

On-line Table: Assessment of image quality of EPIMix and routine brain MR imaging using a 4-point assessment scale

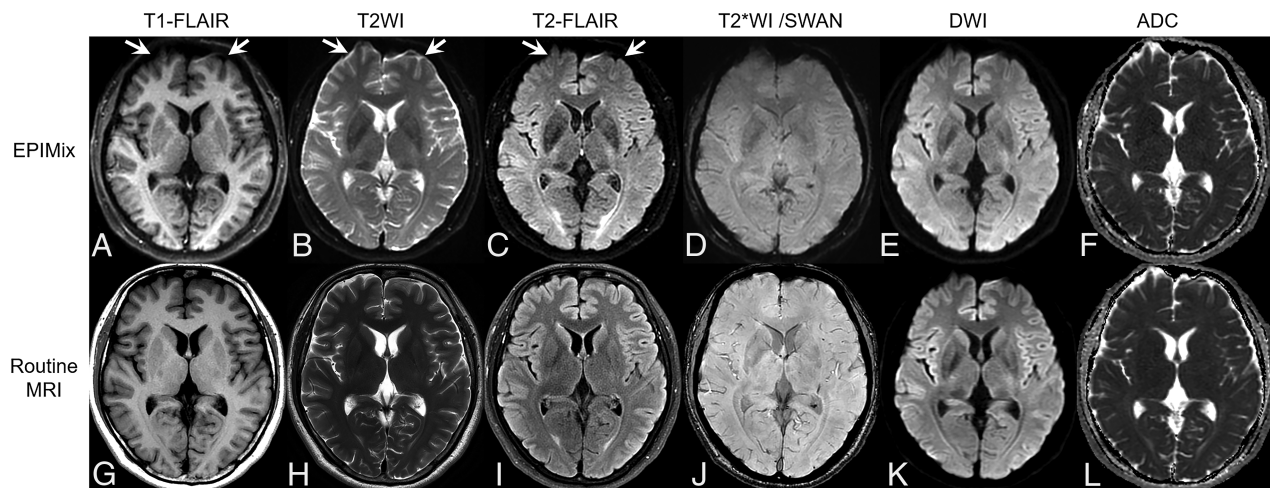
	EPIMix MR Imaging				Routine MR Imaging				P Value ^a	Disagreement (%) ^b	P Value ^c
	R1 (Mean)	R2 (Mean)	Mean Value of 2 Readers	Agreement (%)	R1 (Mean)	R2 (Mean)	Mean Value of 2 Readers	Agreement (%)			
T1-FLAIR											
OQ	2.87 ± 0.33	2.94 ± 0.24	2.91 ± 0.29	137/146 (93.8)	3.97 ± 0.16	3.98 ± 0.14	3.98 ± 0.15	145/146 (99.3)	<.001	13/146 (8.9)	<.001
GM-WM	4.00 ± 0	3.99 ± 0.08	3.99 ± 0.06	145/146 (99.3)	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	NA	0/146 (0)	NA
BG	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	NA	0/146 (0)	NA
Sulci	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	3.99 ± 0.08	3.99 ± 0.08	3.99 ± 0.08	146/146 (100)	NA	0/146 (0)	NA
Motion	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	3.92 ± 0.28	3.92 ± 0.28	3.92 ± 0.28	146/146 (100)	<.001	0/146 (0)	NA
Susceptibility	2.25 ± 0.46	1.98 ± 0.18	2.11 ± 0.38	103/146 (70.5)	3.99 ± 0.12	4.00 ± 0	3.99 ± 0.08	144/146 (98.6)	<.001	126/146 (86.3)	<.001
T2WI											
OQ	2.06 ± 0.24	2.10 ± 0.30	2.08 ± 0.27	141/146 (96.6)	3.97 ± 0.16	3.97 ± 0.18	3.97 ± 0.17	145/146 (99.3)	<.001	134/146 (91.8)	<.001
GM-WM	2.00 ± 0	2.00 ± 0	2.00 ± 0	146/146 (100)	3.99 ± 0.08	3.99 ± 0.08	3.99 ± 0.08	146/146 (100)	<.001	146/146 (100)	<.001
BG	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	NA	0/146 (0)	NA
Sulci	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	NA	0/146 (0)	NA
Motion	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	3.98 ± 0.14	3.98 ± 0.14	3.98 ± 0.14	146/146 (100)	.03	0/146 (0)	NA
Susceptibility	2.48 ± 0.50	2.56 ± 0.50	2.52 ± 0.50	134/146 (91.8)	3.97 ± 0.18	4.00 ± 0	3.98 ± 0.13	141/146 (96.6)	<.001	70/146 (47.9)	<.001
T2-FLAIR											
OQ	2.86 ± 0.35	2.85 ± 0.36	2.85 ± 0.35	145/146 (99.3)	3.97 ± 0.18	3.98 ± 0.14	3.97 ± 0.16	144/146 (98.6)	<.001	21/146 (14.4)	<.001
GM-WM	3.08 ± 0.29	3.05 ± 0.24	3.06 ± 0.27	140/146 (95.9)	3.99 ± 0.08	3.99 ± 0.08	3.99 ± 0.08	146/146 (100)	<.001	1/146 (0.7)	.50
BG	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	NA	0/146 (0)	NA
Sulci	3.99 ± 0.08	3.99 ± 0.08	3.99 ± 0.08	146/146 (100)	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	NA	0/146 (0)	NA
Motion	4.00 ± 0	4.00 ± 0	4.00 ± 0	146/146 (100)	3.96 ± 0.20	3.96 ± 0.20	3.96 ± 0.20	146/146 (100)	<.001	0/146 (0)	NA
Susceptibility	2.74 ± 0.44	2.73 ± 0.45	2.73 ± 0.44	144/146 (98.6)	3.95 ± 0.23	4.00 ± 0	3.97 ± 0.16	138/146 (94.5)	<.001	39/146 (26.7)	<.001
DWI											
OQ	3.88 ± 0.36	3.87 ± 0.36	3.88 ± 0.36	142/146 (97.3)	3.86 ± 0.42	3.88 ± 0.32	3.87 ± 0.34	142/146 (97.3)	.65	2/146 (1.4)	1.00
Motion	3.99 ± 0.12	3.99 ± 0.12	3.99 ± 0.12	146/146 (100)	3.99 ± 0.08	3.99 ± 0.08	3.99 ± 0.08	146/146 (100)	NA	0/146 (0)	NA
Susceptibility	2.89 ± 0.33	2.89 ± 0.31	2.90 ± 0.32	143/146 (97.9)	2.90 ± 0.30	2.90 ± 0.30	2.90 ± 0.30	146/146 (100)	.82	4/146 (2.7)	1.00
T2*WI vs SWAN											
OQ	2.55 ± 0.50	2.68 ± 0.47	2.62 ± 0.49	127/146 (87)	3.80 ± 0.48	3.83 ± 0.39	3.82 ± 0.44	141/146 (96.6)	<.001	52/146 (35.6)	<.001
Motion	3.99 ± 0.08	3.99 ± 0.08	3.99 ± 0.08	146/146 (100)	3.68 ± 0.48	3.68 ± 0.48	3.68 ± 0.48	146/146 (100)	<.001	1/146 (0.7)	.50
Susceptibility	2.55 ± 0.50	2.58 ± 0.50	2.57 ± 0.50	143/146 (97.9)	2.95 ± 0.32	2.95 ± 0.23	2.95 ± 0.28	141/146 (96.6)	<.001	57/146 (39)	<.001

Note:—Agreement indicates interobserver percent agreement; BG, demarcation of the basal ganglia; Motion, motion artifacts; NA, not applicable; OQ, overall image quality; R1, reader 1; R2, reader 2; Sulci, demarcation of the sulci; Susceptibility, susceptibility artifacts.

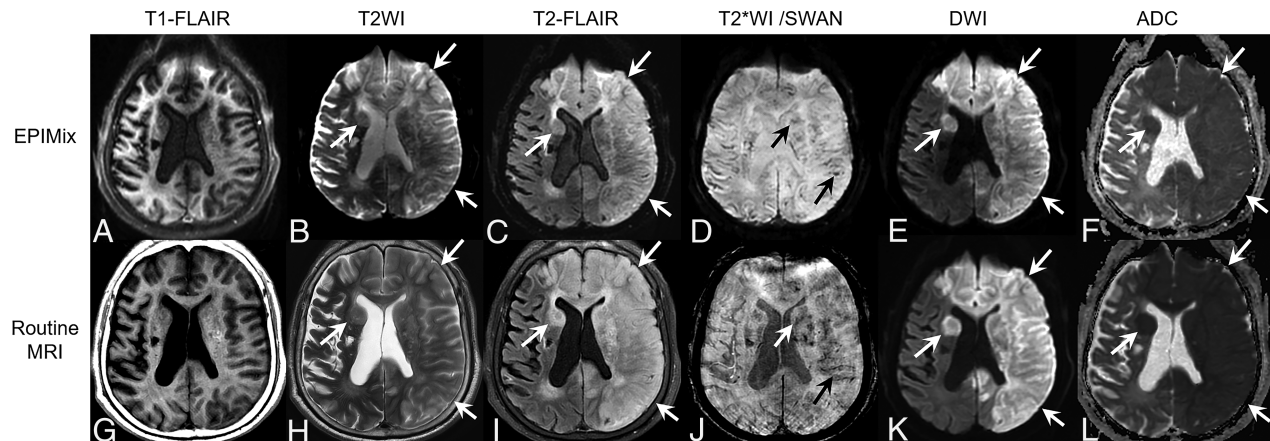
^a P values derived from the Wilcoxon signed rank test.

^b Percentage of disagreement for dichotomized values.

^c P values derived from the McNemar test of the proportions for dichotomized values.



ON-LINE FIG 1. A 41-year-old man with a healthy brain. The overall image quality of EPIMix T1-FLAIR (A), T2WI (B), T2-FLAIR (C), and T2*WI (D) is inferior to that of the corresponding routine brain MR imaging sequences (G–J). EPIMix DWI (E) shows image quality similar to that of routine MR imaging DWI (K). Anatomic differentiation of GM-WM and the basal ganglia is excellent on EPIMix T1-FLAIR (A). Both frontal lobes show geometric distortion due to susceptibility artifacts on EPIMix T1-FLAIR (A), T2WI (B), and T2-FLAIR (C) (*arrows*).



ON-LINE FIG 2. An 80-year-old man with acute infarction. There is diffusion restriction in both frontal, left parietal, and occipital lobes and both basal ganglia on DWI (E and K) (*arrows*). On T2WI (B and H) and T2-FLAIR (C and I), the corresponding regions show hyperintensity (*arrows*). There are petechial hemorrhages in the left basal ganglia and left frontal and parietal lobes (D and J) (*arrows*). These findings are well-visualized on both EPIMix MR imaging (A–F) and routine MR imaging (G–L).