

**On-line Table 1: Baseline patient characteristics\***

	RR	PP+SP
	(n = 26)	(n = 14)
Age	36.0 ± 6.6	43.5 ± 5.6
Age range	25–48	34–52
Female	20 (77%)	7 (50%)
Disease duration	6.7 ± 5.6	9.8 ± 6.0
Age at onset	29.3 ± 7.5	33.7 ± 7.1
EDSS	3.4 ± 0.3	5.1 ± 0.3
AI	1.7 ± 0.2	2.6 ± 0.4

**Note:**—RR indicates relapsing-remitting; PP, primary-progressive (n = 7); SP, secondary-progressive (n = 7); EDSS, Expanded Disability Status Scale; AI, Ambulation Index.  
 \* Reported are range and/or mean ± SD. Age and durations are given in years. The baseline characteristics of patients with PP and SP were not different except for duration of disease (PP, 6.3 ± 2.4 years and SP, 13.3 ± 6.6 years).

**On-line Table 2: Size group comparison of characteristics of lesion formation\***

	Large (n = 74)		Small (n = 229)		Mann-Whitney Large-Small
	Mean ± SD	Median	Mean ± SD	Median	
Hyperintensity [-]	0.31 ± 0.06	(0.31)	0.26 ± 0.06	(0.26)	<.0001
Residual [-]	0.23 ± 0.10	(0.24)	0.29 ± 0.12	(0.29)	.0001
Total duration	8.05 ± 2.13	(7.64)	9.21 ± 5.68	(7.58)	.9343
Acute activity	1.11 ± 0.49	(1.02)	0.99 ± 0.65	(0.85)	.0053
Subacute activity	6.78 ± 1.93	(6.55)	7.95 ± 5.76	(6.08)	.6318

\* Large lesions (volume >0.6 mL, n = 74) exhibited significantly greater hyperintensity but proportionally less residual than small lesions (n = 229). Reported are mean ± SD, median, and the significance of a rank-sum (Mann-Whitney) test.

**On-line Table 3: Comparison of new lesion activity dynamics between clinical phenotypes of relapsing (RR), primary (PP), and secondary-progressive (SP) MS\***

New Lesion Occurrence	RR		SP		PP		Mann-Whitney		
	(26 patients)		(7 patients)		(7 patients)		RR-SP	RR-PP	SP-PP
Total New Lesions	262 (25 patients)		34 (3 patients)		7 (2 patients)		0.097	<b>0.002</b>	0.333
Lesions per Patient: mean ± SD	10.1 ± 10.2		4.9 ± 6.9		21.0 ± 1.7				
Median (Range)	8 (0–42)		0 (0–16)		0 (0–4)				
New Lesion Dynamics	RR (n = 262)		SP (n = 34)		PP (n = 7)		Mann-Whitney		
	mean ± SD	(median)	mean ± SD	(median)	mean ± SD	(median)	RR-SP	RR-PP	SP-PP
Hyperintensity	0.28 ± 0.06	(0.28)	0.25 ± 0.07	(0.23)	0.28 ± 0.04	(0.27)	<b>0.002</b>	0.994	0.053
Residual Fraction	0.27 ± 0.11	(0.27)	0.30 ± 0.12	(0.29)	0.38 ± 0.09	(0.40)	0.276	<b>0.014</b>	0.053
Total Duration	9.12 ± 5.23	(8.01)	7.26 ± 3.22	(6.47)	9.61 ± 5.29	(7.17)	<b>0.009</b>	0.922	0.224
Acute Activity	0.98 ± 0.55	(0.89)	1.28 ± 0.97	(0.95)	1.13 ± 0.76	(0.98)	0.150	0.686	0.826
Subacute Activity	7.89 ± 5.26	(6.60)	5.75 ± 3.32	(5.07)	8.31 ± 5.63	(5.71)	<b>0.001</b>	0.902	0.298
Peak Size [ml]	0.65 ± 1.47	(0.23)	0.32 ± 0.49	(0.12)	0.37 ± 0.63	(0.13)	<b>0.004</b>	0.269	0.385

\* RRMS showed a trend to greater number of new lesions that are larger and have longer activity durations. Lesions in PPMS appear to leave greatest residual damage. Mean ± SD are reported, P-values give significance of comparison from a rank order (Mann-Whitney) test. Activity durations are given in weeks, size in mL. Bold indicates XX.