Radiology of Indiana

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			Slice Thickness		
Protocols	Scan #	FOV (CM)	(mm)	Spacing (mm)	Special Instructions/Comments
			(11111)		
Abdomen		40.10	_		Any abdomen study without an organ specific indication. Otherwise, see organ specific protocol.
Ax Fiesta/ True FISP		~30-40	5	1	
Ax 3D Dual Echo Ax T2 SSFSE/HASTE		~30-40 ~30-40	5	2.5	
Cor T2 SSFE/HASTE		~30-40	4	1	
Ax T2 FS Propeller/T2 Haste FS		~30-40	5	1	
Ax DWI (50/1000)		~30-40	8	2	Only send B50 and 1000
ADC		~30-40	8	2	
Ax Pre (Lava or sim)		~30-40	5	2.5	If there is a "mask" phase you don't need to complete pre-contrast LAVA. If not, we need a separate pre-contrast LAVA.
Ax Post Dyn (20 sec, 1 min 3 min)		~30-40	5	2.5	
Cor Post 5 min Ax Post 10 min		~30-40 ~30-40	4 5	2.5	
Ax T1 Lava 20 min (Eovist only)		~30-40	5	2.5	FYI: All Vibes/Lavas should be Fat Sat or "water only" images for all MRI body protocols
Adrenal					
Ax Fiesta/ True FISP		~30-40	5	1	
Ax 3D Dual Echo		~30-40	5	2.5	
Coronal 3D Dual Echo Ax T2 SSFSE/HASTE		~30-40 ~30-41	5	2.5	
Cor T2 SSFE/HASTE		~30-41	4	1	
Ax T2 FS Propeller/T2 Haste FS		~30-40	5	1	
Ax DWI (50/1000)		~30-40	8	2	Only send B50 and 1000
ADC		~30-40	8	2	
Ax Lava or similar		~30-40	5	2.5	
Liver Ax Fiesta/ True FISP		~30-40	5	1	Please refer to Liver & Abdominal MRI Clinical Guidelines for Gadolinium Based Contrast Agents
AX FIESTA/True FISP AX 3D Dual Echo		~30-40	5	2.5	Please reter to Liver & Abdominal MRI Clinical Guidelines for Cadolinium Based Contrast Agents For dedicated liver indication, axial coverage can be from ling bases to below liver. Does not need to cover below kidneys
AX 3D Duai Ecilo Ax T2 SSFSE/HASTE		~30-40	5	1	and solvings the second angulation and answer and an account of the transfer and account of the transf
Cor T2 SSFE/HASTE		~30-40	4	1	
Ax T2 FS Propeller/T2 Haste FS	_	~30-40	5	1	
Ax DWI (50/1000)		~30-40	8	2	Only send B50 and 1000
ADC		~30-40	8	2	
Ax Pre (Lava or sim)		~30-40	5	2.5	
Ax Post Dyn (20 sec, 1 min 3 min)		~30-40	5	2.5	
Cor Post 5 min Ax Post 10 min		~30-40 ~30-40	5	2.5	
Ax T1 Lava 20 min (Eovist only)		~30-40	5	2.5	
		30 40		200	
Pancreas with MRCP					
					* Use Gadavist and have Body Radiologist review last set of images to determine if delayed images need to take place, if no bile leak identified.
Ax Fiesta/ True FISP		~30-40	3	1	Pancreatic protocol must include MRCP in order
Ax 3D Dual Echo Ax T2 SSFSE/HASTE		~30-40	4	1	F/U PMN, pancreatic cyst, chronic pancreatitis, pancreatic mass. For dedicated pancreas indication, axial coverage can be from bottom of heart/left hemidiaphragm to below C-loop of
Cor T2 SSFE/HASTE		~30-40	4	1	To accuracy parkings makaning, axia coverage, can be from nonmon in hearder it knimaspinagin to back using axial from control to the decimancy parking and a supplied to the control to th
Ax T2 FS Propeller/T2 Haste FS		~30-40	4	1	planning. Do not need to cover skin to skin on coronal. Smallest FOV as possible.
Ax DWI (50/1000)		~30-40	7	1	Only send B50 and 1000
2D MRCP		~30-40	40	0	3 Oblique views. See planning images
Cor 3D MRCP		~30-40	1.4	0.7	Focus on pancreatic duct
3D MIP		~30-40	_		Single thick slab from 3D images
ADC		~30-40 ~30-40	7	1	
Ax Pre (Lava or sim) Ax Post Dynamic (45 sec, 80 sec, 3 min)		~30-40	4	1.5	
Cor Post 5 min		~30-40	4	2	
Ax Post 10 min		~30-40	3	1	
Renal		40.10	,		
Ax Fiesta/True FISP Ax 3D Dual Echo		~30-40 ~30-40	4	1 1 5	For dedicated renal indication (usually renal mass), axials must cover from above adrenal glands to below kidneys. Plan from localism Done at renal region and the plan from the plan fr
Ax 3D Dual Echo Ax T2 SSFSE/HASTE		~30-40	6	1.5	localizer. Does not need to cover entire abdomen. Coronal images must cover both kidneys from front to back using axial images for planning. Do not need to cover skin to skin.
Cor T2 SSFE/HASTE		~30-41	4	1	amper or priming, we no need to core out to Akil.
Ax T2 FS Propeller/T2 Haste FS		~30-40	4	1	
Ax DWI (50/1000)		~30-40	7	1	Only send B50 and 1000
ADC		~30-40	7	1	
Ax Pre (Lava or sim)		~30-40	3	1	
Cor Pre (Lava or sim)		~30-40	3	1	
Ax Post Dyn (20 sec, 60 sec, 90 sec) Cor Post 3 min		~30-40	3	1	
Ax Post (acquired after Cor Post 3 min)		~30-40	3	1	
Post process subtraction		** **	-		Cor post minus pre; Ax post minus pre
				_	
Liver with MRCP					* Use Eovist and have Body Radiologist review last set of images to determine if delayed images need to take place, if no bile leak identified.
Ax Fiesta/True FISP		~30-40	5	1 25	Any MRCP study without a pancreas specific indication (otherwise use Pancreas with MRCP protocol). Must cover entire liver
Ax 3D Dual Echo Ax T2 SSFSE/HASTE		~30-40 ~30-41	5	2.5	axial and coronal. Does not need to include entire kidney on axial unless needed to cover liver. Does not need skin to skin coverage on coronal.
AX 12 SSFSE/HASTE Cor T2 SSFE/HASTE		~30-41	4	1	UN EVOLUME.
Ax T2 FS Propeller/T2 Haste FS		~30-40	5	1	
Ax DWI (50/1000)		~30-40	8	2	Only send B50 and 1000
ADC		~30-40	7	1	
2D MRCP		~30-40	40	0	3 Oblique views.
Cor 3D MRCP		~30-40	1.4	0.7	
3D MIP		~30-40	5	2.5	Single thick slab from 3D images
Ax Pre (Lava or sim) Ax Post Dyn (20 sec, 1 min 3 min)		~30-40	5	2.5	1
AX Post Dyn (20 sec, 1 min 3 min) Cor Post 5 min		~30-40	4	2.5	
Ax Post 10 min		~30-40	5	2.5	
Ax T1 Lava 20 min (Eovist only)		~30-40	5	2.5	
			1		
			1		

Abbreviated MRCP (w/o)			_	
Ax T2 SSFSE/HASTE Fat Sat Cor T2 SSFE/HASTE	~30-41 ~30-40	5	1	Any MRCP study without a pancreas specific indication (otherwise use Pancreas with MRCP protocol). Must cover entire liver axial and coronal. Does not need to include entire kidney on axial unless needed to cover liver. Does not need skin to skin coverage on coronal.
Ax DWI (50/1000)	~30-40	8	2	izani ani cotoni. 2008 ito incoi o incinde enine kiuney on axiai unicas incocci in cote invei. 2008 ito incoi o incinde enine kiuney on axiai unicas incocci in cote invei. 2008 ito incoi o incinde enine kiuney on axiai unicas incocci in cote invei. 2008 ito incoi o sain coverage on cotonia. Only send 30 and 1000
Ax Fiesta/True FISP	~30-40	5	1	
Axial 3D Dual Echo	~30-40	5	2.5	
2D MRCP (Thick & Thin cuts)	~30-40	40	0.7	3 Oblique views.
Cor 3D MRCP Ax Lava	~30-40 ~30-40	1.4	2.5	
Ax Lava Cor Lava	~30-40	5	2.5	
	30.40	-	2.0	
Appendicitis (Order as MR Abd and Pelvis)				
Sag SSFSE	42	4	1	
Cor 2D Fiesta Cor SSFSE	42	4	1	
Cor SSFSE FS	42	4	1	
Ax Fiesta	40	5	1	
Ax SSFSE	40	5	1	
Ax SSFSE FS	40	5	1	
Ax T1 Lava	40	6	3	
Ax DWI (800 to 1000)	40	8	2	
Enterography - Order as MR Abdomen and Pelvis				
Cor Fiesta Cine	32	8	0	* Coverage for all sequences to include stomach (as much stomach as possible) to perineum (through anus); axial images may need to be split into 2 stacks for appropriate coverage
(Give .5 mg Glucagon: IV preferred)				* Glucagon contraindications: Allergy to glucagon or history of pheochromocytoma, insulinoma, or glucagonoma.
Cor SSFSE Ax SSFSE	40 40	3	1	Glucagon relative contraindication to diabetes. Administration of abusenos is M injected should in preferred court IM. if specifile.
AX SSFSE FS AX SSFSE FS	40	4	1	* Administration of glucagon via IV injected slowly, is preferred over IM, if possible. * NPO 4 hours prior to exam
AX T1 Lava	40	5	2.5	* 2 bottles Breeza/Volumen over 1 - 1.5 hour as tolerated by patient prior to imaging, water if can't tolerate Breeza/Volumen (adult and peds)
Cor SSFSE FS	40	3	1	* Please send images to PACS in appropriate orientation
Ax T1 Lava +C (70 sec delay)	40	5	2.5	
Cor Ti Lava +C	40	5	2.5	
Axial DWI (50,1000)	40	8	2	
Perianal Fistula or Perianal Abscess				
Sag T2 FSE	22	4	0.5	* Axial scan range from bladder base to gluteal skin, coronal scan range from pubic symphysis to coccyx
Ax T2 propeller or FRFSE	22	2	0.2	* Oblique axial and coronal to anal canal based on sagittal image
Ax T2 FS propeller or FRFSE	22	2	0.2	* Need surgeon note.
Cor T2 propeller or FRFSE	22	4	0.1	* Does pt. have seton drain?
Cor T2 FS propeller or FRFSE Ax T1 SPGR FS sm FOV	22 24	4	0.1	
AX T1 SPGR FS +C	42	5	1	
Cor T1 SPGR FS +C	24	4	0.5	
Ax T1 Sm FOV FS +C	24	4	0.5	
2				
Prostate				* Preferred prep: Microenema administered by the patient in the department, immediately before the scan.
				* If microenems is not available in the department, full present parts to the part of the parts
				* Prep: Nothing to eat or drink 12 hours prior, 1 bisacodyl suppository (Dulcolax) 10 hours prior to study, void just before exam
				* Special Instructions: No Caffeine the morning of the exam
Ax Global Lava	40 freq x 32 phase	2.5	0	Iliac Crest through Pubic Symphysis: Scan in the plane of the magnet and 90 degrees from each other.
T2 Sag propeller or FRFSE	12cm - 20cm	3	0	Entirety of Prostate gland including seminal vesicles Carinton of Destructured and the control projects The control of the c
T2 Cor propeller of FRFSE T2 Ax propeller or FRFSE	12cm - 20cm 12cm - 20cm	3	0	Entirety of Prostate gland including seminal vesicles Entirety of Prostate gland including seminal vesicles: Diffusion/ Ax T2/Dynam are all same plane
Ax Focus Diffusion (50/1000)	24	4	1.5	Entirety of Frostne gland Instituting sential vestels. S. Diffusion As T2D man are all same plane Entirety of Prostne gland instituting sential vestels. S. Diffusion As T2D man are all same plane Entirety of Prostne gland instituting sential vestels. Diffusion As T2D man are all same plane Entirety of Prostne gland instituting sential vestels. Diffusion As T2D man are all same plane Entirety of Prostne gland instituting sential vestels. Diffusion As T2D man are all same plane
	24	4	1.5	Entirety of Prostate gland including seminal vesicles: Diffusion/ Ax T2/Dynam are all same plane
Ax Perfusion (Dynamic)	(not specified)	3	0	Entirety of Prostate gland including seminal vesicles: Diffusion/ Ax T2/Dynam are all same plane: Include color mapping through CAD system
Ax Global Lava + Contrast	40 freq x 32 phase	2.5	0	Iliac Crest through Pubic Symphysis: Diffusion/ Ax T2/Dynam are all same plane
				Each type for Diffusion
				Use B value of 1000 to calculate ADC map Send B value of 1400 to PACS for diffusion. Do NOT use this B value to calculate ADC
				Seen to State Or From the Telescope and Telesc
				Please send "water only" LAVA images
				If your MRI can extrapolate B values of 1400, use to save time. If not acquire 2 separate diffusion sequences
				Only provide 10 sequences
				* If pelvic hardware present, the exam should be completed on 1.5T and not 3T MRI
				1

PELVIS FEMALE GYN (see subtype)					
					These exams use the same protocol except that double oblique (angulation) imaging is done perpendicular to the tumor location / or body part if tumor is not seen (see illustrations)
					Tumors tend to be a light grey on T2W sequences. Look at history provided if you can't see the tumor and scan relative to the body part (like vagina, cervix, endometrium) if cervix cancer then double oblique images are done with attention to cervix but if endometrial cancer then with attention to the endometrium
Figure 2. The double oblique technique. Blientorien street on the state of the stat	The state of the s	are the second of the second o	Annual of the description of the		Stage IB2 cervical adenocarcinoma in a 48-year old woman with radical hysterectomy (A) T2-weighted axial MR images show a 5 cm well defined exceptive irans (tar) mainly involving right posterior excervis with no disruption of peripheral rim. The maximum disastered the lesson is measured 5on (irrorobacka) on the 72-weighted signitial image. At intograthological infoling, bilateral parametrial lesson was found. MRI stage TT0 (-4 cm) was understaggment on final pathologic sage T28.
Includes: Endometrial, cervix and vaginal cancer	ocan number	done wander and willi			
Patient Prep: Patient Prep:					Fast for at least 4 hours and empty bladder/ rectum about 1 hour before examination (so bladder is part full). Use 40 mL of warmed Vaginal ultrasound gel or KY jelly
Patient Preg: Technical note:	-		_		Air in rectum may interfere with exam. If full of air have patient empty. Scan perpendicular to the tumor site (or body part of the study such as cervix, endometrium or vaginal if tumor is not seen) using double oblique imaging
Technical note:					small FOV images (above)- see diagram These oblique images are used for scans 5, 6, 7, 8, 9
Technical note: Technical note:					The color indicators (yellow and blue scans) which use the same imaging FOV and planes for each color use ANTERIOR SAT BAND when possible for imaging below if phase is AP; use phase AP in most situations; if artifacts might need to swap phase direction
LOC (3 planes) Large FOV Cor (to body) T2 (> 3000.90 to 102 ms)	1 2	40 (30 to 50) cm	8 (6 to 10) mm	2 mm	Large FOV to include entire pelvis and all of the kidneys matrix =256 x 192 to 256: use fast FSE like RESTORE, FRFSE, DRIVE, DE FSE
	2	22(18 to 28) cm	3 to 4 mm	0.3 to 0.4 mm	Smaller sized images after to patient and to the standard and the standard
Small FOV Obl SAG T2 no Fat Sat (>3000.90 to 102 ms)	3		3 to 4 mm		whole pelvis
Small FOV Obl COR to tumor site T2 no Fat Sat (>3000,90 to 102 ms) Small FOV Obl AX to tumor site T2 no Fat Sat (>3000,90 to 102 ms)	4 5	22(18 to 28) cm 22(18 to 28) cm	3 to 4 mm	0.3 to 0.4 mm 0.3 to 0.4 mm	small dedicated to region of tumor (COR long axis tumor site) - i.e. double oblique (double angulation) set of images small dedicated to region of (AX to long axis of tumor) i.e. double oblique (double angulation) set of images
Small FOV AX to tumor site DWI (same as immediately above) Create ADC from data above	6 6 (create ADC map)	22(18 to 28) cm	3 to 4 mm	0.3 mm	b= 50,1000
Small FOV Obl AX GE T1 to tumor site (like scan 5) (NO Fat Sat 3D GRE T1*)	7	22 (18 to 28) cm	3 to 4 mm	0.3 to 0.4 mm	Nex =1 at 0 (pre contrast) scan top L5 thru entire pelvis: DCE*= dynamic contrast enhancement
AX (to body) (NO Fat Sat dual echo GRE T1) same as scan above 7 GRE T1 with FAT SAT AX (to body)	8	28 cm (20 to 44 cm) 28 cm (20 to 44 cm)	3 (2 to 4) mm 3 (2 to 4) mm		These are very important (both T1 without Fat Sat then with Fat Sat) if looking for endometriosis' adnexal mass, repeat if degraded by motion or other)
Small FOV Obl SAG (Sag to tumoz/ body part) DCE (Fat Sat, 3D GRE T1*)				0.20.4	Nex =1 at 0 (pre contrast) then 25, 60, 100, 140, 180, 240 seconds (and make subtraction of each of these from non contrasted exam)
make subtractions (all post & pre contrast scans)	10 10 (make subtractions)	22 (18 to 28) cm 22 (18 to 28) cm	3 to 4 mm 3 to 4 mm		Nex. = 1 at 0 µFC visit (ast) (area 3) (not 3), (not 4) (ast) (ast
OBL AX +C (like scan 5) Fat Sat GRE T1	11	22 (18 to 28) cm	3 to 4 mm	0.3 to 0.4 mm	Nex = 2
optional Large FOV COR delayed post c+ (Fat Sat, 3D GRE T1*)	12	40 (30 to 50) cm	10 mm	1 to 2 mm	From mid kidneys through upper thigh (include all pelvis and lower Abd); perform if time permits for imaging slot
opnomit Large POV CON dealyed post C+ (Fat Sat, 3D ORL 11)	12	40 (30 to 30) cm	10 11111	1 10 2 11111	Total and Admity's integer upper ungar (ascance an pervisa and system Assay, persons at unine perints and uningaring side.
UTERINE FIBROIDS / LEIOMYOMA	Scan #	Done without	and WITH IV CONT	TRAST	
Patient Prep: Patient Prep:					Fast for at least 4 hours and empty bladder/ rectum about 1 hour before examination (so bladder is part full). NOT needed (vaginal gel or KY jelly)
Patient Preg.					Air in rectum may interfere with exam. If full of air have patient empty.
Technical note: Technical note:					Imaging FOV should include all of uterus and all fibroids / masses (may need to increase or decrease FOV) use ANTERIOR SAT BAND when possible for imaging below if phase AP; use phase AP in most situations; if artifacts might need to swap phase direction
LOC: (3 planes)	1		any		
	Smaller or larger	FOV images are fit to patient ar			
Small FOV SAG T2 no Fat Sat (>3000/90 to 120 ms)	2	28 cm (20 to 44 cm)	4 to 5 mm	0.4 to 0.5 mm	from inside of one hip to the other (small FOV): ETL = 17 (13 to 21); NEX = 2 Matrix at least 256 x 256
Small FOV AX (to endometrium) T2 no Fat Sat (>3000,90 to 120 ms) Small FOV AX DWI (same FOV and plane as immediately above for scan 3)	3 4	28 cm (20 to 44 cm) 28 cm (20 to 44 cm)	4 to 5 mm 4 to 5 mm	0.4 to 0.5 mm 0.4 to 0.5 mm	small dedicated to region of mass (AX to long axis of cervix) i.e. double oblique set of images b= 50, 1000
Create ADC from data above	4 (create ADC map)				
AX (to endometrium or uterus, same FOV and plane as scan 3,4) (NO Fat Sat 3D GRE T1*)	5	28 cm (20 to 44 cm)	4 to 5 mm		Nex = 2 at 0 (pre contrast) The scans 11 and 12 should be the same except for no FS (FAT SAT) and FS
DCE (pre contrast then dynamic post) SAG +C Fat Sat GRE T1		28 cm (20 to 44 cm)	4 to 5 mm	0.4 to 0.5 mm	
make subtraction AX (to endometrium/ uterus) (with Fat Sat otherwise same as scan 3,4 and 5, 3D GRE T1*)	6 (make subtractions) 7	28 cm (20 to 44 cm)	4 to 5 mm		make subtraction of ALL post contrast scans - pre contrast scan
FEMALE UTERINE CONGENITAL ABNORMALITIES		NO IV contras	st needed for this type	e of scan	
Patient Prep: Patient Prep:			-		Fast for at least 4 hours and empty bladder/ rectum about 1 hour before examination (so bladder is part full). NOT NEEDED: use no Vaginal ultrasound gel or KY jelly
Patient Preg: Technical note:					Ari in rectum synterfere with exam. If full of a they patient empty. use ANTERIOR SAT BAND when possible for imaging below if phase AP; use phase AP in most situations; if artifacts might need to swap phase direction
Technical note:					от применения проминения пинадищения и рыме га., ное рыме га. ин нему миллине, и анилиз пидан песи из эмар риме инстити
LOC: (3 planes)	1	40 cm	any		
Large FOV Cor (to body) T2 no Fat Sat (>3000/90 to 102 ms)	2	40 to 50 cm	8 (6 to 10) mm	2 mm	Large FOV to include entire pelvis and all of the kidneys matrix =256 x 192 to 256; use fast FSE like RESTORE, FRFSE, DRIVE, DE FSE
					Small FOV images are designed to "fit to patient" and are as small as reasonably possible
Small FOV Obl SAG no Fat Sat T2 (>3000/90 to 102 ms) Small FOV Obl COR to Endometrium no Fat Sat T2 (>3000/90 to 102 ms)	3 4	20(18 to 24) cm 20(18 to 24) cm	4 to 5 mm 4 to 5 mm	0.4 to 0.5 mm	from inside of one hip to the other (small FOV): ETL = 17 (13 to 21); NEX = 2 Matrix at least 256 x 256 small FOV (COR long axis of Endometrium) - i.e. double oblique set of images THIS is the MOST IMPORTANT sequence repeat if blurred
Small FOV Obl AX to Endometrium no Fat Sat T2 (>3000.90 to 102 ms)	5	20(18 to 24) cm	4 to 5 mm	0.4 to 0.5 mm	small FOV (AX to long axis of Endometrium) i.e. double oblique set of images
NO FAT SAT - AX to body (NO Fat Sat dual echo GRE T1) with FAT SAT AX to body same as scan 7 but with FS (w Fat Sat , GRE (dual echo) T1)	6	28 cm (20 to 44 cm) 28 cm (20 to 44 cm)	4 to 5 mm 4 to 5 mm	0.4 to 0.5 mm 0.4 to 0.5 mm	Nex = 2 Nex = 2
materia ser ser ou may same as sean / our mail is (n ear silt, GRE (utai ecito) 11)	,	20 cm (20 to 44 cm)	7 W J IIIII	0.4 to 0.2 mill	

ADNEXAL MASS or ENDOMETRIOSIS or R/O OVARIAN TORSION (female gynecologic emergencies)	Best done with	out and WITH IV CO!	NTRAST	
Patient Prep:				Empty bladder 20 min to 1 hour (1 hour best if time permits however for torsion r/o may use shorter (any) times) before examination (so bladder is part full).
Patient Preg:				Air in rectum may interfere with exam. If full of air have patient empty.
Technical note:	 	1	1	use ANTERIOR SAT BAND when possible for imaging below if phase AP; use phase AP in most situations; if artifacts might need to swap phase direction
Technical note: Technical note:				Vaginal Gel or KY Jelly is NOT needed for this exam Use Ax, Cor and Sag imaging to the body (not cervix or endometrium)
Technical note:				* IV contrast recommended, if ordered without contrast, then to all scans above (including scan 9 without contrast, but no dynamic contrast scans)
LOC: (3 planes)	1 40 cm	any		
Cor (to body) T2 (>3000/90 to 102 ms)	2 40 to 50 cm	8 (6 to 10) mm	2 mm	Large FOV to include entire pelvis and all of the kidneys matrix =256 x 192 to 256: use fast FSE like RESTORE, FRFSE, DRIVE, DE FSE
	FOV to view bone to bor		varies and Uterus)	
SAG (to body) Small FOV no Fat Sat T2 (>3000/90 to 102 ms)	3 28 cm (20 to 44 cm) 4 28 cm (20 to 44 cm)	3 to 4 mm 3 to 4 mm	0.3 to 0.4 mm 0.3 to 0.4 mm	from inside of one hip to the other (small FOV): ETL = 17 (13 to 21); NEX = 2 Matrix at least 256 x 256
COR (to body) Small FOV no Fat Sat T2 (>3000/90 to 102 ms) AX (to body) Small FOV no Fat Sat (>3000/90 to 102 ms)	4 28 cm (20 to 44 cm) 5 28 cm (20 to 44 cm)	3 to 4 mm	0.3 to 0.4 mm	
AX DWI (same as immediately above)	6 28 cm (20 to 44 cm)	3 to 4 mm	0.3 to 0.4 mm	b= 50, 1000
Create ADC from data above				
AX (to body) (NO Fat Sat dual echo GRE TI)	7 28 cm (20 to 44 cm)	3 (2 to 4) mm		These are very important (both T1 without Fat Sat then with Fat Sat) if looking for endometriosis/ adnexal mass, repeat if degraded by motion or other)
same as scan above 7 GRE T1 with FAT SAT AX (to body)	8 28 cm (20 to 44 cm)	3 (2 to 4) mm		
SAG (to body) pre then post contrast DCE +C Fat Sat GRE T1	9 28 cm (20 to 44 cm)	3 (2 to 4) mm	make subtractions	Nex = 1 at 0 (pre contrast) then 25, 60, 100, 140, 180 seconds (and make subtraction of each of these from non contrasted exam)
make subtractions of ALL post contrast - pre contrast		. (2 10 1) 11111		Sag images are pelvic bone to pelvic bone
same as scan 8 but post contrast AX (to body) +C (Fat Sat, 3D GRE T1)	10 28 cm (20 to 44 cm)	3 (2 to 4) mm		go to bathroom for urethra diverticulum
Bladder Mass				
Patient Prep:				Empty bladder about 2 hours before examination (so bladder is moderately full).
Patient Preg:				Air in rectum may interfere with exam. If full of air have patient empty.
Technical note:				use ANTERIOR SAT BAND when possible for imaging below; if artifacts might need to swap phase direction
LOC TAN COTOR II - COD	40		1	
LOC: T2W SSFSE or Haste COR Large FOV Axial (to body) T2 (4000/90 ms)*	40 cm 34 (30 to 40 cm)	any 6 mm	1 mm	
Large FOV Axia (to body) 12 (4000/90 ins)* Large FOV Cor (to body) T2 (4000/90)*	40 to 50 cm	8 mm	2 mm	*Large FOV to include entire pelvis (bone to bone) and at least most of the kidneys
(1000)				
	FOV to view bone to bone in		s and Uterus)	
SAG T2 (4000/90 ms)	28 cm (20 to 44 cm)	3 to 4 mm	0.3 to 0.4 mm	**from inside of one hip to the other (small FOV): ETL = 17 (13 to 21); NEX = 2 Matrix at least 256 x 256
COR T2 (4000/90 ms)	28 cm (20 to 44 cm)	3 to 4 mm	0.3 to 0.4 mm	
AX T2 (4000/90 ms) AX DWI (same as immediately above)	28 cm (20 to 44 cm) 28 cm (20 to 44 cm)	3 to 4 mm 3 to 4 mm	0.3 to 0.4 mm 0.3 to 0.4 mm	Diffusion b= 50, 1000
Create ADC from data above	28 cm (20 to 44 cm)			
AX DCE (NO Fat Sat3D GRE T1*)	28 cm (20 to 44 cm)	3 (2 to 4) mm		Nex = 2 at 0 (pre contrast)
AX DCE (Fat Sat, 3D GRE T1*) SAG +C Fat Sat GRE T1	28 cm (20 to 44 cm) 28 cm (20 to 44 cm)	3 (2 to 4) mm	make subtractions	Nex = 1 at 0 (pre contrast) then 30,60, 90, 120, 150 seconds (and make subtraction of each of these)
COR +C delayed (Fat Sat, 3D GRE T1*)	28 cm (20 to 44 cm) 40 cm (30 to 50 cm)	3 (2 to 4) mm 8 mm	2 mm	Nex = 2 From mid kidneys through upper thigh (include all pelvis and lower Abd)
* IV contrast recommended, if ordered without contrast then do scans above without contrast (do Ax no Fat Sat, Ax Fat Sat, Sag T1)	40 cm (50 to 50 cm)	O mini	2	Use Ax, Cor and Sag imaging to the body (not cervit or endometrium)
Penis (Fracture)				
Cor STIR Global Ax T1 Lava Global	30 30	5	1	Tape penis to abdomen if needed
Sag T2 Propeller	24	3	0.4	
Sag T1	24	3	0.4	
Cor T2 Propeller	22	3	0.1	
Cor TI	22	3	0.1	
Ax T2 Propeller Ax T1	17	3	0.2	
Penis (Peyronie's Disease)				
Cor STIR Global	40	5	1	Tape penis to abdomen if needed
Ax T1 Lava Global Sag T2 FS Propeller	40 24	3	0.4	
Sag T1 FS	24	3	0.4	
Cor T2 Propeller	22	3	0.1	
Cor T2 FS Propeller	22	3	0.1	5 2110
Cor T1 FS Ax T2 Propeller	22 17	3	0.1	Rev 7-11-19
AX 12 Propeller AX T2 FS Propeller	17	3	0.2	Include IMA
Ax T1 FS	17	3	0.2	
Ax T1 FS +C	17	3	0.2	
Cor T1 FS +C	22	3	0.1	
Sag T1 FS +C	24	3	0.4	
		1	1	
Rectal Cancer (1.5 T)				
				* Preferred prep: Microenema administered by the patient in the department, immediately before the scan.
79 1 1 1 .		—	1	* If microenema is not available in the department, full prep may be utilized which requires the patient to plan to purchase and perform the prep at home. * Proc. Nothing to any or five it. 2 become for the preparation of
Technical note:		 	†	Prep: Nothing to eat or drink 12 hours prior, 1 bisacodyl suppository (Dulcolax) 10 hours prior to study, void just before exam Special Instructions: No Caffeine the morning of the exam
Ax T2 FRFSE Global	~30	5	0	30x320
Ax Diff Global (50/800)	~30	5	1	
Sag T2 FRFSE	24	4	0	320x224 (Do axials PERPENDICULAR to mass. VERY IMPORTANT** See images)
Cor T2 FRFSE	24	3	0	320x224 320x224 (See Images Below)
Ax OBL T2 FRFSE Cor OBL T2	24	3	0	3.5Dx.2d (See Images Below) The second image shows how sometimes multiple axial planes must be used to get it perpendicular.
Cot OBL 12			ŭ .	The Section image is needed for diverted patients. No laxating is needed for diverted patients.
Rectal Cancer (3.0 T)		1	+	
		+	-	Preferred prep: Microenema administered by the patient in the department, immediately before the scan. If microenema is not available in the department, full prep may be utilized which requires the patient to plan to purchase and perform the prep at home.
	 			* If microenema is not available in the appartment, tuil prep may be unitized which requires the patient to plant perform the prep at nome. * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas) 10 hours prior to study, void just before exam * Prep: Nothing to eat or drink 12 hours prior, 1 bissocoly supposition; Oblicolas prior to study, 2 hours prior, 2 hours p
		1		* Special Instructions: No Caffeine the morning of the exam
Ax T2 FRFSE Global	~30	5	0	320x320
Ax Diff Global (50/800)	~30	5	1	
Sag T2 FRFSE		4	1	416x384
Cor T2 FRFSE Ax OBL T2 FRFSE	24 24	3	1	320x320 (These are overlapped images. 3mm then move 1 mm) 416x384 (Perpendicular to tumor)
Cor OBL T2	24	3	1	*10x30** (repeatual to tunto) The second impacts sometimes multiple axial planes must be used to get it perpendicular.
				* No laxative is needed for diverted patients
	 	1	1	

Urethra Diverticuli				
	1			
Ax T2 FS Global	20			Include entire urethra from bladder neck to external meatus.
Ax T2 FS Global Axial T2	28 12-16	4 2	0.3	Include entire urethra from bladder neck to external meatus. No vaginal gel.
AXIII 12 Sag T2	12-16	3	0.3	IV reginar ges.
35g 12 37g 12	12-16	3	0.3	
Ax T1 Lava	12-16	3	1	
Ax T1 Lava +C (Dynamic)	12-16	3	1	Nex = 1 at 0 (pre contrast) then 25, 60, 100, 140, 180 seconds (and make subtraction of each of these from non contrasted exam)
Ax Tl Lava + C Global	34-40	3	6	
Ax T1 Lava +C (after voiding)	12-16	3	1	Images acquired after voiding through urethra (to answer the question does the abnormality fill with contrast after voiding to confirm a urethra diverticulum)
MRV Pelvis (May-Thurner's Syndrome)	40		na	
CEMRA (Mask + 4 phases 20 sec apart , 3D Lab recons)	40	4	2	
Carrier (sines 1 + pinese 20 see upur (20 Into recons)	40	7	-	
MRA Aorta				
Ax 3D Dual Echo	40	4	2	
Ax T2 FS Propeller	40	6	1	
CEMRA (Mask + Dyn 2cc/sec 32 Locs)	40	3	1.5	
MRA Renal				
MRA Renai Ax 3D Dual Echo	40	Δ	2	
AX 312 FS Propeller AX 312 FS Propeller	40	6	1	
Ax 3D Enhance wo (60 locx/slab)	38	2	1	
Mediastinal Mass				
Coronal T2 Haste	20-30	4	1	
Axial T2 Haste	20-30	4	1	Please confirm with radiologist regarding scan range to ensure lesion is imaged appropriately, as this is an uncommon exam. Typically, thoracic inlet through base of heart.
Axial STIR	20-30 20-30	4	1	
Axial IN/OUT phase Axial TRUFISP	20-30 20-30		1	
Axial IRUFISP Axial DWI (85.0, B1000)	20-30	4 5	1	
Axial T1 VIBE pre	20-30	3	1	
Axial T1 VIBE post (20-30s, 60-70s, 3 min)	20-30	3	1	
Coronal T1 VIBE post (5 min)	20-30	3	1	
Abridged Whole Body MRI				
Neck	**			3 separate exams will need ordered MRI Neck, MRI Chest, and MRI Abdomen/Pelvis. Whole Body MRI is an unlisted CPT code and cannot be used as it is not billable
Axial T1	18	3	3	Superior FOV must include IACs
Axial T2 fat sat Axial DWI	18	3	3	
Axial DWI Axial C+TI fat sat	18	3 2	0.3	
AMIL C-11 III SII COROLI C-TI I I I III SII COROLI C-TI I I I III SII COROLI C-TI I I I I I I I I I I I I I I I I I I	25	3	0.3	
Chest		,	0.0	
Coronal T2 Haste	20-30	4	1	
Axial STIR	20-30	4	1	
Axial DW/ADC	20-30	3	1	
Axial T1 VIBE pre/post (60-70s)	20-30	4	1	
Coronal T1 VIBE post (5min) Abdomen/Pelvis	20-30	5	1	
Abdomen/Pelvis Coronal T2 Hase	~30-40	5	1	
Corona 12 mase Axial T2 fat sat	~30-40	5	2.5	
Axial 12 in xia. Axial 17 in your of phase	~30-40	5	1	
Axial DW/ADC	~30-40	4	1	
Axial T1 VIBE pre/post (60-70s)	~30-40	5	1	
Coronal T1 VIBE post	~30-40	8	2	
Rib	1			
KID	1	1		
Pouting Programs				Mark the cite() of min
Routine Breathing Axial T1	25-35*	4	1	Mark the site(s) of pain * FOV to only include rib case and adjacent chest wall musculature
Axial TI	25-35* 25-35*	4 4	1	Mark the site(s) of pain *FOV to only include rib cage and adjacent chest wall musculature
Axial T1 Axial T2 F4 S41 Coronal STIR	25-35* 25-35*	4 4	1 1 1	Mark the site(s) of pain *FOV to only include rib cage and adjacent chest wall musculature
Axial TI Axial TEFA SAI Coronal STRE Coronal GRE	25-35* 25-35* 25-35* 25-35*	4	1 1 1	Mark the site(s) of pain * FOV to only include rib cage and adjacent chest wall musculature
Axial T1 Axial T2 Axial T3 Axial T4 Axial T5 Sair Coronal STIR Coronal GRE Breath Hold (~20 seconds each)	25-35* 25-35* 25-35*	4 4 4		Murk the street of pain * FOV to only include rib cage and adjacent chest wall musculature
Axial T1	25-35* 25-35* 25-35*	4 4 4 4	1	Mark the site(s) of pain * FOV to only include rib cage and adjacent chest wall musculature
Axial T1 Axial T2 Fat Sat Coronal STIR Coronal GRE Breath Hold (-20 seconds each) COR T1 VIBE (non Fat Sat) Sag T1 VIBE (non Fat Sat)	25-35* 25-35* 25-35* 25-35* 25-35*	4 4 4 4 4	1	* FOV to only include rib cage and adjacent chest wall musculature
Axial TI Axial T2 Fat Sat Coronal STIR Coronal STIR Coron STIR Coron STIR Coron STIR Coron STIR Coron STIR Coron STIR Axial Type State Breath Hold (~20 seconds each) COR TI VIBE (non Fat Sat) Sag TI VIBE (non Fat Sat) Axial Handa (non Fat Sat)	25-35* 25-35* 25-35* 25-35* 25-35* 25-35*	4 4 4 4	1	Mark the site(s) of pain * FOV to only include rib cage and adjacent chest wall musculature # FOV to only include rib cage and adjacent chest wall musculature # FOV to only include rib cage and adjacent chest wall musculature ## FOV to only include rib cage and adjacent chest wall musculature
Axial T1 Axial T2 Fat Sat Coronal STIR Coronal STIR Coronal GRE Breath Hold (-20 seconds each) COR T1 VIBE (non Fat Sat) Sag T1 VIBE (non Fat Sat)	25-35* 25-35* 25-35* 25-35* 25-35*	4 4 4 4 4	1	* FOV to only include rib cage and adjacent chest wall musculature
Axial T1 Axial T2 Fat Sat Coronal STIR Coronal GNE Breath Hold (~20 seconds each) COR T1 VIBE (non Fat Sat) Sag T1 VIBE (non Fat Sat) Ax T2 HASTE (non Fat Sat) Triplane T2 HASTE Fat Sat	25-35* 25-35* 25-35* 25-35* 25-35* 25-35*	4 4 4 4 4	1	* FOV to only include rib cage and adjacent chest wall musculature H poor Fat Sat on the HASTE, please use triplane breath-hold STIR
Atai IT Axia T2 Fat Sat Coronal STIR ATAINAL STIP Sati Tissue (Tumor'') Soft Tissue "Tumor"	25-35* 25-35* 25-35* 25-35* 25-35* 25-35*	4 4 4 4 4	1	* FOV to only include rib cage and adjacent chest wall musculature
Axial T1 Fat Sat	25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35°	4 4 4 4 4	1 1 1 1 1	* FOV to only include rib cage and adjacent chest wall musculature H poor Fat Sat on the HASTE, please use triplane breath-hold STIR
Axial T Axial T Fat Sat Coronal STIR Sat T UBE (non Fat Sat) Ax T HASTE (non Fat Sat) Triplane T2 HASTE Fat Sat Soft Tissue "Tumor" Axial T Axial T Axial PD Fat Sat Coronal STIR Coronal STIR	25-35° 25-35° 25-35° 25-35° 25-35° 25-35° 25-35° 25-35°	4 4 4 4 4	1 1 1 1	* FOV to only include rib cage and adjacent chest wall musculature H poor Fat Sat on the HASTE, please use triplane breath-hold STIR
Axial T1 Axial T2 Fat Sat	25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35°	4 4 4 4 4	1 1 1 1 1	* FOV to only include rib cage and adjacent chest wall musculature H poor Fat Sat on the HASTE, please use triplane breath-hold STIR
Axial TI Axial T2 Fat Sat Coronal STIR Coronal STIR Coronal GRE Breath Hold (~20 seconds each) COR T1 VIBE (non Fat Sat) Sag T1 VIBE (non Fat Sat) Ax 72 HASTE (non Fat Sat) Triplane T2 HASTE Fat Sat Soft Tissue "Tumor" Axial T1 Axial PD Fat Sat Axial GRE H contrast ordered: Ax T1 Fat Sat	25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35° 25:35°	4 4 4 4 4	1 1 1 1	* FOV to only include rib cage and adjacent chest wall musculature H poor Fat Sat on the HASTE, please use triplane breath-hold STIR
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Axial T! Axial T2 Fat Sat Coronal STIR Coronal GRE Breath Hold (-20 seconds each) COR T1 WHE (non Fat Sat) Sag T1 WHE (non Fat Sat) Sag T1 WHE (non Fat Sat) Ax T2 HASTE (non Fat Sat) Triplane T2 HASTE Fat Sat Soft Tissue "Tumor" Axial T1 Axial PD Fat Sat Axial GRE If contrast ordered: Ax T1 Fat Sat Cor T2 Cor STIR Sag T2 Fat Sat If contrast ordered Triplane T1 Fat Sat Post Pectoralis Axial T2 Fat Sat	25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* * * * * * * * * * * * *	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* FOV to only include rib cage and adjacent chest wall musculature If poor Fat Sat on the HASTE, please use triplane breath-hold STIR *FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. *FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. Large field of view oriented to pectoralis major muscle (to include from lateral cortex of humerus thru sternum)
Axial TI Axial T2 Fat Sat Coronal STIR Coronal GRE Breath Hold (~20 seconds each) COR T1 VIBE (non Fat Sat) Sag T1 VIBE (non Fat Sat) Sag T1 VIBE (non Fat Sat) Ax T2 HASTE Fat Sat Soft Tissue "Tumor" Soft Tissue "Tumor" Axial T1 Axial PD Fat Sat Axial T2 Axial T2 Cor T3 Axial T2 Fat Sat Cor T1	25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 35	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# FOV to only include rib cage and adjacent chest wall musculature # FOV to only include rib cage and adjacent chest wall musculature # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part. # FOV and Spacing subject to area of concern. Use same FOV and Spacing as the closest joint or body part.
Axial T! Axial T2 Fat Sat Coronal STIR Coronal GRE Breath Hold (-20 second seach) COR T1 WBE (non Fat Sat) Sag T1 WBE (non Fat Sat) Sag T1 WBE (non Fat Sat) Ax T2 HASTE (non Fat Sat) Triplane T2 HASTE Fat Sat Soft Tissue "Tumor" Axial T1 Axial PD Fat Sat Axial GRE If contrast ordered: Ax T1 Fat Sat Cor T2 Cor STIR Sat Fat Sat If contrast ordered: Ax T2 Fat Sat If contrast ordered: T2 Fat Sat If contrast ordered: T3 Fat Sat Axial Fat Fat Sat Axial Fat Fat Sat If contrast ordered: T4 Fat Sat Cor T2 Cor STIR Sat Axial T2 Fat Sat If contrast ordered Triplane T1 Fat Sat Post Triplane T1 Fat Sat Post Cor T1 Cor STIR Axial T2 Fat Sat Cor T1 Cor STIR	25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* 25-35* * * * * * * * * * * * *	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# FOV to only include rib cage and adjacent chest wall musculature Fow to only include rib cage and adjacent chest wall musculature
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