

Table 3: 1.5 versus 3T Scanners

Author (Year)	Title	Study Description	Number of Patients	Classification Process/ Evidence Class	Conclusions
Sekiya (1985) ⁴⁷	Magnetic resonance imaging of the normal pituitary gland and pituitary adenoma: preliminary experience with a resistive magnet.	Clinical experience using MRI to assess pituitary lesions.	12	Diagnostic / III	Adenomas that showed extrasellar extension together with surrounding structures were well demonstrated on sagittal and coronal scans. It can be expected that with further technical developments, MR imaging will play an important role in the clinical management of pituitary adenomas.
Oot (1984) ⁴⁸	MR imaging of pituitary adenomas using a prototype resistive magnet: preliminary assessment.	Clinical experience using MRI to assess pituitary lesions.	10	Diagnostic / III	The larger adenomas were identified readily by MR imaging, which, unlike CT, suggested old tumor hemorrhage in 2 cases, which was confirmed at surgery and histologic examination. MR and CT images were also compared for relative effectiveness in identifying important perisellar structures.

Pinker (2005)49	The value of high-field MRI (3T) in the assessment of sellar lesions.	Patients underwent both conventional MR and high-field MR images using a 3T scanner. A RARE sequence was used for T2-weighted images and a 3D gradient echo sequence was used for T1-weighted images. These high field images were compared to conventional MR images.	16	Diagnostic / III	<p>Sensitivity to infiltration was 83% for 3T and 67% for standard MRI. Specificity was 84% for 3T and 58% for standard MRI. The segments of the cranial nerves were seen as mean 4 hypointense spots (range 2-5 spots) on high-field MRI in contrast to 3 spots (range 0-4 spots) on standard MRI. This difference was considerably significant ($P < .001$, Wilcoxon rank sum test).</p> <p>High-field MRI is superior to standard MRI for the prediction of invasion of adjacent structures in patients with pituitary adenomas and improves surgical planning of sellar lesion.</p>
Wolfsberger (2004)50	Application of three-tesla magnetic resonance imaging for diagnosis and surgery of sellar lesions.	Clinical experience using 3T MRI to assess pituitary lesions.	21	Diagnostic / III	3T is superior to standard 1.5T for the delineation of parasellar anatomy and tumor infiltration of the cavernous sinus.