

**PROTOCOL: MRI BRAIN WWO-PRIMARY BRAIN TUMOR**

**CLINICAL** primary brain tumor or mass.  
**INDICATIONS/ HISTORY:** \*for primary tumor outside brain with metastases to brain, use MRI Brain WWO Routine rather than this protocol \*  
 Ordering physician is neurologist, radiation oncologist, neurosurgeon

SCAN ORDER	PLANE	IMAGE CONTRAST/ WEIGHTING	MODE	PULSE SEQ	COVERAGE		TR RANGE	TE RANGE	TI	FLIP ANGLE	THICKNESS/G FOV		Max Pixel	PHASE AXIS	SEND TO PACS	Max scan time (target)
											AP (mm)	(cm)	(mm) Fr x Ph			
1	AX	DWI (b1200) w/calculated b2000 if avail	2D	EPI/ RESOLVE	FORAMEN MAGNUM	VERTEX	>4000	MIN	-	90	5/.5	24	2.5X2.5	AP	FULL SERIES + ADC MAP	3:00
2	SAG	T2FLAIR	3D	CUBE/ SPACE/ VISTA	COVER ENTIRE HEAD INCLUDING EARS		>5000	~140	VARIES	>130	1-1.2/OVLP	24-25	1.0X1.0	PA	FULL SERIES+ AX/COR 1X1 MPR	6:30
3	AX	T2FLAIR	2D	FSE	FORAMEN MAGNUM	VERTEX	6000-15000	140-160	VARIES	>130	5/.5	24	1.0X1.0	RL	FULL SERIES	4:00
4	SAG	T1	2D	FSE	COVER ENTIRE BRAIN		<790	MIN	-	>130	5/.5	24-25	.9X.9	PA	FULL SERIES	2:30
5	AX	T1	2D	SE/FSE	FORAMEN MAGNUM	VERTEX	<790	MIN FULL	-	90	5/.5	24-25	.9X.9	RL	FULL SERIES	3:00
6	AX	SWI/GRE	3D/2D	GRE/EPI	FORAMEN MAGNUM	VERTEX	VARIES	VARIES	-	10-15	2/OVLP or 5/.5	24	1.0X1.0	RL	FULL SERIES	3:50
7 (IF AVAILABLE)	AX	ASL PERF	3D	3DASL	FORAMEN MAGNUM	VERTEX	OPTIMIZED TO SCANNER				PER SCANNER	23-25	3.0X3.0	RL	FULL SERIES	5:00
<b>CONTRAST</b>																
8+C	AX	DSC PERF	2D	GRE-EPI	FORAMEN MAGNUM	VERTEX	OPTIMIZED TO SCANNER				5/.5	24-26	3.0X3.0	AP	FULL SERIES	1:00-1:20
9+C	AX	T2	2D	FSE	FORAMEN MAGNUM	VERTEX	4000- 7000	85-125	-	>130	5/.5	24	.75X.75	RL	FULL SERIES	3:00
10+C	SAG	T1	3D	MPRAGE/ BRAVO	COVER ENTIRE HEAD INCLUDING EARS		VARIES BY SCANNER				1-1.2/0	24-25	1.0X1.0	PA	FULL SERIES+ AX/COR 1X1 MPR	4:55
11+C	AX	T1	2D	SE w/ Flow Comp	FORAMEN MAGNUM	VERTEX	<790	MIN FULL	-	90	5/.5	24-25	.9X.9	RL	FULL SERIES	4:00