

MRI Rectal/Anal Mass

Updated 11/25/23

Reviewed 05/14/25

Indications: rectal or anal mass/cancer.

Have the patient empty his/her bladder just before getting on the table.

Full Pelvis FOV: Just above bifurcation 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).

Tumor oblique axial T2 HiRes FOV: centered on tumor, FOV 13-15 cm, 320 x 256 matrix, few slices above tumor to few slices below anus.

Anal canal oblique coronal T2 HiRes FOV: centered on anus, FOV 13-15 cm, 320 x 256 matrix, few slices anterior to anus to few slices posterior to anus.

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
T2 HASTE/SSFSE	T2 COR	cor	no	7	1.4	front	full pelvis
T2 HASTE/SSFSE	T2 AX	ax	no	7	1.4	top	
T2 HASTE/SSFSE	T2 FS AX	ax	yes	7	1.4	top	
T2 TSE	T2 SAG	sag	no	4	1	right	

Send the above sequences to PACS for a **body Radiologist check** to localize the mass, determine the oblique axial plane through the mass and the oblique coronal plane through the anus (if the mass approaches the anus).

GLUCAGON - 1 mg slow IV push **just before** the oblique sequences.

T2 TSE	T2 OBL AX	obl ax	no	3	0	top	mass
Diffusion (b50, b800, ADC)	DIFFUSION OBL AX	obl ax	yes	6	1	top	
T2 TSE	T2 TSE COR	obl cor	no	3	0	front	anal canal
T1 VIBE/LAVA	T1 FS PRE AX	ax	yes	3.5	0.6	top	full pelvis
T1 VIBE/LAVA	T1 FS PRE SAG	sag	yes	3.5	0.6	right	

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.

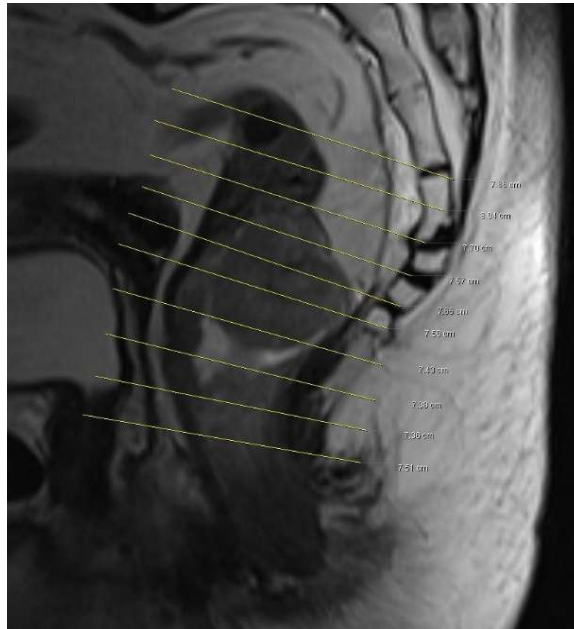
For the arterial phase bolus track and trigger when contrast reaches the renal arteries.

T1 VIBE/LAVA	T1 FS ART AX	ax	yes	3.5	0.6	top	full pelvis
T1 VIBE/LAVA	T1 FS 70 SEC AX	ax	yes	3.5	0.6	top	
T1 VIBE/LAVA	T1 FS POST SAG	sag	yes	3.5	0.6	right	
T1 VIBE/LAVA	T1 FS POST COR	cor	yes	3.5	0.6	front	

RECONS:

axial and sagittal subtractions

MRI Rectal/Anal Mass



oblique axial angulation (perpendicular to the long axis of the **tumor** in the sagittal plane)



oblique coronal angulation (parallel to the long axis of the **anal canal** in the sagittal plane)