

Supplementary Table 1. Patient characteristics in the three groups, and volunteer characteristics.

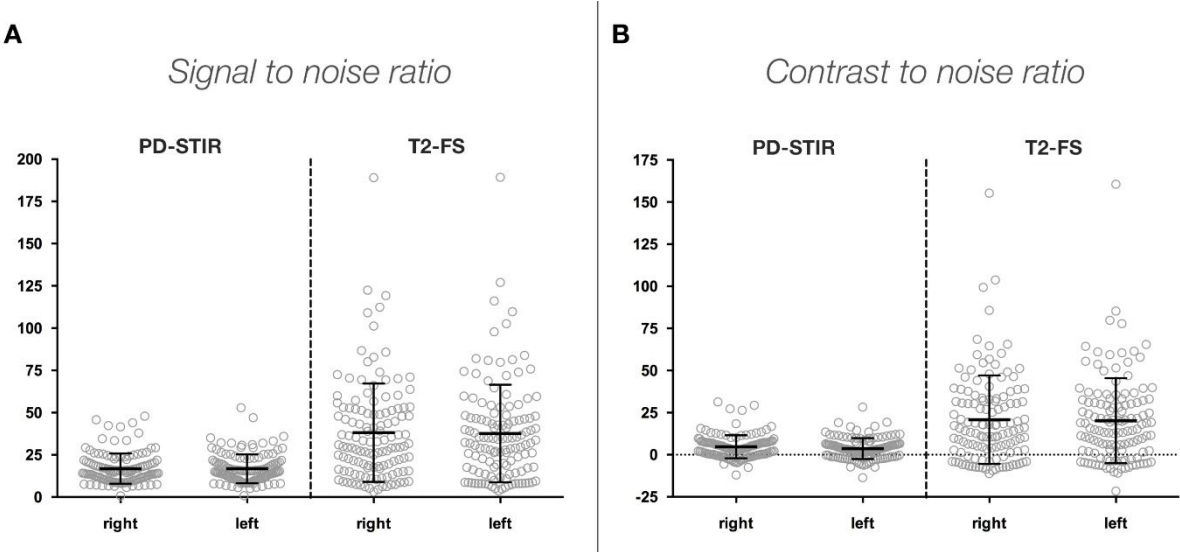
	p-value	- A - axSpA	- B - Mech. dis.	- C - Non-specific back pain	Volunteers
No		58 (52.7 %)	36 (32.7 %)	16 (14.5%)	18
Sex	0.019				
Male		35 (60.3 %)	11 (30.6 %)	7 (43.7 %)	9
Female		23 (39.7 %)	25 (69.4 %)	9 (56.3 %)	9
Age (in years)	0.004	34.84 ± 9.07	40.17 ± 9.04	31.31 ± 9.12	34.6 ± 10.0
IBP	0.429	48 (82.8 %)	28 (77.8 %)	11 (68.8 %)	0
Symptom duration (in months)	0.252	94.05 ± 98.96	81.68 ± 93.36	44.07 ± 45.34	0
BASDAI	0.793	4.47 ± 2.12	4.29 ± 1.76	4.55 ± 1.46	0
HLA-B27 +	0.001	47 (81.0 %)	18 (50.0 %)	6 (37.5 %)	-
CRP (in mg/dl)	0.001	6.21 ± 7.11	1.46 ± 1.84	3.73 ± 5.75	-

Values are means ± standard deviation; percentages in brackets when appropriate. axSpA = axial spondyloarthritis; Mech. dis. = mechanical disease (osteitis condensans and osteoarthritis patients); non-specific back pain (no structural/conspicuous radiological findings); IBP= inflammatory back pain positive; BASDAI=Bath Ankylosing Spondylitis Disease Activity Index; HLA-B27 +=Human leucocyte antigen B27 positive; CRP= C-reactive protein serum level in mg/dl;. Sign.: significance level calculated using Kruskal-Wallis test, only used to compare three patient groups.

Supplementary Table 2. Affected regions with different grades of osteitis (0-3) for all patients, three groups (axial spondyloarthritis, mechanical disease, non-specific back pain), and volunteers.

	Grade of Osteitis	PD-STIR		T2-FS	
		Reader 1	Reader 2	Reader 1	Reader 2
All Patients					
Regions=2640	0	2429	2302	2290	2061
	1	156	255	240	381
	2	41	70	69	122
	3	14	13	17	52
Missing		0	0	24	24
Group A (axSpA)					
Regions=1392	0	1231	1144	1130	940
	1	112	174	170	294
	2	35	62	61	97
	3	14	12	15	45
Missing		0	0	16	16
Group B (mechanical disease)					
Regions=864	0	828	799	788	756
	1	30	56	58	70
	2	6	8	8	23
	3	0	1	2	7
Missing		0	0	8	8
Group C (unspecific back pain)					
Regions=384	0	370	359	372	365
	1	14	25	12	17
	2	0	0	0	2
	3	0	0	0	0
Missing		0	0	0	0
Volunteers					
Regions=432	0	426	414	413	407
	1	6	18	19	23
	2	0	0	0	2
	3	0	0	0	0
Missing		0	0	0	0

Supplementary Figure 1



A. Signal-to-noise ratio (SNR) values for both sides of SIJ and for each subject. **B.** Contrast-to-noise ratio (CNR) values for both sides of SIJ and for each subject.