liquid tracer containing a very small amount of radiation. This will allow us to visualise how well the tracer is flowing from your blood stream into your kidneys and then the drainage through your kidneys and ureters into your bladder. You will not feel any different or have any side effects from this injection.

2. Lasix (frusemide)

Lasix is a diuretic that makes the body produce more urine. This helps remove excess fluid from the body.

Once the injections are performed you will be required to lie still for up to 45 minutes underneath the gamma camera. You will then be asked to empty your bladder. Once you have emptied your bladder you lie under the gamma camera for a further 5 minutes of imaging.

Depending on the indication of your scan a medication called captopril may be used. Captopril is an ACE inhibitor used to treat kidney failure due to high blood pressure.

Once you are finished you are required to wait 15 minutes for your images to be checked. Your IV cannula will be removed and you will be free to leave the department.

What happens after my MAG-3 Scan?

How do I get my results?

A Nuclear Medicine Radiologist will review your images, along with your medical history and any previous imaging. Your referring doctor will receive a report within 48 hours of the examination. If your results are urgent, or you have a same day appointment with your doctor we will arrange for your results to be available immediately following the scan. Please arrange a follow up appointment with your referring doctor to discuss the results.

Post procedure

Following your MAG-3 scan you can return to all normal daily activities. Stay well hydrated for the rest of the day. You are advised to minimise contact with pregnant women and children (<12 y.o.) for 2 hours after your appointment. You are able to drive following this examination unless you have had sedation, in which case you will require someone to drive you home.

Risks and side effects

A MAG-3 scan is a safe and routine procedure. The radioactive tracer required for this scan has been used across the world for many years and has no side effects. The amount of radioactivity administered is small and will be flushed out of your system by the end of the day.