University Health™	**Policy #: Rad Proc 14. 14. 16**
SUBJECT: FOLLOW UP-TUMOR BRAIN	**Effective: 10/1/2013** **Reviewed: 2/2015: 2/2017**
APPROVED BY: Eduardo Gonzalez-Toledo, MD PhD	**Page 1 of 3**

Purpose: To provide MRI staff with approved protocol for performing an MR.

EXAM: FOLLOW UP TUMOR BRAIN **ORIENTATION: HEAD FIRST/SUPINE** **COIL: HNS HEAD/STANDARD HEAD**

PLANE	3 PLN LOC	CALI B.	SAG T1	AX DWI ASSETT	TENSOR ASSET (AX)	SAG FLAIR CUBE	AX 3D SWAN	AX FSPGR BRAVO	AX PD/T2	PROB E-SV 35	(ax) DYNA MIC SUSCEP . OF C+ (perfus ion)	AX FSPGR BRAVO C+	**AX FSPGR 3D PRE/POST
SEQ	GRE	GRE	FSE XL	SE	SE	CUBE 2	SWAN	BRAVO	FSE XL	PROB E P	GRE	T2	FSPGR
MODE	2D	2D	2D	2D	2D	3D	3D	3D	2D	MRS	2D	3D	3D
IMAGING OPTIONS	SEQ/FAST	FAST/ CALIB	NONE	EPI/DIFF/ ASSET	EPI/DIFF/ ASSET	EDR/FAST/Irp/z512/72/arc	FC/ FAST/ZIP2 ASSET	FAST/Irp/ ASSET	FC/TRF/ FAST	EDR	Mph/ EPI	FAST/Irp/ ASSET	EDR/TRF/FAST/Irp/ZIP2
TE			MIN FULL	MIN	MIN	MIN	50 MS		MIN FULL	MIN	MIN		MIN FULL
TR			400-600 ms	600 ms	6000 ms	8000 MS	78.3		2850 ms	1500 ms	2000 ms		
TI								450				450	
FLIP ANGLE							15	13		13	60	13	12
ETL			2			130	23.00	13	12 - 18				
BW			31.25			25	41.67	25	31-Jan	24		25	31.25
FOV	24	30	24	28	28	24	24	24	24	20	22	24	24

SLICE THICKNESS	10	6	4	5	5	1.8	3	1.2	4	7	7	1.2	1.2
SLICE SPACING	5	0	1.5	1	1	LOCS/SL 120	LOCS/SL 48	LOCS/SL 154	1.5		0	LOCS/SL 154	LOCS/SL 128
Frequency	256		320	128	132	224	320	256	320	1	96	256	256
Phase	128		224	128	160	224	320	256	224	1	128	256	128
NEX	1		2					1	2	8	1	1	1
PHASE FOV	1		1	1	1	1	1	1	0.75		1	1	0.75
FREQ DIR	UNSWAP	R/L	UNSWAP	UNSWAP	R/L	S/I	A/P	UNSWAP	A/P	UNSWAP	R/L	UNSWAP	A/P
FLOW COMP DIR							SLICE		FREQ				
SHIM	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO	AUTO		AUTO	AUTO	AUTO	AUTO
PHASE CORRECT	OFF	OFF	ON	ON	OFF	OFF	ON	OFF	AUTO	OFF	OFF	OFF	OFF

Note: Additional sequences may be requested at the discretion of the Radiologist monitoring the exam.

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NOTES: The SAG T2 FALIR CUBE is acquired in the sagittal plane and reconstructed into the axial and coronal planes. **Note, the AX FSPGR BRAVO PRE/POST cannot be acquired when utilizing the standard head coil. If this coil must be utilized, the **AX FSPGR 3DPRE/POST must be included in place of the BRAVO. The BRAVO/FSPGR 3D is acquired in the axial plane and reconstructed into the sagittal and coronal planes.

DYNAMIC SUSCEP. OF C+ (PERFUSION): Slices should be I to S. Cover the entire brain. Angle to the corpus callosum as in other axials as per applications and Dr. Toledo. There should be 60 phases at one second intervals as per Dr. Toledo. Inject at a rate of 3 -5 ml/sec as per Dr. Toledo. Start the injection 10 seconds after scanning or after acquiring 10 phases as per Dr. Toledo.

If the patient is unable hold still for the sag flair cube and ax pd/t2, the optional t2 flair propeller and ax t2 propeller sequences are included in the protocol on the MR system (not displayed on page 1) if needed.