

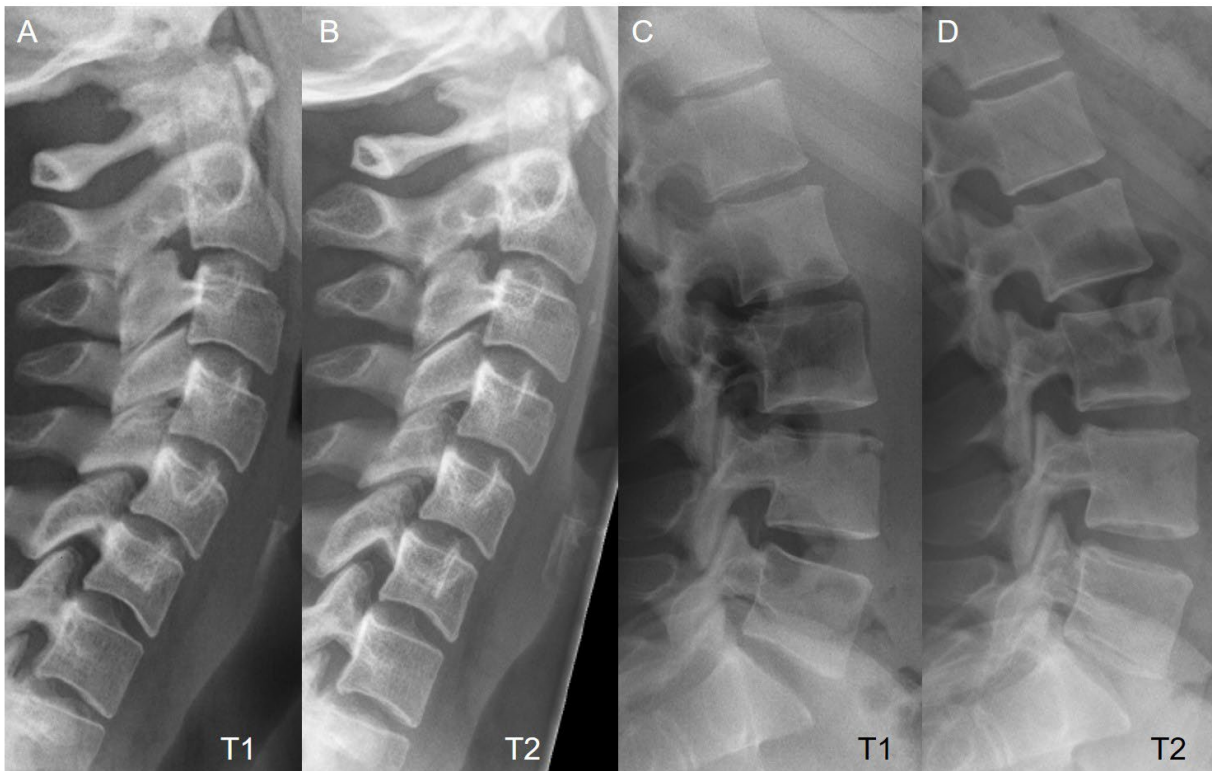
## Supplementary Material

“Impact of sex on spinal radiographic progression in axial spondyloarthritis: a longitudinal Swiss cohort analysis over a period of 10 years”, by Ensslin C, et al.

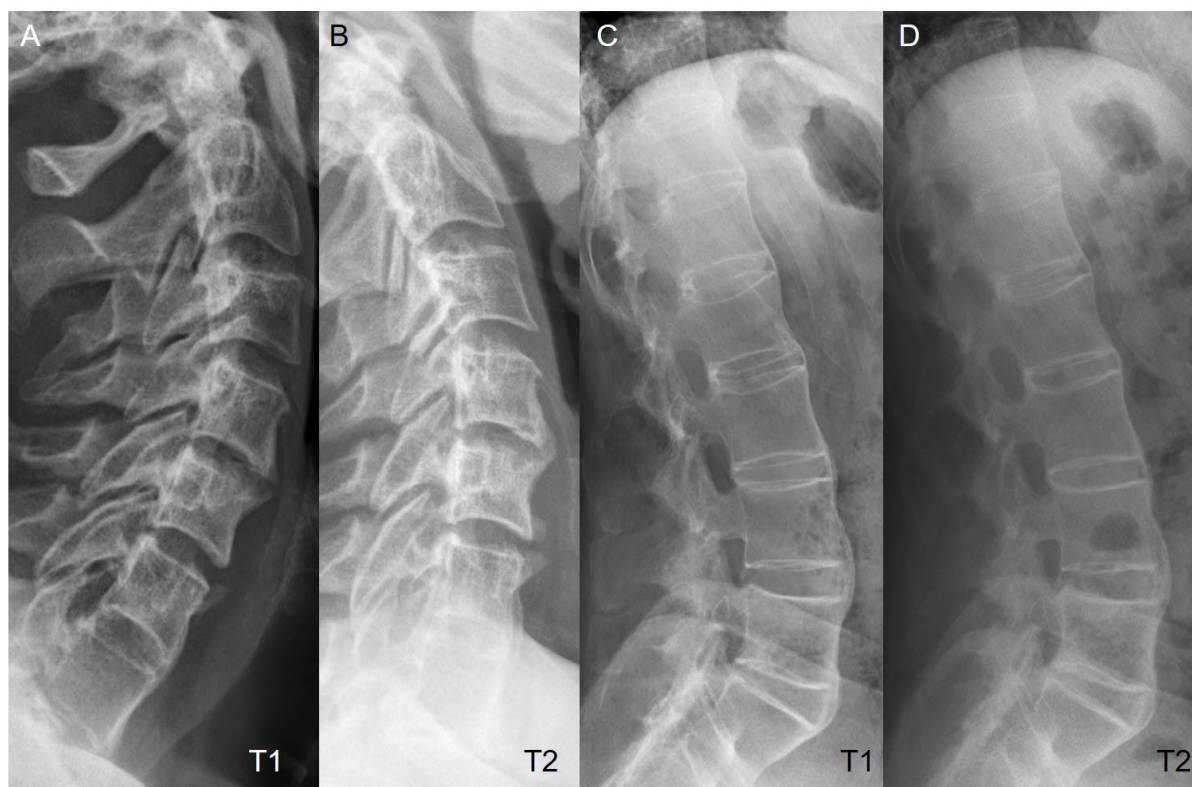
**Table S1.** Complete case analyses of the impact of male sex on spinal radiographic progression in axSpA.

Variable	Progression defined as ≥2 mSASSS units in 2y			Progression defined as ≥1 syndesmophyte in 2y		
	OR	95% CI	P	OR	95% CI	P
Male sex ( <i>direct effect</i> )	3.20	1.29; 7.98	0.01	1.97	0.84; 4.61	0.12
TNFi use prior to x-ray interval	0.74	0.37; 1.47	0.39	0.56	0.29; 1.09	0.09
Length of the x-ray interval	1.22	0.50; 2.60	0.66	2.14	0.87; 5.27	0.10
mSASSS at start of x-ray interval	1.07	1.04; 1.10	<0.001			
Syndesmophytes at start of x-ray interval				10.8	5.34; 21.8	<0.001
ASDAS	1.45	1.02; 2.05	0.04	1.43	1.00; 2.04	0.05
HLA-B27	0.80	0.35; 1.85	0.60	0.98	0.43; 2.21	0.95
Disease duration	1.13	0.97; 1.31	0.12	1.05	0.91; 1.22	0.50
Current smoking	0.84	0.42; 1.66	0.61	0.63	0.32; 1.26	0.19
Number of exercise sessions per week	1.00	0.89; 1.14	0.96	0.93	0.82; 1.06	0.29
Current peripheral arthritis	0.79	0.39; 1.64	0.53	0.49	0.23; 1.03	0.06
NSAIDs use at start of x-ray interval	0.58	0.25; 1.36	0.21	0.75	0.33; 1.74	0.51
BMI 25-30 (reference BMI<25)	1.60	0.85; 3.01	0.14	0.84	0.43; 1.64	0.61
BMI>30 (reference BMI<25)	1.85	0.71; 4.84	0.21	1.20	0.45; 3.18	0.71

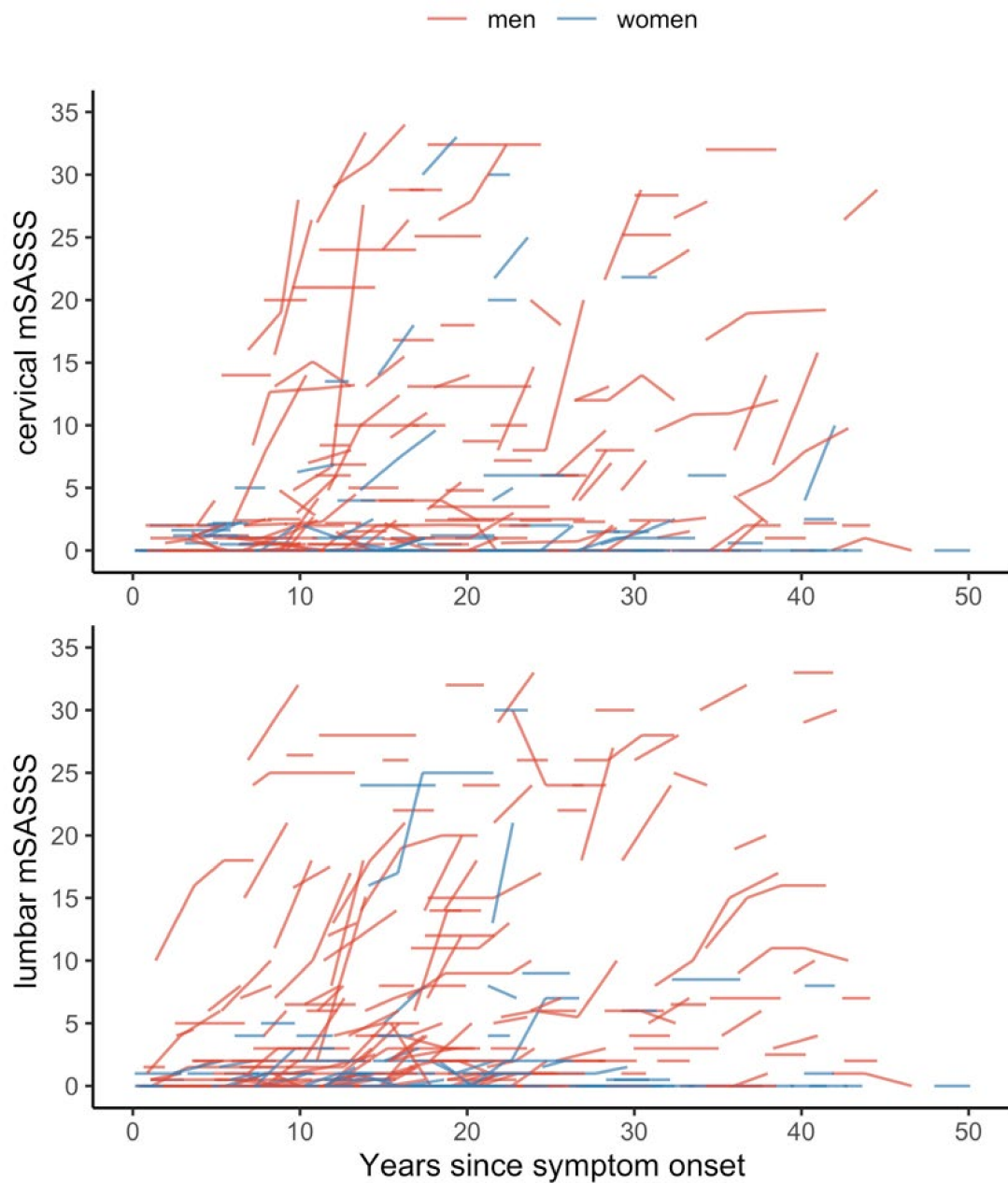
Results from different multivariable models with spinal radiographic progression defined as an increase of ≥2 mSASSS units in 2 years or as the formation of ≥1 new syndesmophyte in 2 years. Analyses performed in 450 radiographic intervals from 332 axSpA patients (70 events with progression defined as ≥2 mSASSS units in 2 years and 67 events with progression defined as the formation of ≥1 syndesmophyte in 2 years). ASDAS = Ankylosing Spondylitis Disease Activity Score; BMI = body mass index; HLA-B27 = human leucocyte antigen B27; mSASSS = Modified Stoke Ankylosing Spondylitis Spinal Score; NSAID = nonsteroidal anti-rheumatic drug; TNFi = Tumor necrosis factor inhibitor.



**Supplementary Figure S1.** Lateral cervical (A, B) and lumbar (C, D) radiographs of a 24-year-old woman with radiographic axial spondyloarthritis were taken at two timepoints (T1: December 1<sup>st</sup>, 2009; T2: January 6<sup>th</sup>, 2012). mSASSS at T1: 2 units (reader 1), 0 units (reader 2); mSASSS at T2: 2 units (reader 1), 0 units (reader 2). Treatment with infliximab was started on January 18<sup>th</sup>, 2010 (ASDAS 4.9). The treatment was switched to adalimumab in June 2010, due to an insufficient response to infliximab (ASDAS 4.6). The patient reached remission thereafter (ASDAS <1.3). ASDAS = Ankylosing Spondylitis Disease Activity Score. mSASSS = modified Stoke Ankylosing Spondylitis Spine Score.



**Supplementary Figure S2.** Lateral cervical (A, B) and lumbar (C, D) radiographs of a 42-year-old man with radiographic axial spondyloarthritis were taken at two timepoints (T1: March 15<sup>th</sup>, 2012; T2: August 28<sup>th</sup>, 2014). mSASSS at T1: 48 units (reader 1), 36 units (reader 2); mSASSS at T2: 50 units (reader 1), 38 units (reader 2). The mSASSS score of reader 2 was taken as the final score after adjudication. The patient declined treatment with TNF inhibitors and NSAIDs at several occasions during the entire radiographic interval, arguing that he responded well to paracetamol. ASDAS 2.3 at T1 and 2.2 at T2. BASDAI 0.7 at T1 and 1.6 at T2. ASDAS = Ankylosing Spondylitis Disease Activity Score. BASDAI = Bath Ankylosing Spondylitis Disease Activity Index; mSASSS = modified Stoke Ankylosing Spondylitis Spine Score; NSAIDs = Nonsteroidal anti-inflammatory drugs.



**Supplementary Figure S3.** Modified Stoke Ankylosing Spondylitis Spine Score (mSASS) stratified by spinal segments (range 0-36; cervical segment in the upper part and lumbar segment in the lower part of the figure) in patients with axial spondyloarthritis. The segmental mSASS is plotted for individual patients as a function of duration since symptom onset (for male patients in red and for female patients in blue).