mSASSS and the RASSS performed the best in terms of capturing the signal (i.e. positive change) despite the noise (i.e. negative change), which is taken into account in the net change calculation.

The proportion of variance explained by the patient for the radiographic scores was highest for the mSASSS and RASSS, both for status and progression scores (e.g. 70% for mSASSS 69% for RASSS 2 year progression). However, the proportion of patient variance in the thoracic segment of the RASSS was unsatisfactory (36% for 2 year progression, compared to 54% lumbar segment and 73% cervical segment).

In what concerns feasibility, all scores seemed feasible, but the thoracic segment was missing in up to 7% of the cases, thus not allowing computation of BASRI modifications to include that segment.

Abstract THU0272 – Table 1. Two- and 5-year change, above the smallest detectable change, across the different radiographic scores

| | N | SDC | 2-year Change > SDC | | | N | SDC | 5-year Change > SDC | | |
			Positive change N (%)	Negative change N (%)	Net change N (%)			Positive change N (%)	Negative change N (%)	Net change N (%)
mSASSS (0-72)	488	0.9	29 (6)	6 (1)	23 (5)	372	1.1	41 (11)	3 (1)	38 (10)
RASSS (0-84)	484	1.0	26 (5)	2 (0.4)	24 (5)	370	1.2	54 (15)	1 (0.3)	53 (14)
SASSS (0-72)	499	0.8	13 (3)	0 (0)	13 (3)	389	1.2	36 (9)	0 (0)	36 (9)
BASRI spine (0-12)	484	0.6	40 (8)	22 (5)	18 (4)	371	0.7	39 (11)	2 (0.5)	37 (10)
BASRI spine with thoracic (0-16)	360	0.6	35 (10)	17 (5)	18 (5)	267	0.9	31 (12)	2 (1)	29 (11)
BASRI total (0-16)	480	0.6	41 (9)	22 (6)	19 (4)	368	0.8	41 (11)	2 (0.5)	39 (11)
BASRI total with thoracic (0-20)	358	0.7	19 (4)	4 (1)	15 (4)	266	0.9	32 (12)	2 (1)	30 (11)

SDC: smallest detectable change; mSASSS: modified Stoke in Ankylosing Spondylitis Spine Score; RASSS: Radiographic Ankylosing Spondylitis Spinal Score; SASSS: Stoke Ankylosing Spondylitis Spine Score; BASRI: Bath Ankylosing Spondylitis Radiology Index

Conclusions: The existing scoring methods to assess spinal radiographic damage performed well in early phases of axSpA. The mSASSS and RASSS captured most change. There was no clear gain in additionally scoring the thoracic spine for the RASSS while an increased noise was introduced. The mSASSS remains the most sensitive and valid scoring method in axSpA, including early phases of the disease.

Disclosure of Interest: None declared
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THU0273   **PREVALENCE OF VERTEBRAL FRACTURES IN ANKYLOSING SPONDYLITIS: A META-ANALYSIS**
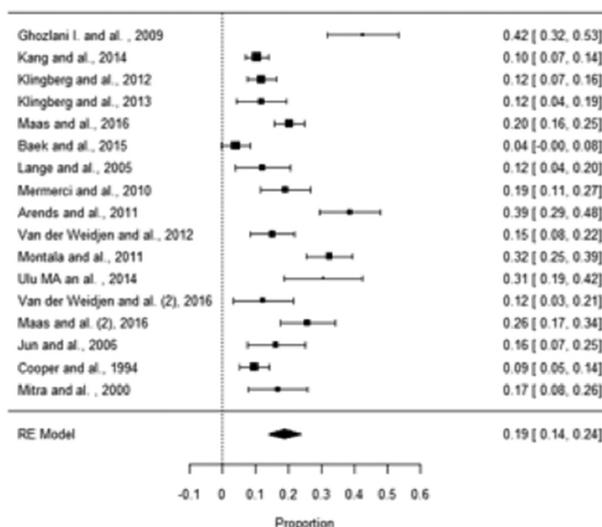
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Background: Osteoporosis is a well-recognised feature of ankylosing spondylitis (AS). Patients with AS have an increased risk of vertebral fractures (VF) but prevalence of VF is variable across studies from 4% to 42%. The diagnosis of VF is still problematic because frequently asymptomatic and sometimes difficult to differentiate from vertebral deformities which are not fractures.
Objectives: The aim of our study was to determine the prevalence of VF in AS and the risk factors associated.
Methods: Two independent investigators conducted a search in Medline and Cochrane databases, including cohorts, cross-sectional, and case-control studies that had assessed the prevalence of VF in patients with AS fulfilling the modified New York criteria. We collected data about study design, demographics, disease activity and severity (HLA B27 antigen status, BASDAI, BASFI, ASDAS, mSASSS, CRP, ESR, treatment history), bone mineral density, method of VF assessment (method of X-rays reading, number of readers) and characteristics of VF (number, prevalence, grade).
Results: Among 434 screened studies, 17 were eligible for meta-analysis. The pooled VF prevalence in patients with AS was 19% (95% CI 14%>24%, $I^2$90.5%) (figure 1). The CRP (p<0.001) and mSASSS (p=0.046) scores were associated with a higher risk of VF. When focusing only on moderate to severe VF, HLA B27 antigen (p=0.046), lumbar spine osteoporosis (p=0.018) and osteopenia (p=0.024), hip BMD (p=0.024), CRP (p=0.004), ESR (p<0.001), and Genant method (p=0.009) were associated with higher risk of VF.

Ghozlani I. and al. , 2009	0.42 [0.32, 0.53]
Kang and al., 2014	0.10 [0.07, 0.14]
Klingberg and al., 2012	0.12 [0.07, 0.16]
Klingberg and al., 2013	0.12 [0.04, 0.19]
Maas and al., 2016	0.20 [0.16, 0.25]
Baek and al., 2015	0.04 [-0.00, 0.08]
Lange and al., 2005	0.12 [0.04, 0.20]
Mermerci and al., 2010	0.19 [0.11, 0.27]
Arends and al., 2011	0.39 [0.29, 0.48]
Van der Weidjen and al., 2012	0.15 [0.08, 0.22]
Montala and al., 2011	0.32 [0.25, 0.39]
Ulu MA an al. , 2014	0.31 [0.19, 0.42]
Van der Weidjen and al. (2), 2016	0.12 [0.03, 0.21]
Maas and al. (2), 2016	0.26 [0.17, 0.34]
Jun and al., 2006	0.16 [0.07, 0.25]
Cooper and al., 1994	0.09 [0.05, 0.14]
Mitra and al. , 2000	0.17 [0.08, 0.26]
RE Model	0.19 [0.14, 0.24]

Proportion

Conclusions: Despite a large heterogeneity among studies, the prevalence of VF in AS patients is high. CRP and mSASSS scores were associated with the prevalence of all VF. Classical VF risk factors, such as osteoporosis, were associated only with moderate and severe VF.

Disclosure of Interest: None declared
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THU0274   **ASSESSMENT OF RADIOGRAPHIC SACROILIITIS ON ANTERO-POSTERIOR LUMBAR RADIOGRAPHS AS COMPARED TO CONVENTIONAL PELVIC RADIOGRAPHS IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS**

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Background: EULAR guidelines consider conventional radiography of sacroiliac joints (SIJs) as the first recommended imaging method in case of suspected axial spondyloarthritis (axSpA).[1] However, it is not clear whether sacroiliac joints can be reliably assessed on anteroposterior (AP) lumbar radiographs, which are often performed as a part of the diagnostic work-up in patients presented with back pain.
Objectives: To investigate reliability and validity of radiographic sacroiliitis assessment on AP lumbar radiographs as compared to conventional pelvic X-rays in patients with axSpA.
Methods: Patients from the GErman SPondyloarthritis Inception Cohort (GESPIC) were selected based on the availability of sets of pelvic and AP lumbar radiographs with visible SIJs at baseline and after 2 years of follow-up. Two trained readers (ML and VR) scored the images independently and in a random order according to the radiographic system of the modified New York (mNY) criteria (grade 0 to 4). The sacroiliitis sum score (0–8) was calculated as a sum of the mean grades of 2 readers for the right and left SIJ. We assessed intra- and inter-reader reliability using intraclass correlation coefficients (ICC) of the sacroiliitis sum scores. Patients were classified as having radiographic axSpA (r-axSpA) when both readers agreed on the presence of definite radiographic sacroiliitis according to the mNY criteria, and non-radiographic axSpA (nr-axSpA) otherwise.
Results: A total of 226 sets radiographs were scored from the 113 patients included in the present study. Intra-observer agreement was good to excellent for