

MRI Urogram

Updated 11/04/23

Reviewed 05/14/25

Indications: renal/ureteral stones, hydronephrosis, hydroureter, hematuria.

This protocol must be approved by a body Radiologist.

The exam includes orders/requisitions for both abdomen and pelvis. Put all images into one folder to send to PACS.

The patient should be NPO for at least 6 hrs (preferably 10-12 hrs prior to the exam).

Do not let the patient empty his/her bladder prior to getting on the scanner. The bladder is better evaluated when full.

The patient will receive 500 mL normal saline IV bolus starting 15 mins before getting patient on the table.

A nurse will administer 0.25 mg/kg IV furosemide (up to 5 mg) 5 mins before getting the patient on the table.

Contraindications to furosemide: patient not making urine, hypotension, allergy to Lasix or sulfa drugs.

Full Abdomen FOV: Lung bases to iliac crest or to bottom of liver/spleen/kidneys if they extend low (top/bottom coverage)
anterior to posterior subq fat (front/back coverage), right to left subq fat (right/left coverage).

Full Pelvis FOV: Iliac crests to few slices below introitus/anus (top/bottom coverage), greater trochanter to
greater trochanter (right/left coverage), anterior pelvic wall skin to posterior buttock skin (front/back coverage).

Go to MRIMaster.com for a guide of proper positioning.

Pulse Sequence	PACS Name	plane	fat sat	slice (mm)	gap (mm)	first slice	Field of View
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GLUCAGON - 1 mg slow IV push **just before** beginning imaging.

T2 HASTE/SSFSE	T2 COR	cor	no	7	1.4	front	abdomen/pelvis
T2 HASTE/SSFSE	T2 AX	ax	no	7	1.4	top	
T2 HASTE/SSFSE	T2 FS AX	ax	yes	7	1.4	top	
3D Slab MRU	MRU THIN SLAB	cor	yes	1	0	front	
T1 VIBE/LAVA	T1 FS PRE AX	ax	yes	3.5	0.6	top	
In/Out Phase w/ DIXON	IN/OUT AX	ax	no	5	1	top	abdomen
T2 HASTE/SSFSE	T2 SAG	sag	no	5	1	sag	pelvis

GLUCAGON - 1 mg slow IV push **just before** giving IV contrast.

CONTRAST - 2 mL/sec standard dose gadolinium (0.2 mL/kg Clariscan or 0.1 mL/kg Gadavist) followed by 20 mL saline flush.

For the arterial phase bolus track and trigger when contrast reaches the renal arteries.

T1 VIBE/LAVA	T1 FS ART AX	ax	yes	3.5	0.6	top	abdomen
T1 VIBE/LAVA	T1 FS 70 SEC AX	ax	yes	3.5	0.6	top	abdomen/pelvis
T1 VIBE/LAVA	T1 FS POST SAG	sag	yes	3.5	0.6	right	pelvis
Diffusion (b50, b800, ADC)	DIFFUSION AX	ax	yes	7	1.4	top	abdomen/pelvis
T1 VIBE/LAVA	T1 FS DELAY COR	cor	yes	3.5	0.6	front	
T1 VIBE/LAVA	T1 FS DELAY AX	ax	yes	3.5	0.6	top	

RECONS:

axial subtractions