Table of Contents: MRI Breast protocols

MR Protocols

Exam: BREAST
Coil: 2_BREAST
Position: Prone
Landmark: Mid Sternum

Pulse Sequence	Options	TR	TE TI	ETL	FA	BW	FOV	Thick/ Gap	Sat	Matrix	NEX	Freq Dir	Time	Instructions
3-PL LOC BREAST	NPW						44	7sk2		256 128	2		1:19	
COR LOC BREAST		325	MIN			14.71	44	7sk2		256 128	1	S-I	:46	
AX LOC BREAST		300	MIN			14.71	44	7sk2		256 128	1	R-L	1:29	
AX T2 FSE F/S BREAST	NPW, VBW, FAST	3650	85	16		20.83	36	5sk1	Fat	320 256	3	R-L	6:05	
LT SAG T2 F/S BREAST	NPW, VBW, FAST	4550	85	16		20.83	20	5sk1	Fat	256 224	4	S-I	4:20	
RT SAG T2 F/S BREAST	NPW, VBW, FAST	4550	85	16		20.83	20	5sk1	Fat	256 224	4	S-I	4:20	
AX BILAT F/S BREAST	VBW,FAST, ZIP512, ZIP2		MIN		60	15.63	30	5.4 locs per slab 36	Fat	256 192	1	R-L	2:05	
SPECIAL FSPGR LT SAG T1	VBW,FAST, ZIP512, ZIP2		IN PHASE		10	15.63	20	3.6 locs per slab 32	Fat	256 192	1	A-P	2:07	
SPECIAL FSPGR RT SAG T1	VBW,FAST, ZIP512, ZIP2		IN PHASE		10	15.63	20	3.6 locs per slab 32	Fat	256 192	1	A-P	2:07	
POST GAD														
AX BILAT T1 FAT SAT	VBW,FAST, MPH, ZIP512, ZIP2		MIN		60	15.63	30	5.4 locs per slab 36	Fat	256 192	1	R-L	13:12	6 PHASES 8.0sec delay between phases. Run 1st phase **no Gad**. Give **Gad** at the start of the 2nd phase.

SPECIAL LT SAG T1	VBW,FAST, ZIP512, ZIP2		IN PHASE		10	15.63	20	3.6 locs per slab 32	Fat	256 / 192	1	A-P	2:07	
SPECIAL RT SAG T1	VBW,FAST, ZIP512, ZIP2		IN PHASE		10	15.63	20	3.6 locs per slab 32	Fat	256 / 192	1	A-P	2:07	

Formatting PACS SYSTEM – BURN CD IF NEEDED

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Comments:

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AMC/Encircle MR Protocols

Exam: Breast Vibrant 6/2016
Coil: HD Breast
Position: Prone
Landmark: Position Mark on Coil

Pulse Sequence	Options	TR	TE TI	ETL	FA	BW	FOV	Thick/ Gap	Sat	Matrix	NEX	Freq Dir	Time	Instructions
3 PL Loc	Seq FAST SS	MIN	MIN			83.33	44	7/0		256 192		UNSWAP	:40	**SPACING(10-10-5)SH:AUT SE 2D 12 SLICES-PFOV:1**
Calib Scan	FAST CALIB	AXIAL	GRE*			CALIB	48	15/0	HD			A/P	:12	**SHIM:AUTO-30 SLICES**
AXIAL FSE T2	TRF FAST ZIP 512 ASSET	2500-4000	85	16		31.25	34	3/1		320 224	2	A/P	2 :33	**PFOV=1 PURE CV7=0 CV21=0 ASSET=2**
AXIAL STIR	FC, SEQ TRF FAST ASSET	3000-6000	42	12		41.67	34	3/1		320 224	2	A/P	2:48	**FCD=SLICE SHIM ON PFOV =1**
SAG VIBRANT W/O	NPW FAST ASSETZ ZIP2		MIN FULL		10	31.25	23	2.6 120 LOCS		256 192	1	A/P	1:43	**SHIM=AUTO CV22=0 +C=ON PURE CV6=2 SLICE ACC=2**
AX VIBRANT PRE	FAST ASSET				10	41.67	32	2.4 92 LOCS		350 350		A/P	1 :54	**FDIR=A/P PURE PH ACC=2 +C=ON SHIM:AUTO**
+C AX VIBRANT DYNAMIC	FAST ASSET MPh				10	41.67	32	2.4 92 LOCS		350 350		A/P	9:32	**FDIR=A/P PURE PH.ACC=2 +C=ON 5 PHASES DELAY=MIN PH ACC=2 SHIM=OFF**
+ **C** SAG VIBRANT POST	NPW FAST MPh ASSET		MIN FULL		10	31.25	23	2.6 120 LOCS		256 192	1	A/P	1:43	**SHIM=AUTO CV22=0 +C=ON PURE CV6=2 SLICE ACC=2 MPH=1**

Comments:

- Scan Bilateral breasts
- Axial FOV large enough to cover axilla
- Sagittal FOV is smaller but coverage for both breasts
- Scan Auto PreScan, THEN Manual PreScan to double check your Fat and Water peaks to ensure you are centered on the Water Peak (peak on the left)
- Place Shim volumes over each breast
- The Axial VIBRANT sequence should be as close to 1:30 (90 seconds) as possible, if longer—Start your injection at 1:30
- Contrast is weight based
- Power inject Gadolinium at a rate 2ml per second with 20ml saline flush
- Send images to CAD stream (Do not send the Localizer or Calibration sequences)

EA1141 ThedaCare
Breast Research MR Protocol

Exam: Breast Vibrant 3/2017
Coil: HD Breast
Position: Prone
Landmark: Breast
GE Signa 1.5 Tesla

Pulse Sequence	Options	TR	TE TI	ETL	FA	BW	FOV	Thick/ Gap	Sat	Matrix	NEX	Freq Dir	Time	Instructions
3 Plane Localizer	Seq FAST SS,ARC	MIN	MIN			83.33	44	10/0		256 128		UNSWAP	:22	
Axial Calib Scan	FAST CALIB		GRE*			CALIB	48	15/0	HD			A/P	:12	
AX FSE T2	TRF FAST ZIP 512 ASSET	2500-4000	85	16		31.67	32	3/0		320 320	2	A/P	3 :18	Accélération 3 PURE
AX VIBRANT (GRE) PRE	FAST ASSET ZIP2	5.9	2.8		10	41.67	32	2.4 92 LOCS		320 320		A/P	1 :03	Acceleration 3 PURE
+C AX VIBRANT (GRE) POST	FAST ASSET ZIP2				10	41.67	32	2.4 92 LOCS		350 350		A/P	1:03	Acceleration 3 PURE

Comments:
Imaging requirements: Scan time less than 10 minutes
Scan time with above exact parameters is 6:00 **PLUS** AutoPrescan which is approximately 45 seconds for the first 4 sequences
TOTAL SCAN TIME is 8:47
Maximum in Pixel Dimension <1mm; Any Modifications of FOV or Matrix will bring you above 1.0mm

3/17/17