expansion in AS group ($p<0.001$). PFTs were found to be restrictive in 14 AS patient (63.6%) with mean of FVC ($70.3\pm9\%$), FEV1 ($55.2\pm15.9\%$), FEV1/FVC (80.1 ± 2) and these restrictive PFTs were associated with SCJ synovitis ($p=0.03$), SCJ PD activity ($p=0.03$), SCJ erosions (0.05) and highly associated with MSJ ankylosing ($p<0.001$). All AS patients (100%) with ankylosed MSJ by US had limited chest expansion and restrictive PFTs.

In AS group, ultrasonographic changes and restrictive PFTs were found to be higher with older age, male sex, smoking, longer disease duration and high BASDAI and BASFI.

Conclusions: Our study demonstrated that ultrasound detected subclinical changes in ACW joints is associated with restrictive pattern of PFTs in AS patients.

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THU0255 LOW BONE MINERAL DENSITY IS COMMON IN AXIAL SPONDYLOARTHROPATHY

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Background: Osteoporosis is a known consequence of inflammatory arthritis (IA). In the general population and IA such as rheumatoid arthritis, the impact of osteoporosis is well outlined. However, it is often ignored in axial spondyloarthritis (axSpA), a form of IA centred on sacroiliac joints and the spine, as axSpA predominantly affects men, in whom osteoporosis is often not considered. As a result, osteoporosis prevalence figures are unclear, with wide variation in the literature. Accurate epidemiology regarding bone mineral density (BMD) in axSpA is crucial to begin understanding the impact of low BMD in this cohort.

Objectives: 1. Investigate the prevalence of low BMD in a well-characterised axSpA cohort

2. Explore relationships (demographic, disease-related, laboratory) between BMD and axSpA.

Methods: A detailed assessment was performed on axSpA patients, including demographics, clinical characteristics and laboratory investigations. Disease severity was assessed with tools validated in axSpA: ASDAS-CRP and BASDAI (disease activity), BASMI (spinal mobility) and BASFI (function). BMD was assessed using DXA of the spine, hip and radius. Lateral vertebral assessment (LVA) was also performed. The WHO criteria were used to classify low BMD. SPSS was used for statistical analysis.

Results: One hundred and four patients with axSpA were consecutively recruited: 77.9% (n=81) male, 98.1% (n=102) Caucasian, mean (SD) age 51¹² years, disease duration 26¹³ years. The mean (SD) ASDAS-CRP was 2.3 (1), BASDAI was 3.9 (2.2), BASMI was 4.3 (1.9) and BASFI was 3.8 (2.5), reflecting mild to moderate disease burden. A history of fracture was present in 42.3% (n=44) of the cohort, with only 3 fragility fractures reported.

Of the cohort, 42.3% (n=44) had osteopenia and 16.3% (n=17) had osteoporosis. Low BMD was most prevalent at the spine, with 44% of the cohort affected, followed by the femoral neck (30.1%, n=22). Low BMD at the radius was uncommon (<10% of the cohort). Only 6.4% of the cohort had a prior diagnosis of osteoporosis and only 39.4% had a previous DXA.

Three vertebral fractures were detected on LVA – all patients were unaware of these fractures prior to the study.

Female gender, higher BASFI, lower BMI and lower urate levels were significantly associated with bone loss at both the spine and the hip. ASDAS-CRP and BASDAI had no impact on low BMD. Additionally, longer disease duration was associated with spine BMD loss. Non-obese patients were more likely to have low BMD at any site than obese patients (62.3% v 40%, OR 2.5, $p=0.04$). The use of biologics didn't influence BMD.

Conclusions: Low BMD is common in this axSpA cohort, with over 50% of patients affected. Most cases of low BMD were undiagnosed prior to this study and less than half of the cohort had ever had a DXA, suggesting a continued low awareness of the risk of osteoporosis in a male-dominated disease.

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THU0256 HIGH DISEASE ACTIVITY, REDUCED PHYSICAL FUNCTION, LONG DISEASE DURATION, FATIGUE AND LIVING WITHOUT A PARTNER ARE FACTORS RELATED TO WORSE HEALTH RELATED QUALITY OF LIFE IN ANKYLOSING SPONDYLITIS

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Background: Ankylosing spondylitis (AS) begins early in life. The disease often leads to reduced physical function and also reduced health related quality of life (HRQoL). Knowledge is limited about factors related to HRQoL and how it develops over time.

Objectives: To assess HRQoL by SF-36 in a cohort of patients with AS compared with controls and to explore associations between HRQoL and spinal radiographic damage, physical function, disease activity and demographic data.

Methods: A cohort of patients with AS from Western Sweden were assessed at baseline and after 5 years with; x-ray of the spine for mSASSS, clinical examination and questionnaires, including BASMI, BASFI, ASDAS, BASDAI and SF-36. In this abstract we report the baseline results. Each patient's SF-36 results were compared with 5 age- and sex matched persons (n=1055) from the SF-36 Swedish normative population database. Associations between SF-36 mental component summary (MCS) and physical component summary (PCS) scores and disease related and demographic factors were investigated. Univariate logistic regression analyses were assessed with PCS and MCS below/above their respective median values (below median=1 and above median=0) as dependent variables and disease related and demographic variables as covariates. Variables with p -values ≤ 0.2 in the univariate analyses were entered as covariates in multivariate models after checking for multicollinearity.

Results: 210 patients, age (median, IQR) 49.0 (40.0, 61.2) years, symptom duration 24.0 (13.0, 34.0) years, men 58%, HLAB27 87% were included. AS patients scored significantly lower ($p<0.001$) compared to controls in all SF-36 domains and component summaries. AS women scored significantly lower compared to AS men in three domains, Physical Function, Vitality and Mental Health. Both men and women scored significantly lower in PCS compared with MCS. The results of the multiple logistic regressions are shown in the table 1.

Variables	PCS below median 42.4 (1)			MCS below median 48.0 (1)		
	OR	95% CI	P-value	OR	95% CI	P-value
Civil state, single	2.19	0.95–5.02	0.065	3.12	1.40–6.97	0.006
VAS global fatigue, >median				7.05	3.50–14.20	<0.001
Duration of symptoms, decades	1.59	1.16–2.17	0.004			
BASFI	1.98	1.51–2.58	<0.001			
ASDAS-CRP, ≥ 2.1	3.37	1.58–7.20	0.002	3.85	1.95–7.60	<0.001

Conclusions: Patients with AS had significantly lower HRQoL compared with controls. Women with AS scored lower in some domains compared to men and PCS was more affected compared to MCS in both sexes. Both demographic and disease related factors were associated with HRQoL, partly overlapping for PCS and MCS. By modifying factors, such as ASDAS and fatigue, HRQoL may potentially be improved. The development of SF-36 over 5 years will be investigated.

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THU0257 ASSOCIATIONS BETWEEN TRABECULAR BONE SCORE AND VERTEBRAL FRACTURES IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Background: The bone tissue directly exposed to inflammation in axSpA is the trabecular bone of the vertebrae, and consequently, vertebral osteoporosis and resorption of trabecular bone are increased in axial spondyloarthritis. The trabecular bone score (TBS) is a novel tool used to evaluate bone microarchitecture. AxSpA patients showed poor bone quality compared with matched controls.

Objectives: This study aims to compare TBS between axSpA patients with and without vertebral fractures and investigate associations between TBS and vertebral fractures.