

## **Supplementary Data**

**Table 1.** Descriptive data for global evaluation of active and structural MRI lesions in the SIJ generated by 7 readers from the ASAS MRI group who assessed 278 scans from the ASAS Classification cohort\*.

<b>Variable</b>	<b>Mean (SD)</b>	<b>Median (IQR)</b>	<b>Range for all readers</b>
<b>Meets ASAS definition for positive MRI</b>			
Number of cases	82.9 (14.1)	80 (74.3 to 94.0)	63-104
(%) of cases	29.8 (5.1)%	28.8 (26.7 to 33.8)%	22.7-37.4%
<b>Subchondral bone marrow edema</b>			
Number of cases	115.7 (20.2)	110 (107 to 134.5)	84-142
(%) of cases	41.6 (7.3)%	39.6 (38.5 to 48.4)%	30.2-51.1%
<b>Inflammation at site of erosion</b>			
Number of cases	26.4 (7.1)	25 (23 to 33)	16-36
(%) of cases	9.5 (2.5)%	9.0 (8.3 to 11.9)%	5.8-13.0%
<b>Capsulitis</b>			
Number of cases	11.1 (4.9)	11 (7.3 to 12.8)	5-20
(%) of cases	4.9 (1.8)%	4.0 (2.6 to 4.6)%	1.8-7.2%
<b>Joint fluid</b>			
Number of cases	39.7 (13.2)	43 (30.8 to 50)	19-57
(%) of cases	14.3 (4.8)%	15.5 (11.1 to 18.0)%	6.8-20.5%
<b>Enthesitis</b>			
Number of cases	27.4 (20.6)	27 (11.5 to 33.3)	5-67
(%) of cases	9.9 (7.4)%	9.7 (4.1 to 12.0)%	1.8-24.1%

<b>Fat lesion</b>			
Number of cases	53(14)	52 (43 to 67.3)	35-71
(%) of cases	22.3 (5.9)%	21.8 (18.1 to 28.3)%	14.7-29.8%
<b>Fat metaplasia in an erosion cavity</b>			
Number of cases	20.1 (5.6)	22 (17 to 24.3)	10.0-26
(%) of cases	8.5 (2.3)%	9.2 (7.1 to 10.2)%	4.2-10.9%
<b>Erosion</b>			
Number of cases	71.9 (17.6)	67 (60.5 to 77.0)	53-107
(%) of cases	30.3 (7.3)%	28.2 (25.4 to 32.4)%	23.1-45%
<b>Subchondral sclerosis</b>			
Number of cases	55 (25.5)	48 (39.8 to 78.3)	24-93
(%) of cases	23.1(10.7)%	20.2 (16.7 to 32.9)%	10.1-39.1%
<b>Ankylosis</b>			
Number of cases	7.0 (3.3)	6 (5.3 to 9.0)	2-12
(%) of cases	2.9 (1.4)%	2.5 (2.2 to 3.8)%]	0.8-5%
<b>Bone bud</b>			
Number of cases	6.0 (3.9)	5 (2.8 to 8.8)	1-12
(%) of cases	2.5 (1.6)%	2.1 (1.2 to 3.7)%	0.4-5%

\*Data for structural lesions available from 238 scans

**Table 2.** Detailed scores (number of SIJ quadrants affected per case) for specific SIJ lesions as recorded by 7 readers from the ASAS MRI group who assessed 175 cases with DICOM scans from the ASAS Classification Cohort\*.

<b>Lesion</b>	<b>Mean (SD)</b>	<b>Range</b>
Subchondral BME	4.4 (10.3)	0-74.3
Erosion	2.4 (4.5)	0-22.9
Fat lesion	2.6 (5.9)	0-34
Sclerosis	2.0 (4.9)	0-39
Fat metaplasia in an erosion cavity	0.5 (3.4)	0-30.7
Bone bud	0.5 (1.5)	0-12
Ankylosis	0.06 (0.2)	0-1.3

Data for active and structural lesions available from 160 and 148 scans, respectively.

**Table 3.** Reliability (ICC values) for detection (number of SIJ quadrants affected per case) of active and structural MRI lesions in the SIJ by 7 readers from the ASAS MRI group who assessed 175 cases with DICOM scans from the ASAS Classification Cohort\*.

	<b>Overall ICC (95% CI)</b>	<b>Mean (95% CI) of reader pairs</b>	<b>Median of reader pairs</b>	<b>Range for reader pairs</b>
<b>Subchondral BME</b>	0.79 (0.75-0.83)	0.83 (0.78-0.88)	0.90	0.55-0.96
<b>Erosion</b>	0.50 (0.43-0.58)	0.54 (0.41-0.65)	0.54	0.28-0.84
<b>Fat lesion</b>	0.62 (0.56-0.69)	0.61 (0.49-0.70)	0.58	0.30-0.89
<b>Sclerosis</b>	0.74 (0.68-0.79)	0.73 (0.64-0.80)	0.80	0.36-0.94
<b>Fat metaplasia in an erosion cavity</b>	0.33 (0.26-0.40)	0.37 (0.23-0.49)	0.33	0.10-0.85
<b>Bone bud</b>	0.10 (0.05-0.16)	0.07 (-0.08-0.23)	0.02	-0.04-0.30
<b>Ankylosis</b>	0.97 (0.96-0.98)	0.97 (0.96-0.98)	0.97	0.91-0.99

\*Data for active and structural lesions available from 160 and 148 scans, respectively.

**Supplementary Figure Legend**

ASAS consensus reference image for joint space enhancement in the sacroiliac joint of a patient with spondyloarthritis. Semicoronal T1W fat suppressed post-gadolinium enhanced scan of a 38-year-old male with a two-year history of back pain, lack of response to NSAID therapy, HLA-B27 positivity, and CRP level of 24.7 mg/L. Enhancement in the joint space of the cartilaginous portion of the left sacroiliac joint (arrows) with irregularity of left iliac and sacral cortical bone.