Updated 1/30/2025

BODY PART	INDICATIONS	PROTOCOL
GENERAL ABD&PELVIS W/WO	**Must consult with a Body Radiologist prior to use of this protocol**	Coverage: Dome of Liver through the symphysis pubic Prep : Patient must be NPO 3 hours prior to their exam , Patient must complete an enema the morning of their exam in addition to being NPO **T2 COR SS/TSE BH – {6THK/1GAP} (smallest FOV possible) – Dome of Liver through pubic symphysis (as much of the pelvis as possible), POSTERIOR SKIN TO ANTERIOR SKIN** **T2 AX SS/TSE BH (HI-TE) – {6THK/1GAP} (smallest FOV possible)– Dome of Liver through pubic symphysis (as much of the pelvis as possible), POSTERIOR SKIN TO ANTERIOR SKIN** **T2 AX SS/TSE FSAT BH – {6THK/1GAP} – Dome of Liver through kidneys** **T1 AX TFE IN & OUT PHASE BH – {6THK/1GAP} - Dome of Liver through kidneys** **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER – Dome of Liver through kidneys** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100– Dome of Liver through kidneys - please send ADC value to PACS** **T2 AX SS/TSE FSAT BH – {6THK/1GAP} – Lower kidneys through pubic symphysis (as much of the pelvis as possible)** **3D T1 AX FFE – {5THK/0GAG} (25 FOV) – Lower kidneys through pubic symphysis (as much of the pelvis as possible)** **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER – Lower kidneys through pubic symphysis (as much of the pelvis as possible)** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100– Lower kidneys through pubic symphysis (as much of the pelvis as possible)** **ABD*T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – DOME OF LIVER DOWN THRU KIDNEYS** **PELV*T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – Lower kidneys through pubic symphysis (as much of the pelvis as possible)** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)*

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		ABD*T1/3D_AX VIBE/TIGRE_IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL **ABD*T1/3D_AX VIBE/TIGRE_IMMEDIATE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **PELV*1/3D_AX_VIBE/TIGRE_1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **ABD*T1/3D_AX VIBE/TIGRE_3 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **ABD/PELV*T1/3D_COR_VIBE/TIGRE_C+ – {6THK/0GAP} COVER SKIN TO SKIN**
ADRENALS WO **Charge as Abdomen wo**	ADRENAL MASS, F/U TO CT *if concern Pheo, please see Pheo protocol	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam **T2_COR_SS/TSE_BH – {5THK/1GAP} (FOV: 25cm) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **T2_AX_SS/TSE_BH (HI-TE) – {5THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2_AX_FS TSE – {5THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T1_AX_TFE_IN & OUT PHASE_BH – {4THK/1GAP} *COPY PREV. AXIAL --smallest fov possible focused on adrenals/kidneys..** **T1_COR_TFE_IN & OUT PHASE_BH – {4THK/1GAP}** **DWI_AXIAL_B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER** **DWI_AXIAL_B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS**
BLADDER **Charge as Pelvis w/wo**	Pain w/ urination, mass	Coverage: Iliac crest through the symphysis pubis Prep : Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO ****FULL BLADDER** patient should not void for 2 hours prior to the study** **T2_AX_TSE – {4THK/0.5GAP} (20 FOV– ENTIRE FULL PELVIS)** **T2_COR_TSE – {4THK/0.4GAP} (FOV – ENTIRE BLADDER)** **T2_AX_TSE – {4THK/0.4GAP} (20 FOV– ENTIRE BLADDER)** **T2_SAG_TSE – {4THK/0.4GAP} (20 FOV-– ENTIRE BLADDER)**

		DWI AXIAL B100 BH/RESP – {4THK/0.4GAP} FOV DEPENDENT ON SCANNER **DWI AXIAL B(800-1000) BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS** **INJECT CONTRAST** *POWER INJECTED 2ml/s* **(DYNAMIC PRE/POST with 20 sec delay) T1/3D AX VIBE/TIGRE (20sec/40sec/60sec/80sec) – {ISOTROPIC VOXEL } (FOV – ENTIRE BLADDER/MATCH FOV FROM T2)**
CHEST WALL MASS	Follow Up to abnormal imaging, chest wall mass	**Coverage: Several centimeters above and below entirety of mass** **Prep: No Prep** **Ax T1 {4THK/1GAP} (18FOV) -** **Ax T2 FS {4THK/1GAP} (18FOV) –** **Ax DWI {4THK/1GAP} (18FOV) –** **Cor T1 {3THK/1GAP} (18FOV) -** **Cor T2 FS {3THK/1GAP} (18FOV) -** **Sag T1 {4THK/.5GAP} (18FOV) -** **Sag T2 FS {4THK/.5GAP} (18FOV) –** **Ax T1 FS {4THK/1GAP} (18FOV) -** **C+ Ax T1 FS {4THK/1GAP} (18FOV) - COPY ABOVE** **BEST OPPOSING PLANE EITHER SAG OR COR (MASS IN PROFILE)** **C+ Cor T1 FS {3THK/1GAP} (18FOV) -** **C+ Sag T1 FS {4THK/.5GAP} (18FOV) -**
RETROGRADE CYSTOGRAM **Charge as Pelvis w/wo**	Post surgical anastomosis leak, evaluation of existing ureteral sphincters (if present)	Coverage : Adrenals through Pubic Symphysis **Prep : Patient must have in-place foley catheter, whether supra-pubic or urethral. Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO** ****1.25ML CLARISCAN injected and mixed into 250ml Saline bag*, to be given during examination, Radiologist may supervise open drip into foley**

		catheter. ** **3 plane loc NON BH –** **3 plane loc BH** **T2 COR (FASE-'singleshot') BH – {4THK/0 to -0.5 GAP} (variable FOV) cover adrenals to below symphysis, skin-to-skin** **T2 AX (FASE-'singleshot') BH – {6THK/1GAP} (variable FOV), cover adrenals to below symphysis** **T2 AX (TSE) FS BH – {6THK/1GAP} Same coverage as above, TSE sequence not 'FASE' or 'SS'** **In/Out Phase AX BH- {6THK/1GAP} Same coverage as above** **(ABD) T1/3D AX FS VIBE/TIGRE /FE ABD PRE – {6THK/0GAP} Cover Abd, Same coverage as above** **(ABD) T1/3D AX FS VIBE/TIGRE /FE Pelvis PRE – {6THK/0GAP} Cover Pelvis, Same coverage as above** **T1/3D FS COR THRIVE/LAVA/FE PRE {6~7THK/0GAP} cover adrenals to below symphysis, skin-to-skin** **Clamp foley tubing to isolate collection bag, then RADIOLOGIST/RN/Tech Starts IV Drip wide open into foley catheter, Drip in As much as patient will tolerate, then clamp IV and continue. Patient may experience some discomfort, time scans accordingly.** **ABD) T1/3D AX FS VIBE/TIGRE /FE ABD IMMEDIATE C+ {6THK/0GAP} Cover Abd, Same coverage as above** **(ABD) T1/3D AX FS THRIVE/LAVA/FE Pelvis IMMEDIATE C+ {6THK/0GAP} Cover Pelvis, Same coverage as above** **T1/3D FS COR VIBE/TIGRE /FE C+ {6~7THK/0GAP} cover S/A above** **T1/3D FS SAG VIBE/TIGRE /FE C+ {6~7THK/0GAP} cover adrenals to below symphysis, skin-to-skin** **T2 AX (TSE) FS BH C+ – {6THK/1GAP} Same coverage as above, TSE sequence not 'FASE' or 'SS'** **Disconnect IV, UNCLAMP Clamp foley tubing to collection bag,** **(optional)T2 3D FS FASE/SS COR, (respiratory gated if poss.)- {~1.2-1.5mm THK/0GAP}**
DEFECOGRAM **Charge as Pelvis wo**	Pelvic Floor Laxtivity, Constipation, Rectocele, Cystocele, "prolapse" or "-cele" , Uterine prolapse	Coverage : Must include all of Rectum Prep : Patient must complete an enema the morning of their exam in addition to being NPO, Pt can eat & drink as normal **** INJECT (3 – 70ML SYRINGES) OR 210ML U/S GEL INTO RECTUM** **T2 COR SS/TSE BH – {5THK/1GAP} (30 FOV) – SKIN TO SKIN** **T2 SAG SS/TSE – {5THK/1GAP} (30 FOV) – ASIS TO ASIS** **T2 AX-OBLIQUE SS/TSE– {5THK/1GAP} (30 FOV) – ILIAC CREST THRU RECTAL CANAL**

		T2_AX_SS/TSE_FSAT – {5THK/1GAP} (30 FOV) – ILIAC CREST THRU RECTAL CANAL **DYNAMIC SAG_BFFE or TRUEFISP – {7THK/0GAP} (26 FOV) – SLICE CENTERED IN RECTAL CANAL** **DYNAMIC SAG_BFFE or TRUEFISP – {7THK/0GAP} (26 FOV) – REPEAT A 2ND TIME** **DYNAMIC AX_STACK BFFE or TRUEFISP– {7THK/0GAP} (26 FOV) – ANGLE PERPENDICULAR TO RECTAL CANAL** **DYNAMIC COR_BFFE or TRUEFISP– {7THK/0GAP} (26 FOV) – SLICE CENTERED IN RECTAL CANAL** **Please Note : Ax-Oblique angle Perpendicular to the rectal canal** **Cor-Oblique angle Parallel to the rectal canal**
ENTEROGRAM **Charge as Abdomen w/wo**	Crohn's Disease/Ulcerative Colitis/IBD/small bowel pathology/Internal or External Hernia	Coverage: Mid-Liver through the symphysis pubis Prep : Patient must be NPO 3 hours prior to their exam, Patient drinks 2 bottles Breeza or Volumen and 1 bottle of water on arrival, Drink 1 bottle every 15-20 mins, then wait 15 mins after last bottle before starting the exam. (NOTE: Breeza is contraindicated if patient has any sort of fruit allergy.) ****IM GLUCAGON TO BE ADMINISTERED BY MA WHEN PATIENT GETS ON THE TABLE, WHEN MA NOT AVAILABLE PLEASE CALL RN**** **** ASK PT IF THEY HAVE PHEOCHROMOCYTOMA OR INSULINOMA, IF "YES" - GLUCAGON IS CONTRAINDICATED FOR THEM. SPEAK W/ A RAD CONCERNING THIS, SO THEY MAY DECIDE IF GLUCAGON WILL BE USED.** **T2_COR_SS/TSE_BH – {6THK/1GAP} (30FOV) : SKIN TO SKIN** **T2_AX_SS/TSE_FSAT– {5THK/1}(35FOV)** **T2 AX SS/TSE – {5THK/1}{35FOV}** **CINE UROGRAM BH – {80THK} (32FOV) : 10 DYNAMIC SCANS** **BFFE_COR_MULTI-SLICE MULTI-PHASE – {10THK}(30FOV) : 11 SLICES W/ 15 DYNAMICS PER SLICE** **T1/3D_AX_PRE – {6THK/0GAP} (30FOV)** **INJECT CONTRAST** *HAND INJECT* **T1/3D_AX_VIBE/TIGRE_IMMEDIATE_C+ – {6THK/0GAP} (30FOV)** **T1/3D_AX_VIBE/TIGRE_1 MINUTE_C+ – {6THK/0GAP} (30FOV)**

		T1/3D_COR_VIBE/TIGRE_C+ – {6THK/0GAP} (30FOV) **DWI_AX_B800 – {6THK/1GAG} (35FOV) please send ADC value to PACS**
FEMALE PELVIS (HYSTERECT-OMY) **Charge as Pelvis w/wo**	Ovarian Mass/Cyst, Pelvic Pain	Coverage : Iliac Crest through Pubic Symphysis Prep : Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO **Pt must **empty bladder** prior to exam **T2_SAG SS/TSE – {4THK/.4GAP} (30 FOV) – ASIS TO ASIS** **T2_COR_SS/TSE – {5THK/1GAP} (30 FOV) – SKIN TO SKIN** **T2_AX_SS/TSE_FSAT – {5THK/1GAP} (30 FOV)** **T2_AX_SS/TSE – {5THK/1GAP} (30 FOV)** **DWI_AX_B600 – {6THK/1GAG} (30FOV) please send ADC value to PACS** **3D T1_AX_FFE – {5THK/0GAG} (25 FOV)** **T1/3D_AX-OBLIQUE_VIBE/TIGRE_PRE – {5THK/0GAP} (25FOV)** **INJECT CONTRAST** *HAND INJECT* **T1/3D_SAG_VIBE/TIGRE_1 MINUTE C+ – {5THK/0GAP} (25FOV)** **T1/3D_AX_VIBE/TIGRE_2 MINUTE C+ – {5THK/0GAP} (25FOV)** **T1/3D_COR VIBE/TIGRE_3 MINUTE C+ – {5THK/0GAP} (25FOV)**
FEMALE PELVIS (W/ UTERUS) **Charge as Pelvis w/wo**	Ovarian Mass/Cyst, Adenexal Mass, Polycystic Fibrosis, Fibroids, Endometriosis * SEE NOTE, Menorrhagia, Amenoria, Pelvic Pain	Coverage : Iliac Crest through Pubic Symphysis Prep : Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO **Pt must **empty bladder** prior to exam ***ONLY if the diagnosis is specifically "Endometriosis", give glucagon at the start of the procedure.** ****IM GLUCAGON TO BE ADMINISTERED BY MA WHEN PATIENT GETS ON THE TABLE, WHEN MA NOT AVAILABLE PLEASE CALL RN**** **** ASK PT IF THEY HAVE PHEOCHROMOCYTOMA OR INSULINOMA, GLUCAGON IS CONTRAINDICATED FOR THEM. SPEAK W/ A RAD CONCERNING THIS, SO THEY MAY DECIDE IF GLUCAGON WILL BE USED.**

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		****IM GLUCAGON -** **T2_SAG SS/TSE – {4THK/.4GAP} (30 FOV) – ASIS TO ASIS** -Must cover the uterus, cervix, adnexa and pelvic sidewalls **T2_AX_SS/TSE_FSAT – {5THK/1GAP} (30 FOV)** -Must cover from iliac crests to vaginal introitus, Must cover pelvic sidewalls **T2_AX-OBLIQUE_SS/TSE – {4THK/.4GAP} (30 FOV), ANGLE PARALLEL W/ ENDOMETRIAL LINING** **T2_COR-OBLIQUE_SS/TSE - {4THK/.4GAP} (30 FOV), ANGLE PERPENDICULAR TO THE ENDOMETRIAL LINING** **3D T1_AX_FFE – {5THK/0GAG} (25 FOV)** -Must cover entire boney pelvis laterally and antero-posteriorly **DWI_AX_B600 – {6THK/1GAG} (30FOV) please send ADC value to PACS** **T1/3D_AX-OBLIQUE_VIBE/TIGRE PRE – {5THK/0GAP} (25FOV)** -Axial must cover entire boney pelvis laterally and antero-posteriorly **INJECT CONTRAST** *HAND INJECT* **T1/3D_SAG_VIBE/TIGRE 1 MINUTE C+ – {5THK/0GAP} (25FOV)** -Sagittal must cover the uterus, cervix, adnexa and pelvic sidewalls **T1/3D_AX_VIBE/TIGRE 2 MINUTE C+ – {5THK/0GAP} (25FOV)** -Axial must cover entire boney pelvis laterally and antero-posteriorly **T1/3D_COR_VIBE/TIGRE 3 MINUTE C+ – {5THK/0GAP} (25FOV)**
KIDNEY W/WO **Charge as Abdomen w/wo**	KIDNEY MASS, KIDNEY CYST, F/U TO ABNL ULT/CT, Polycystic Kidney Disease, Abnl Labs	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam **T2_COR_SS/TSE_BH – {6THK/1GAP} (smallest FOV possible) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **T2_AX_SS/TSE_BH (HI-TE) – {6THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2_AX_SS/TSE_FSAT BH/RESP – {6THK/1GAP} * COPY PREV. AXIAL** **T1_AX_TFE_IN & OUT PHASE_BH – {6THK/1GAP} *COPY PREV. AXIAL** **DWI_AXIAL_B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER**

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		DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS **T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – DOME OF LIVER DOWN THRU KIDNEYS; IF PT CAN'T HOLD BREATH, THEN JUST COVER DOME OF MID LIVER THRU ENTIRE KIDNEYS** **T1/3D COR VIBE/TIGRE PRE – {6THK/0GAP} – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE IMMEDIATE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D COR VIBE/TIGRE 1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 3 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** ****RECONS : SUBTRACTION IMAGES OF 1 AND 3 MIN SEQUENCES**
LIVER W/WO **Charge as Abdomen w/wo**	Liver mass, Cirrhosis, Hepatitis, F/U of primary/ secondary malignancy, Elevated LFT's, Abd pain, Splenomegaly, Jaundice, Hepatomegaly	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam **T2 COR SS/TSE BH – {6THK/1GAP} (smallest FOV possible) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **T2 AX SS/TSE BH (HI-TE) – {6THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2 AX SS/TSE FSAT BH – {6THK/1GAP} * COPY PREV. AXIAL** **T1 AX TFE IN & OUT PHASE BH – {6THK/1GAP} *COPY PREV. AXIAL** **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS** **T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – DOME OF LIVER DOWN THRU KIDNEYS; ** IF PT CAN'T HOLD BREATH, THEN JUST COVER DOME OF LIVER DOWN THROUGH TIP OF LIVER**

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		INJECT CONTRAST - 2 ml/sec *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE IMMEDIATE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 3 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D COR VIBE/TIGRE C+ – {6THK/0GAP} COVER SKIN TO SKIN**
LIVER W/EOVIST **Charge as Abdomen w/wo**	LNC, Bile Duct Injury, Mass (HCC, adenoma, FNH)	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam **T1 AX TFE IN & OUT PHASE BH – {6THK/1GAP} DOME OF LIVER THROUGH KIDNEYS** **T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – DOME OF LIVER DOWN THRU KIDNEYS; ** IF PT CAN'T HOLD BREATH, THEN JUST COVER DOME OF LIVER DOWN THROUGH TIP OF LIVER** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE IMMEDIATE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 3 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS** **5 MINUTES AFTER INJECTION** **T1/3D COR VIBE/TIGRE 5 MINUTE C+ – {6THK/0GAP}**

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		T2_COR_SS/TSE_BH – {6THK/1GAP} (smallest FOV possible) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN **T2_AX_SS/TSE_BH (HI-TE) – {6THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2_AX_SS/TSE_FSAT BH – {6THK/1GAP} * COPY PREV. AXIAL** **20 MINUTES AFTER INJECTION** **T1/3D_COR_VIBE/TIGRE C+ – {6THK/0GAP}** **T1/3D_AX_VIBE/TIGRE C+ – {6THK/0GAP} * COPY PRE AXIAL**
Liver Lab **Clinical Reference: MRN 665307**	HEMOCHROMATOSIS/IRON QUANT *MIF ONLY	Coverage : Entire Liver Prep : Patient must be NPO 3 hours prior to their exam ***TO BE PERFORMED AT MIF ONLY, UNLESS CONTRAIDICATED DUE TO HABITUS OR IMPLANT*** **COR/T2/HASTE – {6THK/20%DF} {38FOV} COVER ENTIRE LIVER** **AX/T2-HIGH TE/HASTE - {6THK/20%DF} {38FOV} COVER ENTIRE LIVER** **AX/T2/FS/HASTE - {6THK/20%DF} {38FOV} COVER ENTIRE LIVER** **AX/3D/IN-OUT PHASE - {3THK/20%DF} {38FOV} COVER ENTIRE LIVER** **AX/DWI - {6THK/20%DF} {38FOV} COVER ENTIRE LIVER** **T1/AX/VIBE – eDIXON BH {3THK/20%DF} {38FOV} COVER ENTIRE LIVER** **VIBE – qDIXON BH {3THK/20%DF} {38FOV} COVER ENTIRE LIVER** **T1/AX/VIBE – PRE BH** **T1/AX/VIBE – IMMEDIATE BH (ARTERIAL)– COPY PRE** **T1/AX/VIBE – IMMEDIATE REPEAT BH (VENOUS)– COPY IMMED** **T1/AX/VIBE – 1 MIN COPY IMMEDIATE REPEAT** **COR/VIBE- {2THK/20%DF} {38FOV}** **T1/AX/VIBE – 3 MIN COPY 1 MIN** **OPTIONAL SEQUENCES**

		AX/VIBE - {3THK/20%DF} {38FOV} COPY PREVIOUS AXIAL VIBE **COR/VIBE – COPY PREVIOUS CORONAL VIBE** **COR/VIBE/DIXON – (OPTIONAL) COPY PREVIOUS** **AX/T2/FS/FBLADE – RESP TRIGGERED {6THK/20%DF} {38FOV}** **AX/T2/FS/BLADE/TRA/P3/MBH (OPTIONAL BREATHHOLD) - {6THK/20%DF} {38FOV}** **AX/IN OUT/ 2D - {6THK/20%DF} {38FOV}** **IRON QUANT IF UNABLE TO BE PERFORMED AT MIF** **AX/T2*/5 ECHOES - {10THK/20%DF} {38FOV} (TR- 120, TE – 2.00ms, 4.00ms, 9.00ms, 14.00ms, 19.00ms)** **AX/T2*/10 ECHOES - - {10THK/20%DF} {38FOV} (TR- 120, TE -2.38ms, 4.76ms, 7.15ms, 9.53ms, 11.91ms, 14.29ms, 16.67ms, 19.06ms, 21.44ms, 23.82ms)** **T1/FL2D/TRA/P2/MBH- (BREATH HOLD) {10THK/20%DF} {38FOV} (TR- 120, TE – 2.00ms, 4.00ms, 9.00ms, 14.00ms, 19.00ms)**
MRCP **Charge as Abdomen wo**	Jaundice/Abnl or Dilated Bile Ducts/ choledocholithiasis/ Primary sclerosing cholangitis (PSC)/RUQ pain/Pancreatic cyst	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam **T2 COR SS/TSE BH – {5THK/1GAP} (FOV: 25cm) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **T2 AX SS/TSE BH (HI-TE) – {5THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2 AX SS/TSE FSAT BH – {6THK/1GAP} * COPY PREV. AXIAL** **T1 AX TFE IN & OUT PHASE BH – {5THK/1GAP} *COPY PREV. AXIAL** **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS** **3D COR MRCP THINS RESP – {1.6THK/0GAP} (26FOV) MUST INCLUDE ALL OF BILIARY TREE WITHIN VOLUME** **3D GRE MRCP RADIALS – {30 THICK SLAB} CENTER 5 RADIALS ON CBD** **CINE MRCP BH – {30THK) 1 SLAB REPEATED 8x'S IN THE SAME LOCATION ANGLED PARALLEL TO THE DISTAL CBD OFF OF A SAGITTAL FROM THE**

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		PREVIOUS RADIAL ACQUISITION **please reference mr#525449 series 1101
PANCREAS W/WO **Charge as Abdomen w/wo**	MASS, ELEVATED LABS, ANY BILIARY DISFUNCTION, PANCREATIC CYST	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam. **Do NOT give water to patients having a Pancreas with MRCP.** **T2 COR SS/TSE BH – {6THK/1GAP} (smallest FOV possible) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **T2 AX SS/TSE BH (HI-TE) – {6THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2 AX THINS SS/TSE FSAT BH/RESP – {5THK/1GAP} COVER TAIL TO HEAD OF PANCREAS** **** 3D COR MRCP RESP – { } MUST INCLUDE ALL OF BILIARY TREE WITHIN VOLUME** **** 3D GRE MRCP RADIALS – {80 THICK SLAB} CENTER 5 RADIALS ON CBD** ****CINE MRCP BH – {30THK) 1 SLAB REPEATED 8x'S IN THE SAME LOCATION ANGLED PARALLEL TO THE DISTAL CBD OFF OF A SAGITTAL FROM THE PREVIOUS RADIAL ACQUISITION **please reference mr#525449 series 1101** **T1 AX TFE IN & OUT PHASE BH – {6THK/1GAP} *COPY PREV. AXIAL** **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 please send ADC value to PACS** **T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – DOME OF LIVER DOWN THRU KIDNEYS** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE IMMEDIATE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 3 MINUTE C+ – {6THK/0GAP} * SKIN TO SKIN** **T1/3D COR VIBE/TIGRE C+ – {6THK/0GAP} * SKIN TO SKIN**
PENIS W/WO	TRAUMA,	Coverage : Aortic Bifurcation through scrotum

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Charge as Pelvis w/wo **Clinical reference :** **MR# 22864749**	URETHRAL ABNORMALITY, PENILE MASS	Prep : **Pt must empty bladder prior to exam, Fold towel & place b/w thighs to elevate scrotum to horizontal plane, tape penis to abdominal wall in midline (true sagittal plane is necessary) **T1 AX TSE – {4THK/0.4GAP} (28FOV) **COVER RENAL VESSELS THROUGH PELVIS (LYMPH NODES)** **T2 AX TSE – {4THK/0.4GAP} (16FOV)** **T2 AX FS FSE or STIR – {4THK/0.4GAP} (28FOV)** **T2 COR TSE – {4THK/0.4GAP} (16FOV)** **T2 SAG FSE – {5THK/1GAP} (16FOV)** **T1 AX TFE IN & OUT PHASE BH – {5THK/1GAP} (28FOV)** **DWI AX B600 & B0 – {5THK/1GAP} (28FOV) please send ADC value to PACS** **T1/3D AX VIBE/TIGRE PRE – {2THK/0GAP} (28FOV)** **INJECT CONTRAST** *HAND INJECT* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {2THK/0GAP} (28FOV)** **T1/3D AX VIBE/TIGRE REPEAT C+– {2THK/0GAP} (28FOV)** **T1/3D AX VIBE/TIGRE 1 MINUTE C+– {2THK/0GAP} (28FOV)** **T1/3D SAG VIBE/TIGRE 2 MINUTE C+ – {2THK/0GAP} (28FOV)** **T1/3D COR VIBE/TIGRE C+ – {2.5THK/0GAP} (28FOV)**
PHEO ADRENAL W/WO **Charge as Abdomen w/wo**	PHEOCHROMO-CYTOMA, METANEPHRINES/ UNEXPLAINED HBP, CATECHOLAMINES NOREPINEPHRINES	Coverage: Dome of Liver through the lower pole of kidneys, Smallest FOV possible Prep : Patient must be NPO 3 hours prior to their exam **T2 COR SS/TSE BH – {6THK/1GAP} (smallest FOV possible) – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **T2 AX SS/TSE BH (HI-TE) – {6THK/1GAP} (smallest FOV possible)– DOME OF LIVER DOWN THRU KIDNEYS** **T2 AX SS/TSE FSAT BH/RESP – {6THK/1GAP} * COPY PREV. AXIAL** **T1 AX TFE IN & OUT PHASE BH – {6THK/1GAP} *COPY PREV. AXIAL - ENTIRE ABD**

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		T1 COR TFE IN & OUT PHASE BH – {6THK/1GAP} *COPY PREV. CORONAL – KIDNEYS ONLY **DWI AXIAL B100 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} FOV DEPENDENT ON SCANNER * COPY PREV B100 , please send ADC value to PACS** **T1/3D AX VIBE/TIGRE PRE – {6THK/0GAP} – DOME OF LIVER DOWN THRU KIDNEYS** **T1/3D COR VIBE/TIGRE PRE – {6THK/0GAP} – THRU ENTIRE ABD, POSTERIOR SKIN TO ANTERIOR SKIN** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE IMMEDIATE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D COR VIBE/TIGRE 3 MINUTE C+ – {6THK/0GAP} * SKIN TO SKIN**
PLACENTA ACRETIA **Charge as Pelvis wo**	Placenta Acretia Placenta Previa	Coverage: Superior to uterus to pubic symphysis , cover the uterus and try to keep fov relative to the uterus Prep : No prep ~~**Pt will need to be consented by a Radiologist prior to MRI~~ **T2 COR FSE – {4THK/0GAP}** **T2 SAG TSE – {4THK/0GAP}** **T2 AX TSE – {4THK/0GAP}** **T2 SAG FSAT – {4THK/0GAP}** **T2 AX FSAT – {4THK/0GAP}** **T1 SAG TFE IN & OUT PHASE– {6THK/1GAP}** **AX BFFE or TRUEFISP/PBSG3D– {7THK/1GAP}** **SAG BFFE or TRUEFISP/PBSG3D – {7THK/1GAP}** **COR BFFE or TRUEFISP/PBSG3D – {7THK/1GAP}**

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PROSTATE **3T ONLY unless approved by a RAD** **Charge as Pelvis w/wo**	Abnl PSA, prostate Hypertrophy	Coverage: Entire prostate Prep: Patient must complete an enema the morning of their exam and be NPO 3 hours prior to the exam. *ACR GUIDELINES ON FOV FOR T1 AX **T1 AX FSE – {5THK/1GAP} (32FOV) – cover from aortic bifurcation down to lesser trochanter** **T2 SAG TSE BH – {4THK/0GAP} (18FOV) – cover prostate** **T2 AX TSE BH – {4THK/0GAP} (18FOV) – ANGLE PERPENDICULAR TO THE RECTUM** **T2 COR TSE BH – {4THK/0GAP} (18FOV) – cover prostate** **DWI AX B1400 , 1000, 100 – {4THK/1GAP} (18FOV) – cover prostate , please only send ADC on B1400 value** **PRE/POST DYNAMIC T1/3D AX VIBE/TIGRE– {3THK/0GAP} (25FOV) – prostate only, 30 Dynamics(phases) 7 seconds per dynamic with overall scan time around 3:37min , inject contrast on medrad and press the start scan button simultaneously.**
PROSTATE WO **Charge as Pelvis w/o contrast**	**Pre-Op for Hydrogel Spacer Placement**	Coverage: Include the prostate and spacer placed posterior to prostate No prep is needed for this exam **T2 AX TSE --{3.5/0.4} {18 FOV} - cover prostate Anterior to Posterior** **T2 SAG TSE FSAT --{3.5/0.4} {18 FOV} -Cover prostate left to right**
PROSTATE PRE-EMBOLIZATION VOLUME **Only done for patients of Dr. Keiger** **Charge as Pelvis w/o contrast**	**To establish prostate volume prior to prostate artery embolization**	**T2 AX TSE BH – {4THK/0GAP} (18FOV) – ANGLE PERPENDICULAR TO THE RECTUM** **T2 COR TSE BH – {4THK/0GAP} (18FOV) – cover prostate** **T2 SAG TSE BH – {4THK/0GAP} (18FOV) – cover prostate**
PROSTATE **Can be done on 1.5 or 3T**	History of prostatectomy; Pt has prostate removed.	Coverage: Entire prostate Prep: Patient must complete an enema the morning of their exam and be NPO 3 hours prior to the exam. **Pt must **empty bladder** prior to exam **T2 AX SS/TSE FSAT – {5THK/1GAP} (30 FOV)**

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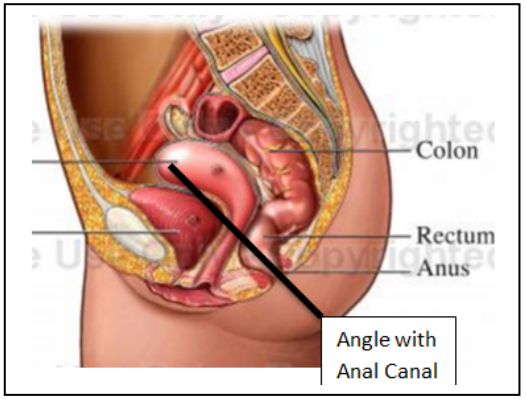
Charge as Pelvis w/wo		**T2 COR SS/TSE – {5THK/1GAP} (30 FOV) – SKIN TO SKIN** **T1 AX SS/TSE – {5THK/1GAP} (30 FOV)** **T1 AX SS/TSE FSAT – {5THK/1GAP} (30 FOV)** **DWI AX B600 – {6THK/1GAG} (30FOV) please send ADC value to PACS** **T2 AX FSE – {5THK/1GAP} (32FOV) – cover from aortic bifurcation down to lesser trochanter** **INJECT CONTRAST** *HAND INJECT* **T1/3D AX VIBE/TIGRE 2 MINUTE C+ – {5THK/0GAP} (25FOV)** **T1/3D COR VIBE/TIGRE 3 MINUTE C+ – {5THK/0GAP} (25FOV)**
FISTULA W/WO **Charge as Pelvis w/wo**	RECTAL OR ANAL FISTULA	Coverage : Must include from Aortic Bifurcation down through Anus Prep: Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO **ONLY IF IT IS A KNOWN RECTOVAGINAL FISTULA OR IF THE DX IS FOR RECTOVAGINAL FISTULA** INJECT WARMED 60ML U/S GEL INTO VAGINA** **T2 SAG TSE FSAT – {2.5THK/0GAP} (26 FOV) – ASIS TO ASIS** **T1 AX-OBLIQUE TSE – {4THK/0.8GAP} (22 FOV) * ANGLE PERPENDICULAR TO ANAL CANAL** **T2 AX-OBLIQUE TSE FSAT– {4THK/0.8GAP}(22 FOV) * COPY PREV AX-OBLIQUES** **T1 COR-OBLIQUE TSE – {4THK/0.8GAP} (22 FOV) * ANGLE PARALLEL TO ANAL CANAL** **T2 COR-OBLIQUE TSE – {4THK/0.8GAP}(22 FOV)* COPY PREV COR-OBLIQUES** **T1/3D AX-OBLIQUE THRIVE/LAVA PRE – {4.4THK/0GAP} (22 FOV)** **INJECT CONTRAST** *HAND INJECT* **T1/3D AX-OBLIQUE THRIVE/LAVA C+ – 4.4THK/0GAP} (22 FOV)– * COPY PRE AXIAL** **T1/3D COR-OBLIQUE THRIVE/LAVA C+ – 4.4THK/0GAP} (22 FOV)** **T1/3D SAG THRIVE/LAVA C+ – 4.4THK/0GAP} (22 FOV)– * COPY PRE AXIAL** 

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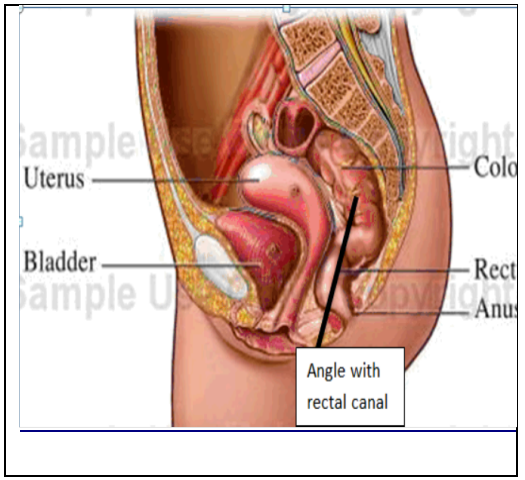
RECTAL / ANAL MASS W/WO **Charge as Pelvis w/wo**	CANCER, RECTAL BLEEDING, PAIN W/ BM, MASS	Coverage : Must include from Aortic Bifurcation down through Anus Prep : Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO **T2 SAG TSE – {2.5THK/0GAP} (26 FOV) – ASIS TO ASIS** **T1 AX TSE (HI-TE) – {4THK/0.8GAP} (26 FOV)– AORTIC BIFURCATION PAST ANUS** **T2 AX-OBLIQUE TSE – {4THK/0.8GAP}* ANGLE PERPENDICULAR TO RECTAL CANAL** **T2 COR-OBLIQUE TSE – {4THK/0.8GAP}* ANGLE PARALLEL TO RECTAL CANAL** **DWI AXIAL B300 BH/RESP – {6THK/1GAP} * ANGLE PERPENDICULAR TO RECTAL CANAL** **DWI AXIAL B600 BH/RESP – {6THK/1GAP} * ANGLE PERPENDICULAR TO RECTAL CANAL** **please send B600 ADC value to PACS** **T1/3D AX-OBLIQUE THRIVE/LAVA PRE – {1.2THK/0GAP} (22 FOV)** **INJECT CONTRAST** – *HAND INJECT* **T1/3D AX-OBLIQUE THRIVE/LAVA 30 SEC C+ – 1.2THK/0GAP} (22 FOV)– * COPY PRE AXIAL** **T1/3D AX-OBLIQUE THRIVE/LAVA 1 MINUTE C+ – 1.2THK/0GAP} (22 FOV)– * COPY PRE AXIAL** **T1/3D SAG THRIVE/LAVA C+ – 1.2THK/0GAP} (22 FOV)– ASIS TO ASIS** 
RETRO-PERITONEAL FIBROSIS **Charge as Pelvis w/wo**	Retroperitoneal Fibrosis	Coverage : Above Kidneys to Below Aortic Bifurcation **T1 AX TFE IN & OUT PHASE BH – {5THK/1GAP}** **T2 AX TSE FSAT BH – 5THK/1GAP** **T2 AX TSE BH – 5THK/1GAP** **T2 COR TSE BH – 5THK/1GAP**

		DWI AX B600 – 5THK/1GAP please send ADC value to PACS **T1/3D AX VIBE/TIGRE PRE – 6THK/0GAP** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **T1/3D AX VIBE/TIGRE IMMEDIATE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE REPEAT C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D COR VIBE/TIGRE 1 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D AX VIBE/TIGRE 3 MINUTE C+ – {6THK/0GAP} * COPY PRE AXIAL** **T1/3D COR VIBE/TIGRE C+ – {6THK/0GAP}**
SCROTUM **Charge as Pelvis w/wo**	Scrotal pain, hydrocele	Coverage : Scrotum Prep : **Pt must empty bladder prior to exam, Fold towel & place b/w thighs to elevate scrotum to horizontal plane, tape penis to abdominal wall out of the region of interest, use 13 cm or small surface **T1 AX TSE – {4THK/0.5GAP} (18FOV) **COVER RENAL VESSELS THROUGH PELVIS (LYMPH NODES)** **T2 AX TSE – {4THK/0.5GAP} (12FOV)** **T1 COR TSE – {4THK/0.5GAP} (12FOV)** **T2 COR TSE – {4THK/0.5GAP} (12FOV)** **DWI AX B600 & B0 – {5THK/1GAP} (30FOV) please send ADC value to PACS** **T1/3D AX VIBE/TIGRE PRE – {5THK/0GAP} (22FOV)** **INJECT CONTRAST** *HAND INJECT* **T1/3D AX VIBE/TIGRE 30 SECONDS C+ – {5THK/0GAP} (22FOV)** **T1/3D AX VIBE/TIGRE 1 MINUTE C+– {5THK/0GAP} (22FOV)** **T1/3D COR VIBE/TIGRE C+ – {5THK/0GAP} (22FOV)**

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THYMUS/MEDIASTINAL MASS	Mediastinal Mass, Abnormal CT, Thymoma	**Coverage : Several centimeters ABOVE the aortic arch to several centimeters BELOW the carina** **Prep : No Prep** **Ax T1 {4THK/1GAP} (18FOV)** **Ax T2 FS {4THK/1GAP} (18FOV)** **T1 AX TFE IN & OUT PHASE {4THK/1GAP}} (18FOV)** **Cor T1 {3THK/1GAP} (18FOV)** **Cor T2 FS {3THK/1GAP} (18FOV)** **Sag T1 {4THK/.5GAP} (18FOV)** **Sag T2 FS {4THK/.5GAP} (18FOV)** **C+ Ax T1 FS {4THK/1GAP} (18FOV)** **C+ Cor T1 FS {3THK/1GAP} (18FOV)** **C+ Sag T1 FS {4THK/.5GAP} (18FOV)**
URETHRAL DIVERTICULUM **Charge as Pelvis w/wo**	Pain w/ urination, bladder pain, bladder diverticulum	Coverage : Iliac Crest through Pubic Symphysis Prep : Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO ** FULL BLADDER, do not let patient urinate prior to exam **T2 SAG SS/TSE FSAT – {6THK/1GAP} (24 FOV) – ASIS TO ASIS** **T2 AX SS/TSE FSAT – {5THK/1GAP} (24 FOV)** **T2 AX SS/TSE HI-RES – {5THK/1GAP} (24 FOV)** **DWI AX B600 & B0 – {5THK/1GAP} (30FOV) please send ADC value to PACS**

		T1/3D_AX_THRIVE/LAVA_PRE – {5THK/0GAP} (24FOV) **INJECT CONTRAST** *HAND INJECT* **T1/3D_AX_THRIVE/LAVA_IMMED C+ – {4THK/0GAP} (25FOV)** **T1/3D_AX_THRIVE/LAVA_1 MINUTE C+ – {4THK/0GAP} (25FOV)** **T1/3D_SAG_THRIVE/LAVA_2 MINUTE_C+ – {4THK/0GAP} (25FOV)** **T1/3D_AX_THRIVE/LAVA_3 MINUTE C+ – {4THK/0GAP} (25FOV)**
UROGRAM **Charge as Pelvis w/wo**	Painless hematuria/Chronic renal lithiasis/Evaluate for malignancy	Coverage : Upper poles of kidneys through Pubic Symphysis Prep : Patient must be NPO 3 hours prior to their exam, Patient must complete an enema the morning of their exam in addition to being NPO **FULL BLADDER, 500ml Saline bag drip immediately prior to examination – PLEASE CALL RAD IF PT HAS CHF TO SEE IF 500ML SALINE IS INDICATED **T2_COR_TSE_BH – {5THK/1GAP} (36 FOV) USE SMALLEST FOV POSSIBLE** **T2_AX_TSE_BH – {5THK/1GAP} (25 FOV)** **DUAL_AX_TSE_BH – {30THK} (30FOV)** **3D MRCP HI-RES_5 RADIALS– {1.6THK/0GAP} (33FOV) RADIALS USED IF YOU NEED TO LOCATE THE URETERS** **(PELVIS) T1/3D_AX_VIBE/TIGRE PRE – {6THK/0GAP} (33FOV) COVER MID URETERS DOWN THROUGH ENTIRE BLADDER** ****radiologist to inject 10 mg IV Lasix** **CINE_URO_BH – {40THK) (32FOV) 1 SLAB REPEATED 10X'S IN THE SAME SPOT TO CATCH PERISTALSIS IN THE URETERS** **(ABD) T1/3D_AX_VIBE/TIGRE PRE – {6THK/0GAP} (33FOV) COVER FROM TOP OF KIDNEYS DOWN TO MID URETERS** **INJECT CONTRAST - 2 ml/sec** *(20 SECOND DELAY SET ON MEDRAD INJECTOR)* **(ABD) T1/3D_AX_VIBE/TIGRE 20 SECONDS_C+ – {6THK/0GAP} (33FOV) COVER FROM TOP OF KIDNEYS DOWN TO MID URETERS** **(ABD) T1/3D_AX_VIBE/TIGRE 45 SECONDS_C+ – {6THK/0GAP} (33FOV) COVER FROM TOP OF KIDNEYS DOWN TO MID URETERS**

		(PELVIS) T1/3D AX VIBE/TIGRE C+ – {6THK/0GAP} (33FOV) COVER MID URETERS DOWN THROUGH ENTIRE BLADDER **(ABD) T1/3D AX VIBE/TIGRE 5 MINUTE C+– {6THK/0GAP} (33FOV) COVER FROM TOP OF KIDNEYS DOWN TO MID URETERS** **(PELVIS) T1/3D AX VIBE/TIGRE 5 MINUTE C+ – {6THK/0GAP} (33FOV) COVER MID URETERS DOWN THROUGH ENTIRE BLADDER** **(ABD) T1/3D COR VIBE/TIGRE C+– {6THK/0GAP} (33FOV) COVER FROM TOP OF KIDNEYS DOWN TO MID URETERS** **3D COR MRCP THINS RESP – {1.6THK/0GAP} (26FOV)**

THORACIC OUTLET W/WO	THORACIC OUTLET SYNDROME	**COVERAGE: From bottom of the aortic arch (to make sure we don't clip the origins of the great vessels) through the proximal humeri** **PREP: None** **ARMS UP** **AX SS FSE – {5THK/ TR 1008/ TE 91/ MATRIX 256/160 / NEX .55/ BW 499 / 90* FLIP}** **C+ 3D MRA – ARTERIAL AND VENOUS PHASE {2.3/1.3THK / TR 4 / TE 1.4 / 35* FLIP / MATRIX 288/192 / NEX .75 / BW 244}** **COR 3D FS GRE – {2.6 THK / TR 3.3 / TE 1.2 / FLIP 12 / MATRIX 256/192 / NEX .75 / BW 244}** **AX 3D FS GRE – {5THK / TR 4.5/ TE 2.1 / FLIP 12 / MATRIX 320/192 / NEX .75 / BW 244}** **ARMS DOWN** **AX SS FSE – {5THK/ TR 1008/ TE 91/ MATRIX 256/160 / NEX .55/ BW 499 / 90* FLIP}** **C+ 3D MRA – ARTERIAL AND VENOUS PHASE {2.3/1.3THK / TR 4 / TE 1.4 / 35* FLIP / MATRIX 288/192 / NEX .75 / BW 244}** **COR 3D FS GRE – {2.6 THK / TR 3.3 / TE 1.2 / FLIP 12 / MATRIX 256/192 / NEX .75 / BW 244}** **AX 3D FS GRE – {5THK / TR 4.5/ TE 2.1 / FLIP 12 / MATRIX 320/192 / NEX .75 / BW 244}**

		Contrast-Enhanced 3D MRA Protocol MRA examinations were performed on a 1.5-T scanner (Signa HDx, GE Healthcare) for 37 patients and on a 3-T scanner (Magnetom Trio, Tim System, Siemens Healthcare) for 41 patients. Multichannel phased-array coils were used for signal reception. Gadobenate dimeglumine (0.5 mol/L; MultiHance, Bracco Diagnostics) or gadopentetate dimeglumine (0.5 mol/L; Magnevist Bayer HealthCare) was used as contrast agent. An automated injector was used for contrast agent and saline chaser administration. The pulse sequences and their imaging parameters for this protocol are provided in Table 1. First, T2-weighted imaging (single-shot fast spin-echo on the 1.5-T and HASTE on the 3-T scanner) was performed. This is followed by breathhold arterial and venous phase contrast-enhanced 3D MRA and equilibrium phase imaging using a 3D gradient-echo pulse sequence with fat suppression. The first set of MRA and equilibrium phase images was acquired during 150–160° of bilateral arm abduction with the head and neck in the neutral position. A coronal oblique 3D slab of the MRA was prescribed to cover the bilateral subclavian and axillary vessels. Unenhanced mask imaging was followed by multiphase contrast-enhanced dynamic acquisition using the identical 3D slab and imaging parameters with a mask. Bolus timing was established using fluoroscopic triggering. The patients were instructed to hold their breath during the acquisitions. Contrast-enhanced images were obtained with the IV administration of 20 mL of gadolinium-based contrast agent and 20 mL of saline flush at a rate of 2 mL/s. All pulse sequences were repeated with the arm at rest next to the torso with the administration of 15 mL of gadolinium-based contrast agent and 20 mL of saline flush at a rate of 2 mL/s.