

## Comparison of Established and Preliminarily Proposed ASAS MRI Working Group Cut-Offs for Inflammatory MRI Lesions in the Sacroiliac Joints in Radiographic and Non-Radiographic Axial Spondyloarthritis

### *Supplementary Appendix*

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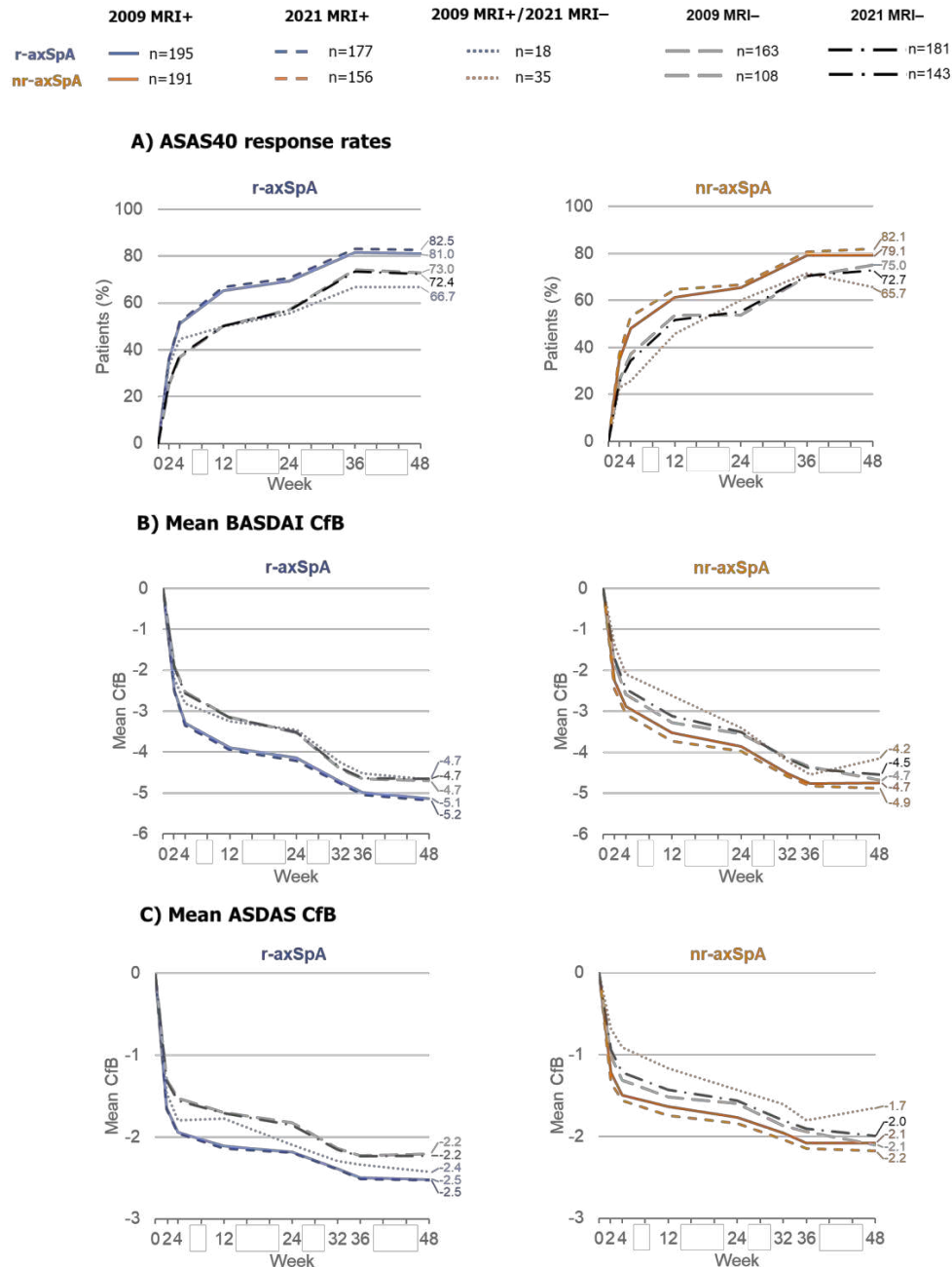
**Supplementary Table 1.** Patient demographics and baseline characteristics stratified by 2009 and preliminary 2021 MRI cut-offs for inflammatory lesions

	2009 MRI+ N=386 (58.8%)		2021 MRI+ N=333 (50.7%)		2009 MRI+/2021 MRI- N=53 (8.1%)		2009 MRI- N=271 (41.2%)		2021 MRI- N=324 (49.3%)	
	r-axSpA (n=195)	nr-axSpA (n=191)	r-axSpA (n=177)	nr-axSpA (n=156)	r-axSpA (n=18)	nr-axSpA (n=35)	r-axSpA (n=163)	nr-axSpA (n=108)	r-axSpA (n=181)	nr-axSpA (n=143)
<b>Age, years</b> , mean (SD)	32.7 (6.8)	31.9 (7.0)	32.7 (6.9)	31.1 (6.5)	32.4 (5.5)	35.4 (8.0)	34.6 (6.8)	32.7 (7.2)	34.4 (6.7)	33.3 (7.4)
<b>Male</b> , n (%)	154 (79.0)	123 (64.4)	138 (78.0)	109 (69.9)	16 (88.9)	14 (40.0)	130 (79.8)	56 (51.9)	146 (80.7)	70 (49.0)
<b>CRP, mg/L</b> , mean (SD)	17.3 (17.7)	11.0 (18.5)	17.1 (17.1)	11.5 (19.0)	19.6 (23.3)	8.6 (15.9)	16.3 (20.3)	12.4 (17.3)	16.6 (20.6)	11.5 (17.0)
<b>HLA-B27 positive</b> , n (%)	169 (86.7)	148 (77.5)	153 (86.4)	127 (81.4)	16 (88.9)	21 (60.0)	147 (90.2)	83 (76.9)	163 (90.1)	104 (72.7)
<b>Symptom duration</b> , years										
Mean (SD)	3.5 (2.1)	2.9 (1.6)	3.6 (2.2)	2.9 (1.6)	3.2 (1.3)	3.2 (1.8)	3.7 (2.6)	3.0 (1.8)	3.7 (2.5)	3.0 (1.8)
Median (range)	3.9 (0.2–19.4)	2.9 (0.2–8.4)	4.0 (0.2–19.4)	2.9 (0.2–7.9)	3.2 (0.6–5.0)	3.3 (0.3–8.4)	4.1 (0.3–23.5)	3.0 (0.4–10.1)	4.0 (0.3–23.5)	3.0 (0.3–10.1)
<b>Disease duration</b> , years										
Mean (SD)	2.2 (1.6)	1.9 (1.6)	2.2 (1.7)	1.8 (1.5)	2.5 (1.6)	2.1 (1.6)	2.7 (1.7)	1.7 (1.6)	2.7 (1.7)	1.8 (1.6)
Median (range)	1.9 (0.2–5.6)	1.2 (0.2–5.0)	1.8 (0.2–5.6)	1.2 (0.2–5.0)	2.8 (0.2–4.6)	2.0 (0.2–5.0)	2.8 (0.2–5.4)	0.9 (0.2–5.3)	2.8 (0.2–5.4)	1.0 (0.2–5.3)
<b>BASDAI</b> , mean (SD)	6.8 (1.4)	6.6 (1.4)	6.8 (1.4)	6.5 (1.4)	6.2 (1.7)	6.9 (1.4)	6.7 (1.4)	6.8 (1.3)	6.6 (1.4)	6.8 (1.3)

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	r-axSpA (n=195)	nr-axSpA (n=191)	r-axSpA (n=177)	nr-axSpA (n=156)	r-axSpA (n=18)	nr-axSpA (n=35)	r-axSpA (n=163)	nr-axSpA (n=108)	r-axSpA (n=181)	nr-axSpA (n=143)
<b>ASDAS</b> , mean (SD)	4.0 (0.8)	3.5 (0.8)	4.0 (0.7)	3.5 (0.8)	3.8 (1.0)	3.5 (0.7)	3.8 (0.9)	3.7 (0.8)	3.8 (0.9)	3.6 (0.8)
<b>ASDAS disease state</b> , n (%)										
ID	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
LDA	2 (1.0)	4 (2.1)	1 (0.6)	4 (2.6)	1 (5.6)	0 (0)	3 (1.8)	1 (0.9)	4 (2.2)	1 (0.7)
HDA	52 (26.7)	95 (49.7)	45 (25.4)	78 (50.0)	7 (38.9)	17 (48.6)	67 (41.1)	46 (42.6)	74 (40.9)	63 (44.1)
vHDA	141 (72.3)	92 (48.2)	131 (74.0)	74 (47.4)	10 (55.6)	18 (51.4)	93 (57.1)	61 (56.5)	103 (56.9)	79 (55.2)

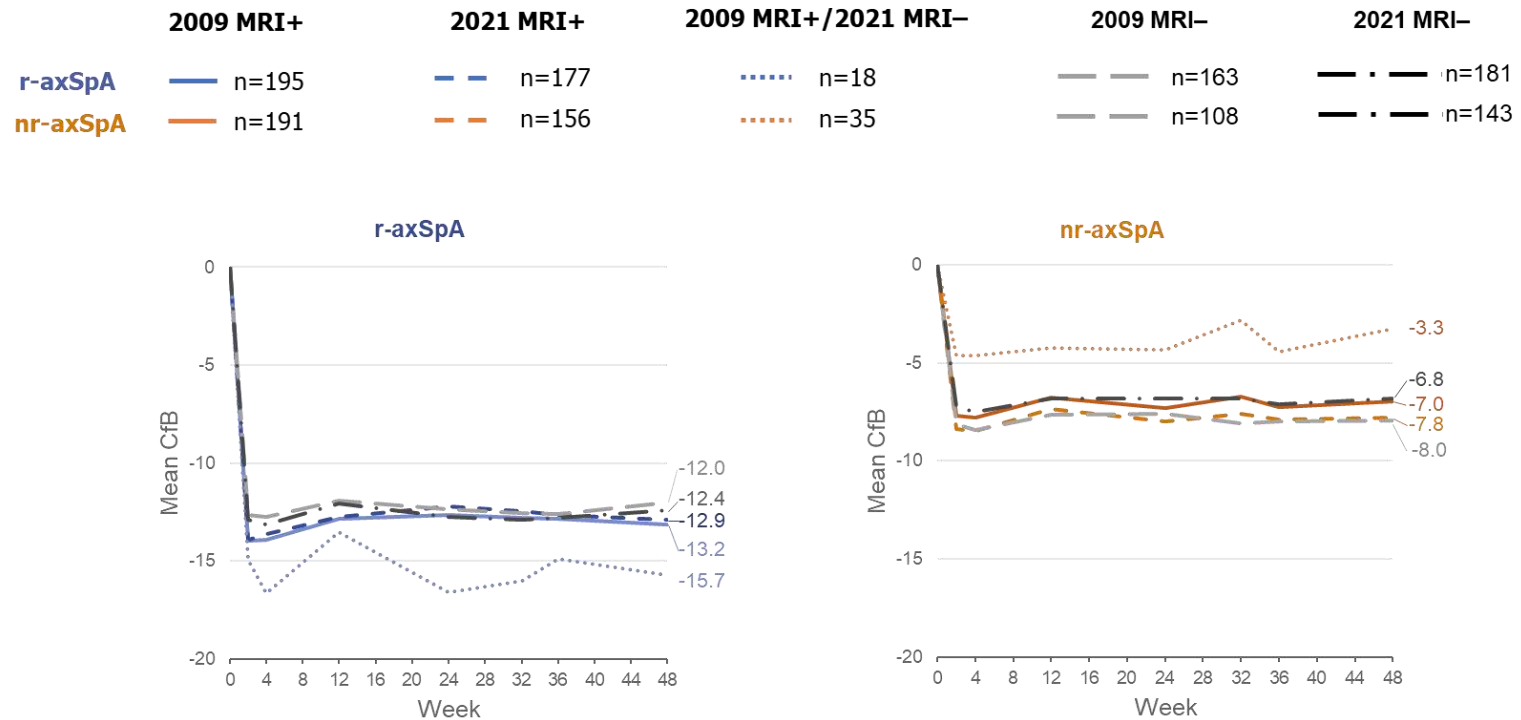
ASAS: Assessment of SpondyloArthritis international Society; ASDAS: Ankylosing Spondylitis Disease Activity Score; BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; CRP: C-reactive protein; HDA: high disease activity; HLA-B27: human leukocyte antigen B27; ID: inactive disease; LDA: low disease activity; MRI: magnetic resonance imaging; nr-axSpA: non-radiographic axial spondyloarthritis; r-axSpA: radiographic axial spondyloarthritis; SD: standard deviation; vHDA: very high disease activity

**Supplementary Figure 1.** ASAS40 response rates, mean BASDAI Cfb and mean ASDAS Cfb to Week 48 stratified by applying 2009 and preliminarily proposed 2021 MRI cut-offs for inflammatory lesions, including the MRI- groups (open-label population)



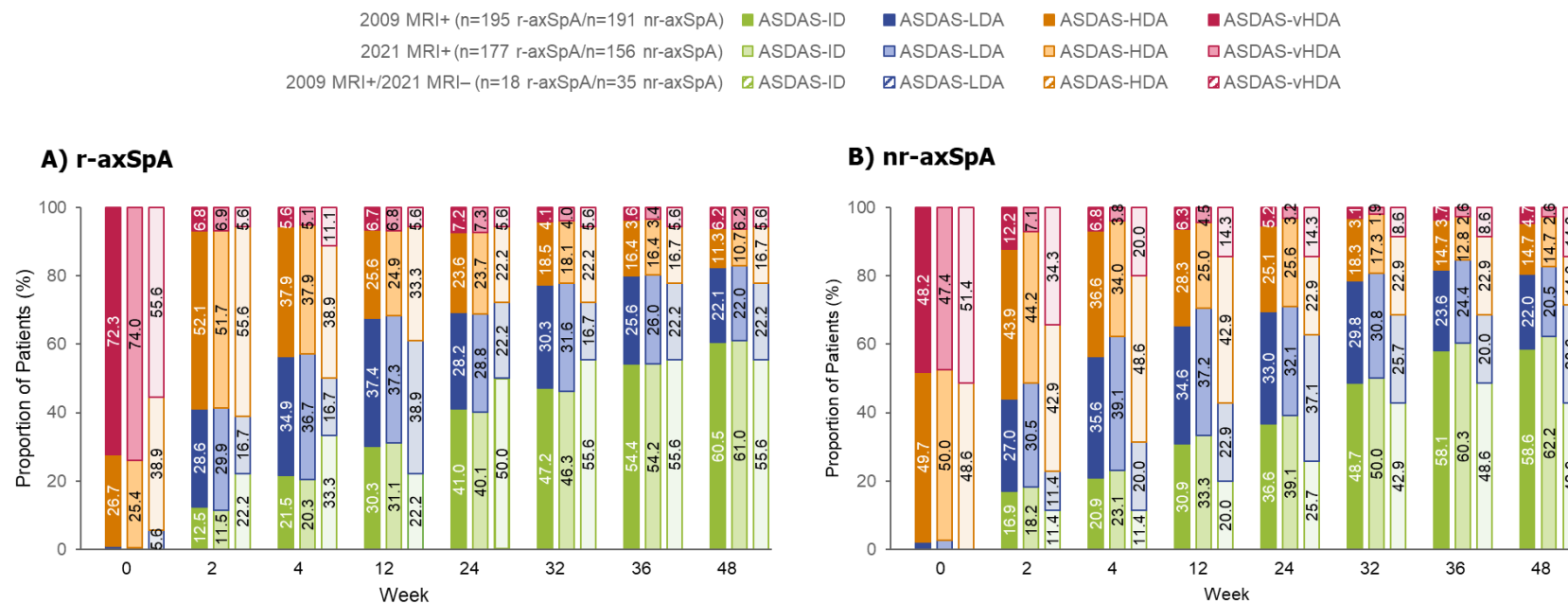
Missing ASAS40 response data imputed using NRI; missing BASDAI Cfb and ASDAS Cfb data imputed using LOCF. ASAS: Assessment of SpondyloArthritis international Society; ASAS40: ASAS  $\geq 40\%$  improvement; ASDAS: Ankylosing Spondylitis Disease Activity Score; axSpA: axial spondyloarthritis; BASDAI: Bath Ankylosing Spondylitis Disease Activity Index; Cfb: change from baseline; LOCF: last observation carried forward; MRI: magnetic resonance imaging; nr-axSpA: non-radiographic axSpA; NRI: non-responder imputation; r-axSpA: radiographic axSpA

**Supplementary Figure 2.** Mean CRP Cfb to Week 48 stratified by applying 2009 and preliminarily proposed 2021 MRI cut-offs for inflammatory lesions (including the MRI- groups)



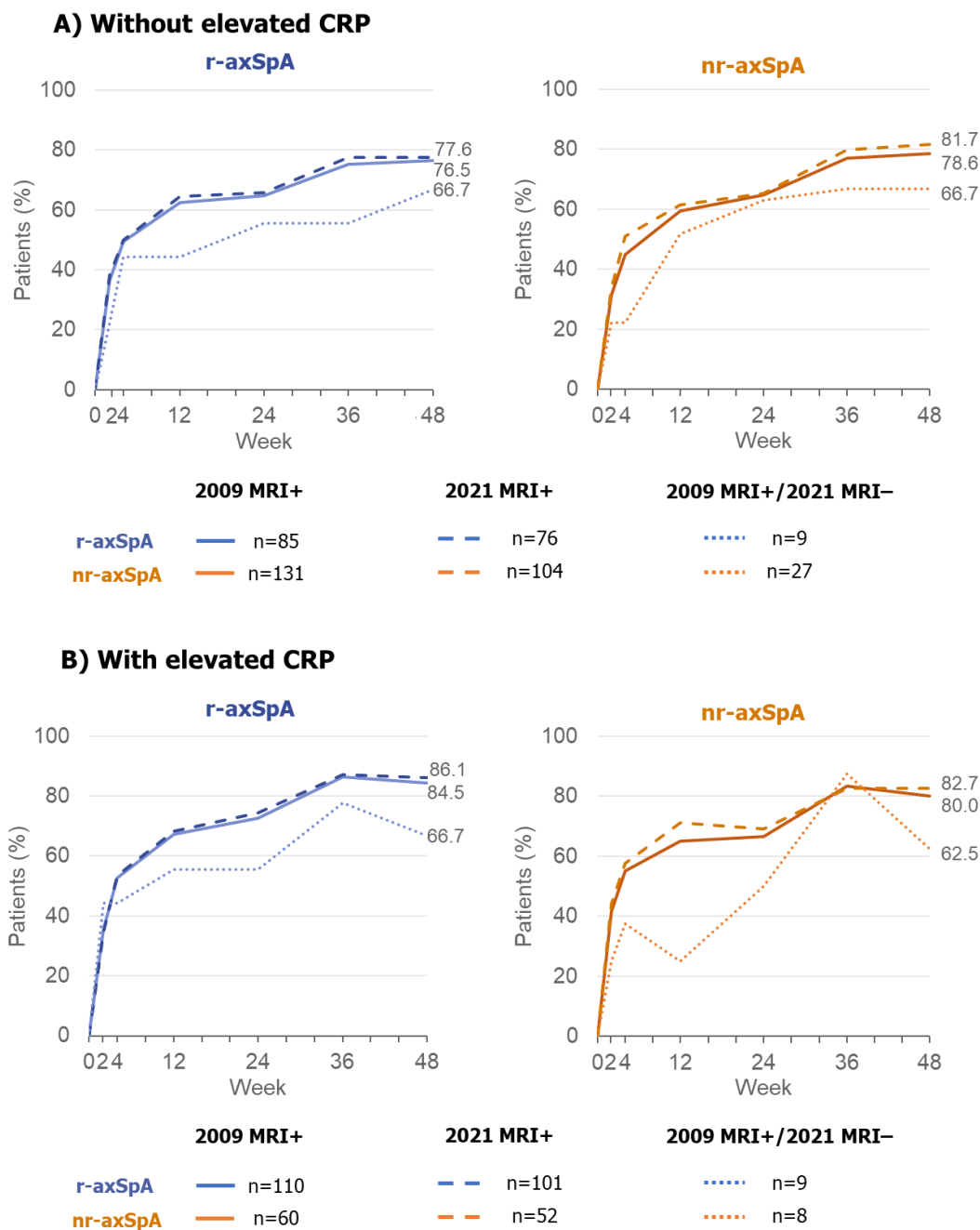
Missing data imputed using LOCF. axSpA: axial spondyloarthritis; Cfb: change from baseline; CRP: C-reactive protein; LOCF: last observation carried forward; MRI: magnetic resonance imaging; nr-axSpA: non-radiographic axSpA; r-axSpA: radiographic axSpA

**Supplementary Figure 3.** ASDAS disease states at Week 48 stratified by applying 2009 and preliminary 2021 MRI cut-offs for inflammatory lesions



Missing data imputed using LOCF. ASDAS: Ankylosing Spondylitis Disease Activity Score; HDA: high disease activity; ID: inactive disease; LDA: low disease activity; LOCF: last observation carried forward; MRI: magnetic resonance imaging; nr-axSpA: non-radiographic axial spondyloarthritis; r-axSpA: radiographic axial spondyloarthritis; SD: standard deviation; SIJ: sacroiliac joint; vHDA: very high disease activity

**Supplementary Figure 4.** ASAS40 response rates in patients a) without and b) with elevated CRP at baseline, stratified by applying 2009 and preliminarily proposed 2021 MRI cut-offs for inflammatory lesions (open-label population)



Missing ASAS40 response data imputed using NRI. Elevated CRP defined as CRP > ULN. ASAS: Assessment of SpondyloArthritis international Society; ASAS40: ASAS  $\geq$ 40% improvement; axSpA: axial spondyloarthritis; MRI: magnetic resonance imaging; nr-axSpA: non-radiographic axSpA; NRI: non-responder imputation; r-axSpA: radiographic axSpA; ULN: upper limit of normal.