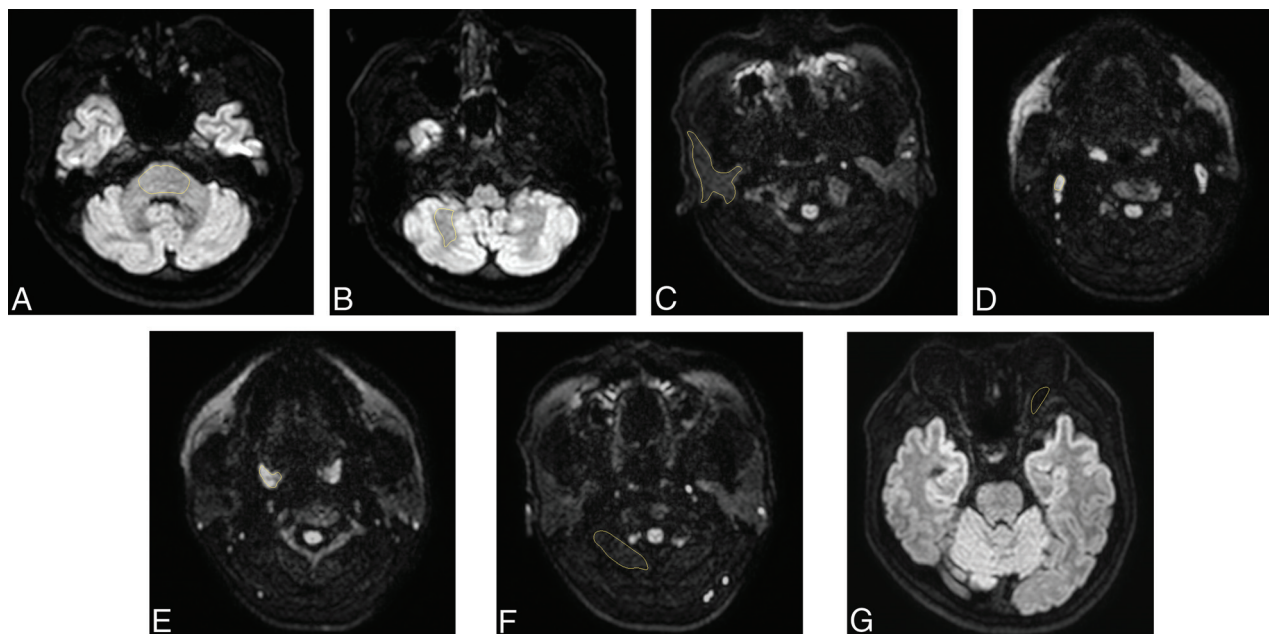


ON-LINE APPENDIX

Interobserver Agreement of Visual Scores in Qualitative Assessment

As a result of κ statistics, interobserver agreement for fat-suppression uniformity was excellent in all regions other than the orbital region (On-line Table 2). As for the orbital region, a κ value could not be derived because the 2 readers scored all as 4 or 5, but there was no case scored 4 in both readers (On-line Table 3). Therefore,

we additionally performed the McNemar test for the orbital region and proved that there was no significant difference between the scores from the 2 readers ($P = .371$). Regarding image distortion, interobserver agreement was excellent in the orbit–sphenoid sinus level, posterior fossa, nasal cavity–maxillary sinus level, oral cavity, larynx, and posterior neck (On-line Table 2). Interobserver agreement for image distortion in the pharynx and shoulder was fair to good (On-line Table 2).



ON-LINE FIG 1. Examples of ROIs in targeted structures. On msEPI-SPIR with a b-value of 1000 s/mm^2 , smoothed polygonal ROIs were drawn in the pons (A), cerebellar white matter (B), parotid gland (C), lymph node (D), palatine tonsil (E), semispinalis capitis muscle (F), and orbital fat (G). Note that ROIs were selected to include as much of the anatomic structure as possible.

On-line Table 1: Imaging parameters for DWI

	ssEPI-STIR	ssEPI-SPIR	msEPI-SPIR
TR (ms)	6700	4000	6400
TE (ms)	75	75	65
TI (ms)	230	—	—
FOV (mm)	220×220	220×220	220×220
Acquisition matrix (mm)	128×128	128×128	128×128
No. of sections	40	40	40
Section thickness (mm)	3	3	3
No. of shots	1	1	4
NEX	2	2	2
SENSE factor	2.2	2.2	2.2
Partial Fourier acquisition factor	0.745	0.745	0.745
Scan time (min:sec)	2:20	1:24	3:30

Note:—SENSE indicates sensitivity encoding.

On-line Table 2: κ values for visual scores in qualitative assessment

	κ	P Values
Fat-suppression uniformity		
Orbital region	NA	NA
Buccal region	0.975	.001
Mental region	0.979	.001
Posterior neck	0.91	.001
Shoulder	1	.001
Image distortion		
Orbit–sphenoid sinus level	0.908	.001
Posterior fossa	0.919	.001
Nasal cavity–maxillary sinus level	0.891	.001
Pharynx	0.725	.001
Oral cavity	0.835	.001
Larynx	0.814	.001
Posterior neck	0.901	.001
Shoulder	0.663	.001

Note:—NA indicates not applicable.

On-line Table 3: Visual scores for fat-suppression uniformity in orbital region

	Reader 2		Total
	4	5	
Reader 1			
4	0	1	1
5	4	145	149
Total	4	146	150

On-line Table 4: Visual scores for fat-suppression uniformity of DWI^a

	ssEPI-STIR	ssEPI-SPIR	msEPI-SPIR	P Values ^b
Reader 1				
Orbital region	5.00 ± 0.00	5.00 ± 0.00	4.98 ± 0.14	NA/.322/.322
Buccal region	5.00 ± 0.00	4.58 ± 1.00	4.80 ± 0.47	.001/.001/.005
Mental region	4.95 ± 0.21	2.51 ± 1.09	3.25 ± 0.90	.001/.001/.001
Posterior neck	4.97 ± 0.17	4.82 ± 0.56	4.83 ± 0.52	.011/.007/.159
Shoulder	4.17 ± 0.72	1.25 ± 0.45	1.42 ± 0.79	.001/.001/.166
Reader 2				
Orbital region	5.00 ± 0.00	4.96 ± 0.20	4.96 ± 0.20	.159/.159/NA
Buccal region	5.00 ± 0.00	4.60 ± 0.97	4.80 ± 0.47	.001/.001/.008
Mental region	4.95 ± 0.21	2.51 ± 1.05	3.23 ± 0.88	.001/.001/.001
Posterior neck	4.97 ± 0.17	4.83 ± 0.52	4.86 ± 0.39	.011/.007/.159
Shoulder	4.17 ± 0.72	1.25 ± 0.45	1.42 ± 0.79	.001/.001/.166

Note:—NA indicates not applicable

^a Data are given as mean ± SD.

^b P values are derived from pair-wise comparison using a paired t test with a Bonferroni correction among ssEPI-STIR and ssEPI-SPIR/ssEPI-STIR and msEPI-SPIR/ssEPI-SPIR and msEPI-SPIR.

On-line Table 5: Visual scores for image distortion of DWI^a

	ssEPI-STIR	ssEPI-SPIR	msEPI-SPIR	P Values ^b
Reader 1				
Orbit–sphenoid sinus level	2.28 ± 0.50	2.28 ± 0.50	4.26 ± 0.63	NA/.001/.001
Posterior fossa	4.09 ± 0.58	4.09 ± 0.58	4.95 ± 0.21	NA/.001/.001
Nasal cavity–maxillary sinus level	2.11 ± 0.53	2.11 ± 0.53	4.05 ± 0.82	NA/.001/.001
Pharynx	1.65 ± 0.74	1.66 ± 0.74	4.31 ± 0.66	.321/.001/.001
Oral cavity	1.95 ± 0.86	1.91 ± 0.86	3.28 ± 0.98	.083/.001/.001
Larynx	1.67 ± 0.86	1.62 ± 0.81	2.76 ± 1.00	.329/.001/.001
Posterior neck	4.52 ± 0.79	4.51 ± 0.79	4.89 ± 0.36	.321/.001/.001
Shoulder	2.08 ± 0.90	2.00 ± 0.74	4.08 ± 0.52	.586/.001/.001
Reader 2				
Orbit–sphenoid sinus level	2.20 ± 0.40	2.20 ± 0.40	4.24 ± 0.63	NA/.001/.001
Posterior fossa	4.06 ± 0.56	4.06 ± 0.56	4.94 ± 0.24	NA/.001/.001
Nasal cavity–maxillary sinus level	2.12 ± 0.48	2.12 ± 0.48	4.08 ± 0.82	NA/.001/.001
Pharynx	1.74 ± 0.67	1.75 ± 0.66	4.26 ± 0.67	.321/.001/.001
Oral cavity	1.95 ± 0.82	1.94 ± 0.85	3.31 ± 1.01	.568/.001/.001
Larynx	1.57 ± 0.81	1.57 ± 0.81	2.81 ± 0.93	NA/.001/.001
Posterior neck	4.48 ± 0.85	4.45 ± 0.87	4.88 ± 0.38	.159/.001/.001
Shoulder	2.42 ± 1.08	2.25 ± 0.45	4.33 ± 0.49	.504/.001/.001

Note:—NA indicates not applicable.

^a Data are given as mean ± SD.

^b P values are derived from pair-wise comparison using a paired t test with a Bonferroni correction among ssEPI-STIR and ssEPI-SPIR/ssEPI-STIR and msEPI-SPIR/ssEPI-SPIR and msEPI-SPIR.