

MR DEFECOGRAPHY

Preparation: Explain the maneuvers below to the patient in lay terms and have the patient practice the maneuvers (except defecation) prior to entering the scanner. Instill 150 mL of rectal contrast (can use ultrasound gel). May start with 60 mL and increase the volume to 150 mL or until the patient reports fullness or an adequate urge to defecate.

Positioning: Place the patient in the supine position with the knees bent and a pillow or wedge under the knees for comfort and to help with defecation.

Regarding the functional scans:

The "cine" TruFISP/Fiesta scans are not true cine in that they are not gated or triggered. It may be helpful to view these as multiphase rather than cine. You will need to set the number of phases such that the total scan time per series is long enough (IE: 30-40 seconds if necessary) for the patient to complete the maneuvers during the imaging time. Also, assure that each phase is <2 seconds (<1 second is ideal). If you are using multiple slices for these series (which may not be feasible), assure that the acquisition order favors all locations per phase so it will acquire all slice locations at each phase before moving to the next phase. It may be necessary to acquire only a single slice to keep the phase time as short as possible. Check with a body radiologist before scanning if you have any questions. A longer acquisition is always preferable so as not to miss any of the processes which this exam is designed to image.

SCAN ORDER	PLANE	IMAGE		PULSE SEQ	COVERAGE	TR RANGE	TE RANGE	FLIP ANGLE	THICKNESS/ GAP (mm)	FOV (cm)	Max Pixel	PHASE	SEND TO PACS	Max scan
		CONTRAST/ WEIGHTING	MODE								(mm) Fr x Ph			time (target)
ANATOMIC SCANS: Can be performed prior to administration of rectal contrast														
1	AX-AT REST	T2	2D	HASTE/SSFSE	COVER ENTIRE RECTUM AND ANUS	>1000	100	>130	5/0	18-22	.9X1.5	RL	FULL SERIES	3:00
2	SAG-AT REST	T2	2D	HASTE/SSFSE	COVER ENTIRE RECTUM AND ANUS	>1000	100	>130	5/0	18-22	.9X1.5	SI	FULL SERIES	3:00
3	COR-AT REST	T2	2D	HASTE/SSFSE	COVER ENTIRE RECTUM AND ANUS	>1000	100	>130	5/0	18-22	.9X1.5	RL	FULL SERIES	3:00
FUNCTIONAL SCANS: administer rectal contrast before scanning these scans.														
4	SAG-AT REST		2D	"CINE" TruFISP/FIESTA	SAGITTAL MIDLINE ALIGNMENT- instruct patient to relax pelvic floor musculature in a neutral position. -acquire images just prior to and throughout the entirety of the maneuver	MIN	MIN	50-65	5/0	20-24	1.0X2.0	PA	FULL SERIES	40s

5	SAG-KEGEL		2D	"CINE" TruFISP/FIESTA	<p>SAGITTAL MIDLINE ALIGNMENT- instruct patient to maximally squeeze the pelvic floor as if trying to prevent the passage of feces or urine. -acquire images just prior to and throughout the entirety of the maneuver</p>	MIN	MIN	50-65	5/0	20-24	1.0X2.0	PA	FULL SERIES	40s
6	SAG- DEFECATION		2D	"CINE" TruFISP/FIESTA	<p>SAGITTAL MIDLINE ALIGNMENT- instruct patient to maximally bear down on the pelvic floor and attempt to evacuate all rectal contrast. -acquire images just prior to and throughout the entirety of the maneuver perform maneuver at least 3 times or until all of the rectal contrast is evacuated (whichever comes first)</p>	MIN	MIN	50-65	5/0	20-24	1.0X2.0	PA	FULL SERIES	40s
7	SAG-VALSALVA		2D	"CINE" TruFISP/FIESTA	<p>SAGITTAL MIDLINE ALIGNMENT- instruct patient to maximally bear down on the pelvic floor without evacuation. -acquire images just prior to and throughout the entirety of the maneuver</p>	MIN	MIN	50-65	5/0	20-24	1.0X2.0	PA	FULL SERIES	40s