

Top 5 tips: Axial Spondyloarthritis

Arthritis Subcommittee



ESSR EUROPEAN SOCIETY OF
MUSCULOSKELETAL
RADIOLOGY

Axial Spondyloarthritis (Ax-SpA)

- Umbrella-term including ankylosing spondylitis, Bechterew's disease and radiographic and non-radiographic phenotypes / forms
- Belongs to a group of HLA-B27 associated inflammatory diseases*
- Involves the sacroiliac joints and the spine
- Inflammation leads to erosion and ankylosis
- No clinical biomarkers
- Effective treatment reduces inflammation & delays disease progression
- Imaging has an important role in early diagnosis

*

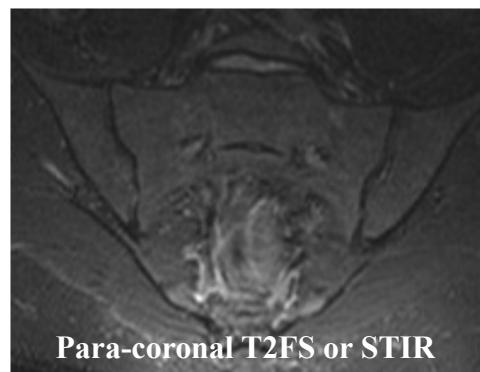
Ankylosing spondylitis
Psoriatic arthritis
Reactive arthritis
IBD associated arthritis
Undifferentiated SpA

Tip#1: MRI of the sacroiliac joint

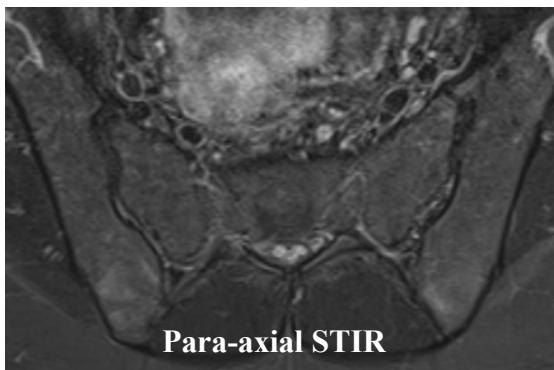
Recommended protocol



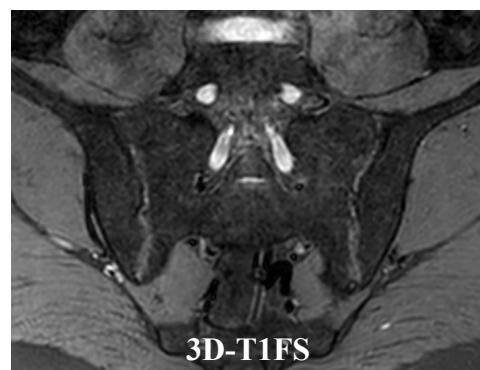
Para-coronal T1



Para-coronal T2FS or STIR



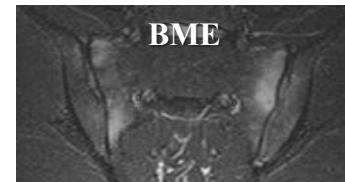
Para-axial STIR



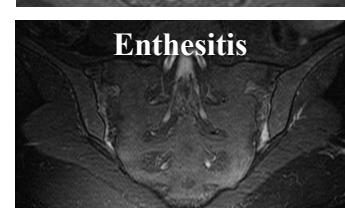
3D-T1FS

MRI lesions

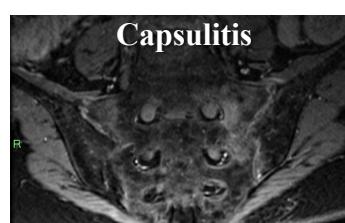
acute



BME

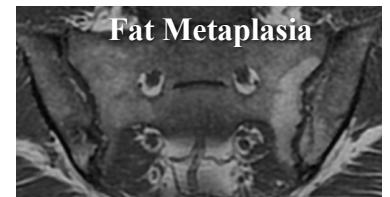


Enthesitis

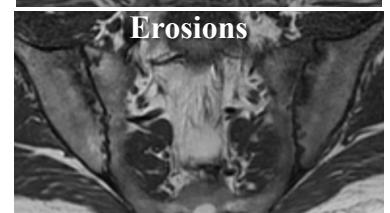


Capsulitis

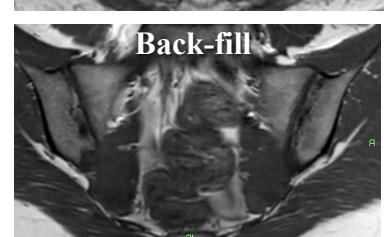
structural



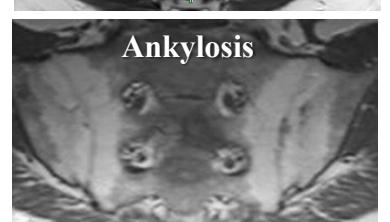
Fat Metaplasia



Erosions



Back-fill



Ankylosis

Tip#2: MRI of the spine

Recommended protocol

Sagittal T1

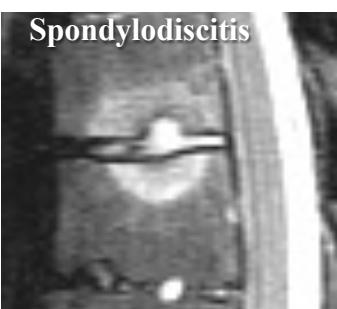


**Sagittal
T2FS/STIR**



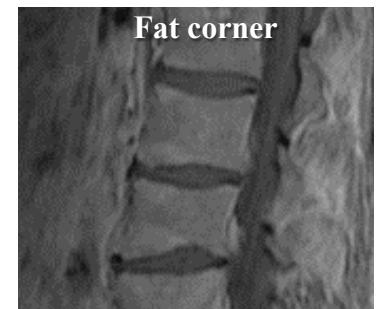
MRI lesions

acute

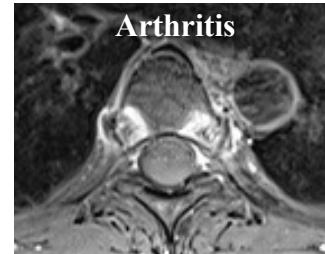


structural

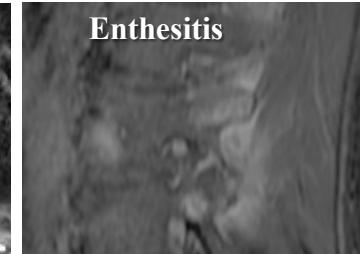
Fat corner



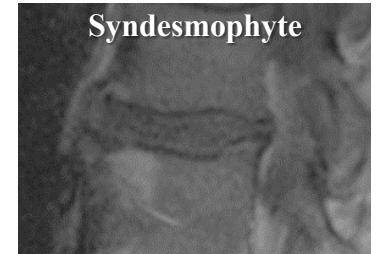
Arthritis



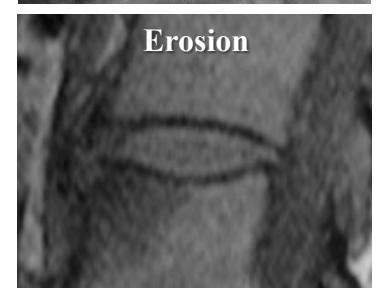
Enthesitis



Syndesmophyte



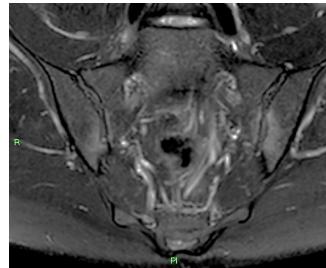
Erosion



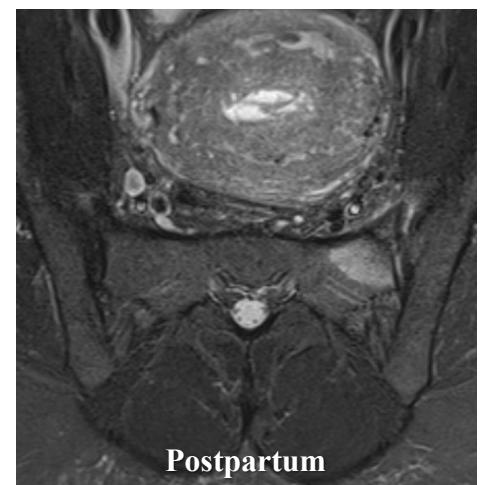
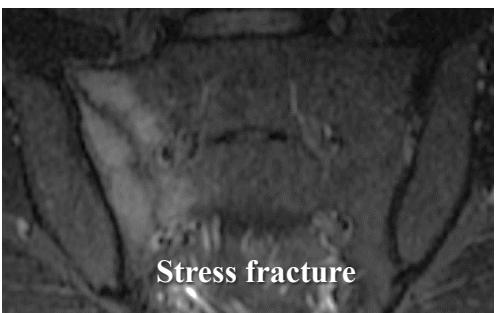
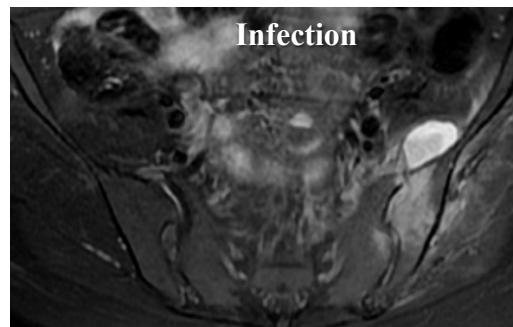
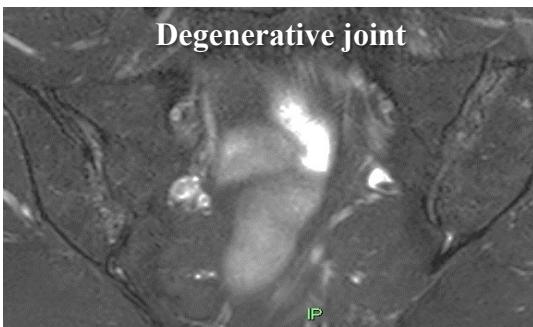
Tip#3: BME of the SIJ not always = sacroiliitis

Bone marrow edema

- Not pathognomonic for AxSpA
- Should be **highly** suggestive of AxSpA

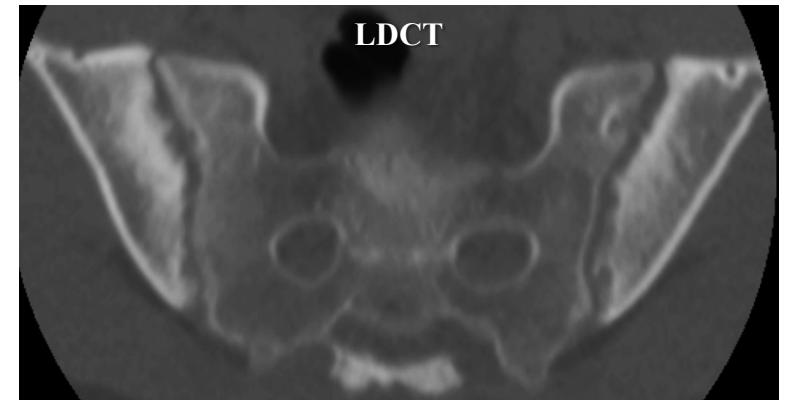
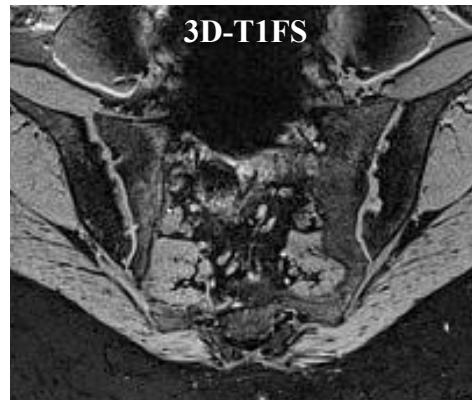
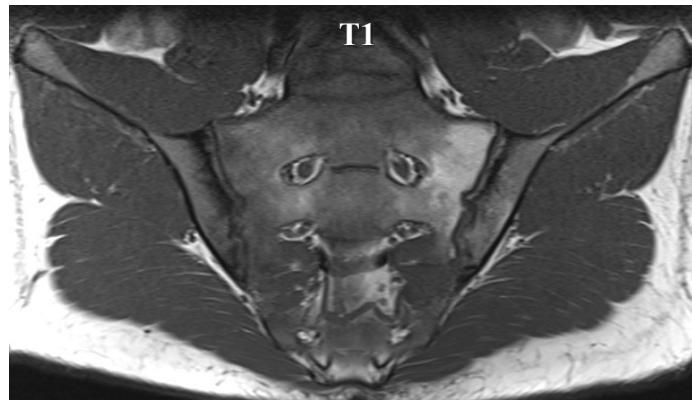


Differential diagnoses



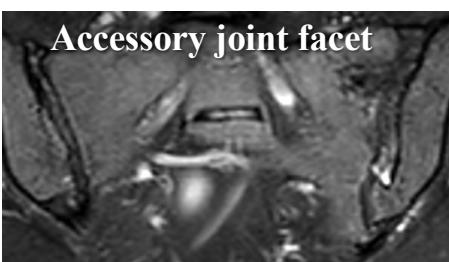
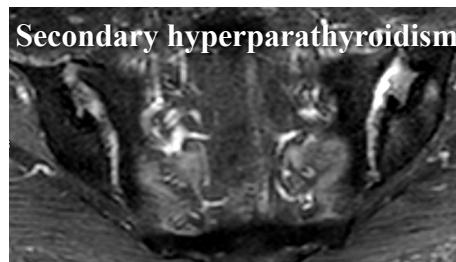
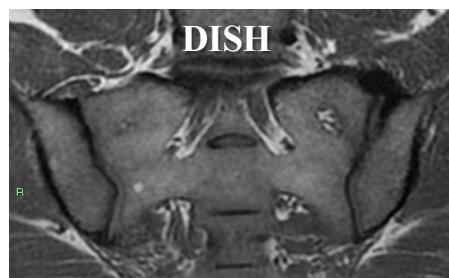
Tip#4: Erosions

- Constant improvement in MRI sequences for erosion detection (e.g. 3D-T1FS).
- CT is still the gold standard for structural lesions
- Low dose CT (LDCT) of SIJ; less radiation exposure compared to XR (<0.8mSv)
- CT has high diagnostic accuracy despite its insensitivity to BME
- Reading CT & MRI together improves specificity.



TIP #5: Differential diagnoses for SIJ structural lesions

MRI



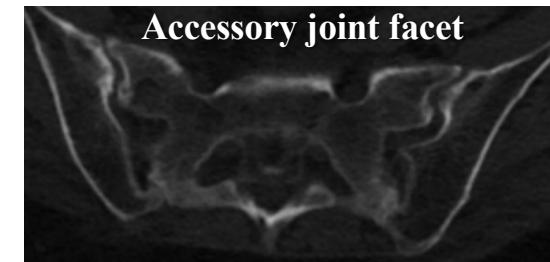
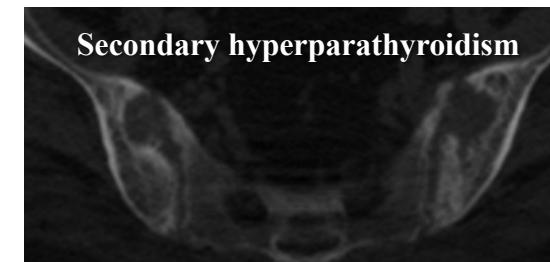
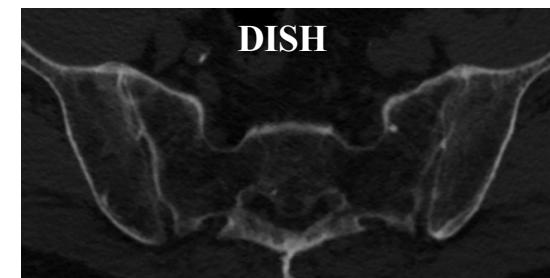
Ankylosis/
Anterior bridging

Erosions

vs

Subperiosteal resorption

CT



Sclerosis

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