

RheumaView™ Structured Radiographic Report

Patient	xxxxx — African American Female, DOB: xx-xx-xxxx (42 yo)
Study Date	xx-xx-xxxx
Exam	Cervical spine, thoracic spine, lumbar spine, sacroiliac joints, pelvis, and bilateral hips radiographs
Projections	Cervical spine AP, lateral, bilateral oblique, and open-mouth odontoid views; thoracic spine AP and lateral views; lumbar spine AP, lateral, and bilateral oblique views; AP sacroiliac joints with bilateral oblique SI views; AP pelvis with dedicated right and left hip views; lateral sacrum/coccyx view.

SECTION I — CLINICAL REPORT

FINDINGS

Cervical Spine

Mild straightening of the cervical lordosis. Alignment is otherwise maintained. Mild lower cervical spondylotic change with mild disc space narrowing at C5-C6 and trace/mild narrowing at C6-C7, with small anterior endplate osteophytes and mild uncovertebral hypertrophic change. Mild bilateral lower cervical osseous foraminal narrowing, greatest at approximately C5-C6/C6-C7. Atlantodental alignment is maintained. No erosive change, syndesmophyte formation, or ankylosis identified on the provided cervical radiographs.

Thoracic Spine

Mild levoconvex thoracolumbar curvature. Mild multilevel endplate spurring/spondylotic change, greatest in the mid/lower thoracic spine and thoracolumbar junction, with mild lower thoracic/thoracolumbar disc space narrowing. Thoracic vertebral body heights are preserved. No compression deformity. No flowing syndesmophytes, focal erosive change, or ankylosis identified on the provided thoracic radiographs.

Lumbar Spine

Transitional lumbosacral anatomy with enlarged L5 transverse processes and asymmetric lumbosacral pseudoarticulation, more pronounced on the left. Mild levoconvex thoracolumbar/lumbar curvature. Mild lower lumbar spondylotic change with mild disc space narrowing at L4-L5 and L5-S1 and mild lower lumbar facet arthropathy, greatest at L4-L5 and L5-S1. No spondylolisthesis on neutral lateral view. No convincing pars defect on the provided oblique views. No definite inflammatory-type syndesmophyte formation or ankylosis identified.

Sacroiliac Joints

Mild bilateral iliac-sided subchondral sclerosis, most evident inferiorly and slightly greater on the right. Sacroiliac joint spaces remain preserved. No definite erosions or ankylosis. Overall radiographic appearance favors mild degenerative/condensing iliac-sided change rather than definite radiographic inflammatory sacroiliitis.

Pelvis / Hips

Mild degenerative change of the symphysis pubis. Mild bilateral hip degenerative change with mild superolateral joint space narrowing and mild acetabular rim spurring. Small bilateral superolateral acetabular rim ossific densities, compatible with chronic os acetabuli/labral ossification-type change, left slightly greater than right. Mild bilateral decreased femoral head-neck offset/asphericity, compatible with subtle cam-type morphology. No fracture, femoral head collapse, protrusion, or inflammatory erosive change identified.

Sacrum / Coccyx

Chronic-appearing anterior coccygeal angulation/deformity with distal coccygeal irregularity/fusion pattern, favored developmental or remote post-traumatic/chronic change. No acute abnormality identified on the provided lateral view.

IMPRESSION

- ▶ Mild multilevel degenerative/mechanical change involving the lower cervical spine, lower thoracic/thoracolumbar junction, lower lumbar spine, sacroiliac joints, and both hips.
- ▶ Mild bilateral iliac-sided sacroiliac subchondral sclerosis without erosions or ankylosis; radiographic pattern favors mild degenerative/condensing iliac-sided change rather than definite radiographic sacroiliitis.

- ▶ Transitional lumbosacral anatomy with asymmetric L5 lumbosacral pseudoarticulation, greater on the left.
- ▶ Mild bilateral hip OA/FAI-type morphology with superolateral acetabular rim ossification/os acetabuli-type change and subtle cam morphology.
- ▶ No definite radiographic evidence of erosive inflammatory spondyloarthritis or ankylosing change on this study.

EMR SUMMARY

Axial and pelvic radiographs dated xx-xx-xxxx show predominantly mild chronic degenerative/mechanical findings rather than definite active radiographic inflammatory spondyloarthritis. There is mild lower cervical, thoracolumbar, and lower lumbar spondylosis; transitional lumbosacral anatomy with left-greater-than-right L5 pseudoarticulation; mild bilateral iliac-sided SI sclerosis without erosions or ankylosis, favoring degenerative/condensing iliac-sided change over definite radiographic sacroiliitis; and mild bilateral hip degenerative/FAI-type morphology with small superolateral acetabular rim ossifications. No definite radiographic erosive SpA/AS change is identified on this X-ray study.

SECTION II — RESEARCH / ANALYTICS ADDENDUM

★ Not a part of the clinical report

A. QUANTITATIVE RADIOLOGIC MEASURES

1) Region-Level Burden Summary

Region	Dominant Structural Findings	Burden Level	Pattern Class	Confidence
Cervical spine	Mild loss of lordosis; mild C5-C6 disc loss; trace/mild C6-C7 disc loss; small anterior osteophytes; mild uncovertebral/foraminal change	Mild	Degenerative/mechanical	High
Thoracic spine	Mild multilevel mid/lower thoracic and thoracolumbar endplate spurring with mild lower thoracic/thoracolumbar disc loss	Mild	Degenerative/mechanical	High
Lumbar spine	Transitional L5 anatomy; mild L4-L5 and L5-S1 disc loss; mild lower lumbar endplate spurring; mild lower lumbar facet arthropathy	Mild	Mixed developmental + degenerative/mechanical	High
Sacroiliac joints	Mild bilateral inferior iliac-sided sclerosis, right slightly greater than left; preserved joint spaces; no ankylosis	Mild	Non-erosive chronic remodeling, degenerative/condensing favored	High
Right hip	Mild superolateral narrowing; mild acetabular rim spurring; chronic rim ossific foci; subtle cam-type morphology	Mild	Mechanical/degenerative	High
Left hip	Mild superolateral narrowing; mild acetabular rim spurring; chronic rim ossific focus; subtle cam-type morphology	Mild	Mechanical/degenerative	High
Pubic symphysis	Mild degenerative irregularity/sclerosis	Mild	Degenerative	High
Coccyx	Chronic anterior angulation/deformity with distal irregularity/fusion pattern	Chronic morphology	Developmental or remote post-traumatic/chronic	Moderate-high

2) Image-Derived Structural Counts / Binary Fields

Metric	Output
Definite SI erosions	0
Definite SI ankylosis	0
Definite syndesmophyte bridges	0
Definite vertebral corner destructive lesions	0
Definite vertebral compression fractures	0
Definite spondylolisthesis on provided neutral lumbar lateral	0
Pars defects convincingly demonstrated	0
Transitional lumbosacral anatomy	1
Bilateral hips with acetabular rim ossific/labral-ossification-type change	2
Bilateral hips with subtle cam-type contour reduction	2
Definite inflammatory erosive hip arthropathy	0
Femoral head collapse / AVN-type collapse on radiographs	0

3) Grade-Style Severity Map

Compartment	Estimated Grade
C5-C6 disc space loss	Mild
C6-C7 disc space loss	Trace/mild
Lower thoracic/thoracolumbar disc loss	Mild
L4-L5 disc loss	Mild
L5-S1 disc loss	Mild
Lower lumbar facet arthropathy	Mild
Bilateral SI sclerosis	Mild
Bilateral hip superolateral narrowing	Mild
Bilateral acetabular rim spurring	Mild

4) Burden Concentration Hierarchy

1. Lower lumbar transition/mechanical zone
2. Bilateral hip impingement-labral morphology zone
3. Lower cervical degenerative zone
4. SI iliac-sided remodeling zone
5. Thoracolumbar degenerative zone

B. LONGITUDINAL & TEMPORAL METRICS

Dataset temporal class: single-date multiregion axial-pelvic radiographic study

Temporal Field	Output
Prior image-backed comparison used in this render	No
Interval deltas	Not emitted in single-date mode
Temporal stability score	Not computable
Drift vectors	Not computable
Trajectory class	Not computable
Progression class	Not computable
Region-paired delta matrix	Not computable

Baseline-Only Future Comparison Targets

Priority Tier	Highest-Yield Future Tracked Targets
Tier 1	Right anterior/inferior SI joint zone; left anterior/inferior SI joint zone; bilateral L5 transverse process pseudoarticulation interfaces; bilateral superolateral hip joint spaces; bilateral acetabular rim ossific foci
Tier 2	L5-S1 disc space; L4-L5 disc space; lower lumbar facets; C5-C6 and C6-C7 disc spaces; lower cervical foraminal compartments
Tier 3	Thoracolumbar junction disc/endplate compartments; pubic symphysis; coccygeal contour if clinically relevant

Single-date temporal note: *This render establishes a baseline structural map only. No honest interval stability/progression claim is emitted.*

C. AGE-ADJUSTED REFERENCE VALUES

Age at study: 42 years

Metric	Output
Predominant age-adjusted phenotype	Mixed mechanical/degenerative with developmental load-sharing abnormality
Age-concordant mild axial degeneration	Present
Age-discordant advanced destructive inflammatory phenotype	Not demonstrated
Age-discordant advanced hip OA phenotype	Not demonstrated
Age-contextual relevance of hip morphology	Elevated for symptoms despite mild OA burden
Age-contextual relevance of transitional anatomy	Elevated; likely mechanically meaningful

Age-Adjusted Interpretation

- ▶ Lower cervical, thoracolumbar, and lower lumbar degenerative changes are mild for age.
- ▶ Bilateral hip morphology is more clinically relevant than the mild OA burden alone because the combination of cam-type contour change + acetabular rim ossification/labral-type change can generate symptoms disproportionate to plain-film degenerative grade.
- ▶ Mild bilateral SI iliac-sided sclerosis is not pristine for age, but the preserved joint spaces and absent erosive/ankylosing change lower the probability of advanced radiographic inflammatory SI destruction.

D. SYMMETRY & BALANCE METRICS

Metric	Output
SI symmetry class	Near-symmetric low-grade remodeling with slight right predominance
Hip symmetry class	Broadly symmetric bilateral mild OA/FAI-type morphology
Left:right SI burden ratio	Mild right-weighted
Left:right hip burden ratio	Near-balanced, left rim ossification slightly more conspicuous
Lumbosacral transition asymmetry	Left greater than right
Global balance class	Bilateral mixed mechanical burden with focal asymmetric developmental loading

Side-Weighted Burden Summary

- ▶ Most symmetric dominant feature: bilateral mild hip morphology/acetabular rim change
- ▶ Most asymmetric structural feature: left-greater-than-right lumbosacral pseudoarticulation
- ▶ Secondary asymmetry: right-greater-than-left SI iliac-sided sclerosis

Spatial Organization

Parameter	Output
Axial load concentration	Lumbosacral junction
Pelvic/hip load concentration	Bilateral superolateral hip compartments
Side-bias driver	Congenital/developmental asymmetry rather than erosive unilateral inflammatory destruction

E. DEXA–RADIOGRAPH CORRELATION SUMMARY

Field	Output
DEXA dataset attached	No
Density–structure linkage	Not available
Bone-age deviation analysis	Not available
Densitometric discrepancy classification	Not available
Bone-health fusion metrics	Not available

Bone-Quality Surrogate Layer

Field	Output
Diffuse radiographic osteopenic background	Not convincing
Aggressive osteolysis	Not seen
Insufficiency-fracture pattern	Not seen
Mineralization-driven dominant pattern	Unsupported on provided radiographs

Image-based inference: *Bone-quality abnormality is not the dominant visible structural driver on this study. The dominant burden is mechanical/morphologic with mild superimposed degeneration.*

F. COMPOSITE STRUCTURAL METRICS

Composite Field	Output
Primary structural phenotype	Mixed mechanical/degenerative axial-pelvic phenotype with developmental load-sharing abnormality
Dominant chronic burden	Lumbosacral transition zone + bilateral hip impingement/labral-ossification morphology
Dominant axial degenerative burden	Lower lumbar and lower cervical
Dominant SI pattern	Mild bilateral iliac-sided non-erosive sclerosis
Dominant hip pattern	Bilateral mild OA/FAI-type morphology
Inflammatory-destructive phenotype	Not demonstrated radiographically
Composite asymmetry class	Mild mixed asymmetry, developmentally weighted
Current burden concentration	Lumbosacral junction and bilateral superolateral hips
Composite stability index	Not computable in single-date mode
Trajectory class	Not computable in single-date mode
Discrepancy class	Not computable in single-date mode

Pattern Decomposition

Positive Structural Anchors

- ✓ Mild lower cervical spondylosis
- ✓ Mild thoracolumbar degenerative spondylosis
- ✓ Mild lower lumbar degenerative change
- ✓ Transitional lumbosacral anatomy with asymmetric pseudoarticulation
- ✓ Mild bilateral SI iliac-sided sclerosis without erosions/ankylosis
- ✓ Bilateral mild hip OA/FAI-type morphology with acetabular rim ossification

Negative Structural Anchors

- X No definite radiographic sacroiliac erosions
- X No sacroiliac ankylosis
- X No syndesmophyte bridging
- X No vertebral ankylosis
- X No erosive hip arthropathy
- X No destructive/aggressive osseous lesion pattern

Overall composite interpretation: Current radiographs support a mixed non-destructive phenotype in which mechanical/developmental and mild degenerative factors dominate over radiographically visible inflammatory damage.

G. QA / RELIABILITY INDICATORS

QA Field	Output
Projection adequacy	High overall
Cervical lateral confidence	High
Cervical AP / uncovertebral confidence	High
Cervical oblique foraminal confidence	High
Odontoid fine-detail confidence	Moderate
Thoracic confidence	High
Lumbar confidence	High
SI confidence	High
Hip confidence	High
Coccygeal confidence	Moderate
Main technical limitation	None major; coccygeal evaluation inherently limited by single focused lateral anatomy
Dataset completeness for submitted regions	High

Confidence-Weighted Region Reliability

Region	Reliability
Cervical spine	High
Thoracic spine	High
Lumbar spine	High
SI joints	High
Pelvis / hips	High
Coccyx	Moderate

Concordance / Coherence Summary

Field	Output
Cross-section internal coherence	High
Pattern coherence (findings vs impression)	High
Single-date structural concordance index	High
Human-override comparator attached	No

Field	Output
External AI provenance attached	No

Missingness / Suppression Map

Analytic Domain	Status	Reason
Longitudinal deltas	Suppressed	No prior comparison used in this render
Temporal stability metrics	Suppressed	Single-date study
DEXA fusion	Suppressed	No DEXA data
MRI/CT fusion	Suppressed in this render	Current request limited to 03/10/2026 radiographs only
Electrophysiology concordance	Suppressed	No EMG/NCS dataset
Therapy-response modeling	Suppressed	Single-date XR-only render
External provenance hooks	Suppressed	None attached

SECTION III — EXPERIMENTAL RESEARCH ADDENDUM

★ Not a part of the clinical report

A. PROTOTYPE COMPOSITE METRICS

Exploratory Field	Output
Single-date burden map	Emitted
Single-date asymmetry exploration	Emitted
Baseline-only trajectory prototype	Not computable
Baseline-only drift concentration curve	Not computable
Burden concentration prototype	Lumbosacral-hip dominant
Mechanical-weighted phenotype prototype	Elevated
Inflammatory-destructive prototype	Low

Prototype Burden Split Estimate — Current Radiographs Only

Domain	Estimated Weight (%)
Mechanical / biomechanical	45
Degenerative	25
Inflammatory-destructive radiographic burden	10
Developmental / congenital load-sharing effect	20

B. EXTENDED DEXA / BONE-HEALTH MODELS

No DEXA or other bone-health dataset attached.

Extended bone-quality vectors not emitted.

No proxy mineralization model elevated enough on current XR to suggest dominant metabolic-bone phenotype.

C. INFECTION / ONCOLOGIC ADVANCED OPERATORS

Screen	Output
Aggressive destructive osseous pattern	Not detected on provided radiographs
Gross spinal infection-pattern endplate destruction	Not detected
Septic-arthropathy pattern at hips or SI joints	Not detected
Oncologic-pattern destructive lesion	Not detected
Current image-based concern class	No overt aggressive destructive axial/pelvic pattern on submitted views

D. ADVANCED SYMMETRY MAPS

Exploratory Metric	Output
Structural asymmetry hotspot	Left lumbosacral pseudoarticulation complex
Secondary asymmetry hotspot	Right-greater-than-left iliac-sided SI sclerosis

Exploratory Metric	Output
Bilateral mirrored morphology hotspot	Superolateral hip compartments
Multizone asymmetry	Present but low-amplitude
Advanced map export layer	Not emitted in text-only render

Hotspot Hierarchy

Tier 1: Left lumbosacral transition interface; bilateral superolateral hips

Tier 2: Right inferior SI zone; left inferior SI zone

Tier 3: C5-C6/C6-C7 cervical degenerative compartments; L5-S1 disc space

E. GENETIC / DEVELOPMENTAL MODULATION

Field	Output
Developmental modulation signal	Present
Dominant developmental feature	Transitional lumbosacral anatomy
Development-linked mechanical amplification	Present
Pediatric / growth modulation fields	Not applicable
Genetic-modulation dataset	None attached

Developmental interpretation: *The developmental substrate most likely to influence symptom mechanics is the asymmetric lumbosacral transition, with secondary contribution from bilateral hip morphology.*

F. EXTERNAL AI INTEGRATION HOOKS

Field	Output
External AI provenance source	None attached
External AI confidence feed	Not available
Human override provenance	None attached in this render
Export-grade provenance hooks	Not emitted here

G. QA & DATA INTEGRITY EXTENSIONS

Integrity Field	Output
Dataset class	Single-date multiregion axial-pelvic XR study
Region pairing completeness	Not applicable in baseline-only render
Projection integrity	High
Missingness burden	Low overall
Data integrity for multiregion degenerative/mechanical analysis	High
Data integrity for inflammatory-destructive exclusion on radiographs	Moderate-high
Research-surface completeness for this input set	Partial by design — no priors, no DEXA, no EMG/NCS, no external fusion datasets

ANALYTIC BOTTOM LINE

Current dominant burden: Mechanical/developmental lumbosacral-hip complex

Current secondary burden: Mild distributed axial degeneration

Current inflammatory-destructive radiographic signal: Not demonstrated

Current best-fit pattern class: Mixed mechanical/developmental with mild superimposed degeneration

Current research-layer confidence: High for structural mapping on the submitted xx-xx-xxxx radiographs only