Jones Radiology

What is EOS Imaging?

EOS imaging is a low-dose, weight-bearing X-ray technology.

It can simultaneously take full-body (or specific region), frontal and lateral images of the skeletal system of a patient in a standing or sitting position, using significantly less radiation than traditional X-rays or CT scans. It records and displays the patient's anatomical structures in their true, size and volume, lengths and angles. There is no parallax distortion.

EOS uses a Nobel Prize-winning detector design capable of capturing more photons (X-rays) than a conventional X-ray detector. A typical EOS scan at Jones Radiology has a radiation dose equivalent to about one-third that of the dose of a conventional X-ray of the same body parts.

What is EOS imaging used for?

EOS imaging is used for anatomical assessment of the spine, pelvis and lower limbs and is invaluable for evaluating the following conditions:

- Scoliosis.
- Limb length discrepancy.
- Balance and posture. complications.
- Postural Assessment including pelvic indices.
- Kyphosis.
- Hip dysplasia.
- Bowleg and knock knee conditions.

EOS can calculate points in 3D space making it very accurate at determining conditions such as leg length discrepancy. It takes measurements from 2 planes and therefore takes into account flexion deformities, torsion, anteversion and rotation. These can be calculated from EOS whereas it cannot by conventional 2D imaging.

Types of EOS scans that can be ordered

- Full spine.
- Lower limbs.
- Full body (spine and lower limbs).

Who can order an EOS Scan?

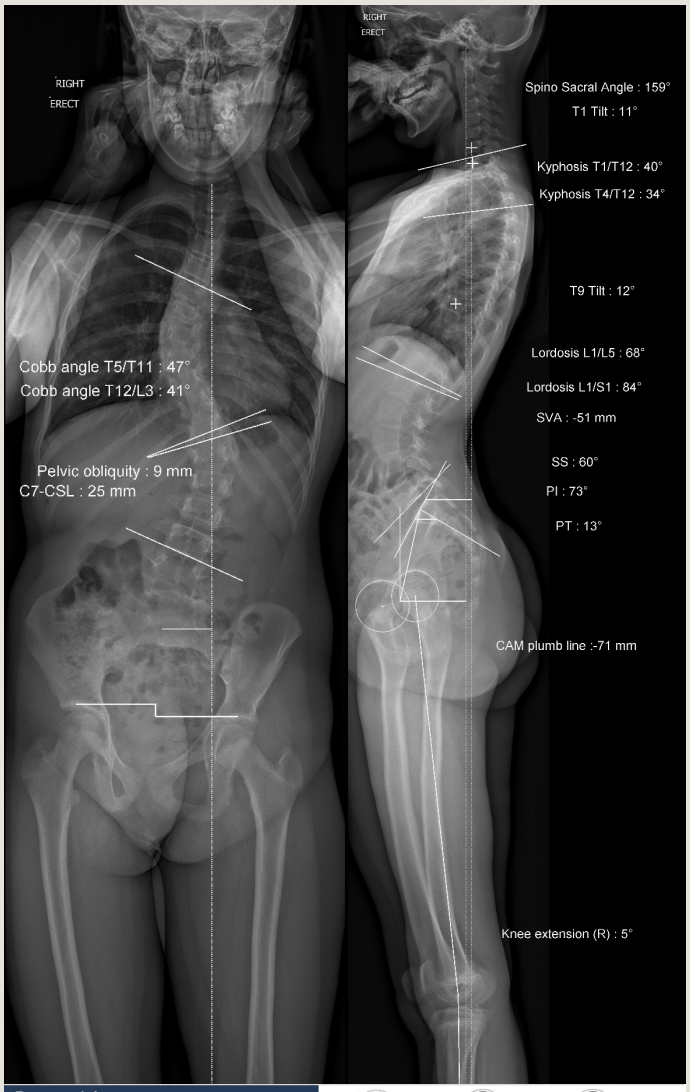
- Registered medical practitioners.
- Physiotherapists.
- Chiropractors.
- Exercise physiologists.

How do I refer?

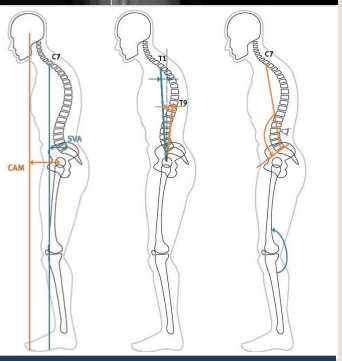
The referring clinician should request "EOS" and indicate region of interest as either full spine, lower limbs or full body including clinical indications such as:

- For postural assessment, ongoing back pain.
- Assess scoliosis.
- Assess leg length discrepancy.
- Varus/valgus knee deformity.

Example 1 – Spinal Assessment

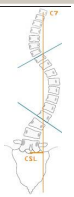


Postural Assessment	
Sagittal balance	
SVA (1)	-51mm
CAM plumb line (1)	-71mm
T1 Tilt (1)	11°
T9 Tilt (1)	12°
Spino Sacral Angle (1)	159°
Knee extension (right) (3)	5°

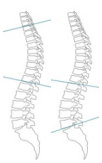


Pelvis	
Pelvic parameters	
Pelvic incidence (1)	73°
Sacral slope (1)	60°
Pelvic tilt (1)	13°
Pelvic obliquity (1)	9mm
Pelvis axial rotation (2)	-11°

Spine	
Coronal balance (1) and Scoliosis (3)	
C7-CSL	25m



Kyphosis/Lordosis (3)	
Kyphosis T1/T12	40°
Kyphosis T4/T12	34°
Lordosis L1/L5	68°
Lordosis L1/S1	84°

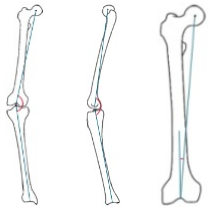


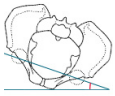
Example 2 – Lower Limb

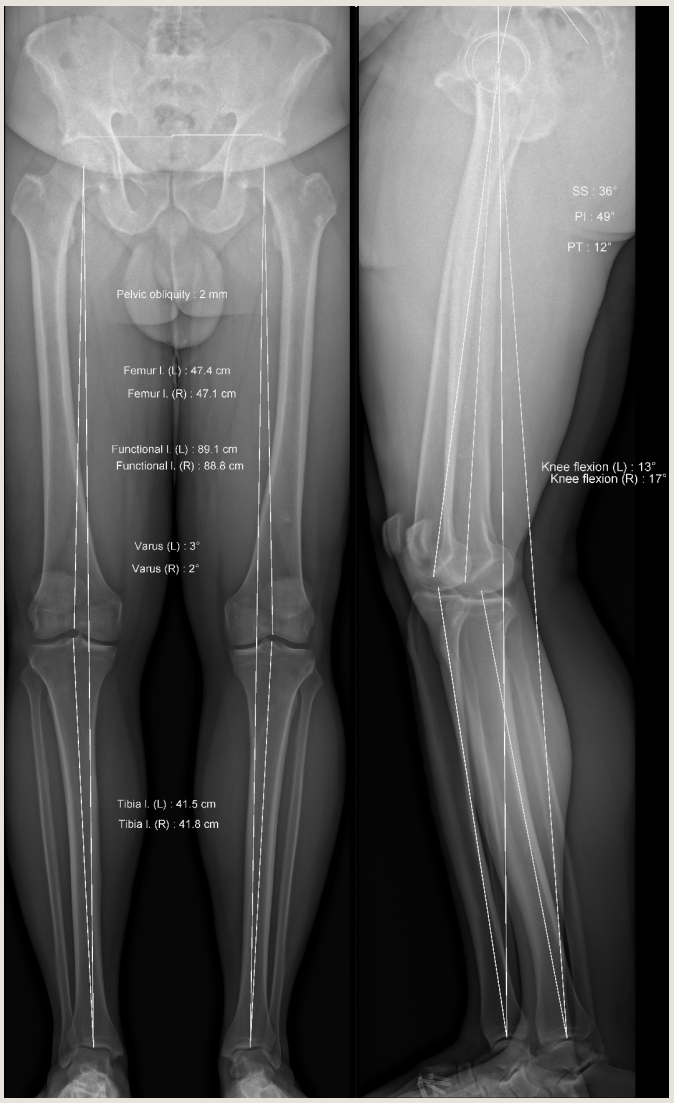
Hip & Knee Parameters		
Lengths (6)	Right	Left
Femur length	47.1cm	47.4cm
Tibia length	41.8cm	41.5cm
Functional length	88.8cm	89.1cm
Anatomical length	88.9cm	88.9cm

Femur (6)		
Femoral head diameter	48mm	50mm

Knee (7)		
Valgus/Varus	Varus 2°	Varus 3°
Knee flexion/knee extension	Flexion 17°	Flexion 13°
HKS	4°	6°



Pelvic parameters		
Pelvic parameters	Value	
Pelvic incidence (4)	49°	
Sacral slope (4)	36°	
Pelvic tilt (4)	12°	
Pelvic obliquity (4)	2mm	
Pelvis axial rotation (5)	-2°	



(1) Parameters calculated in the patient frame (based on a vertical plane passing through the center of the acetabula), which corrects the effect of a potential axial rotation of the pelvis during acquisition.

(2) A pelvis axial rotation is positive when the pelvis is rotated towards the patient left side.

(3) Parameters calculated in the radio frame.

(4) Parameters calculated in the patient frame (based on a vertical plane passing through the center of the acetabula), which corrects the effect of a potential axial rotation of the pelvis during acquisition.

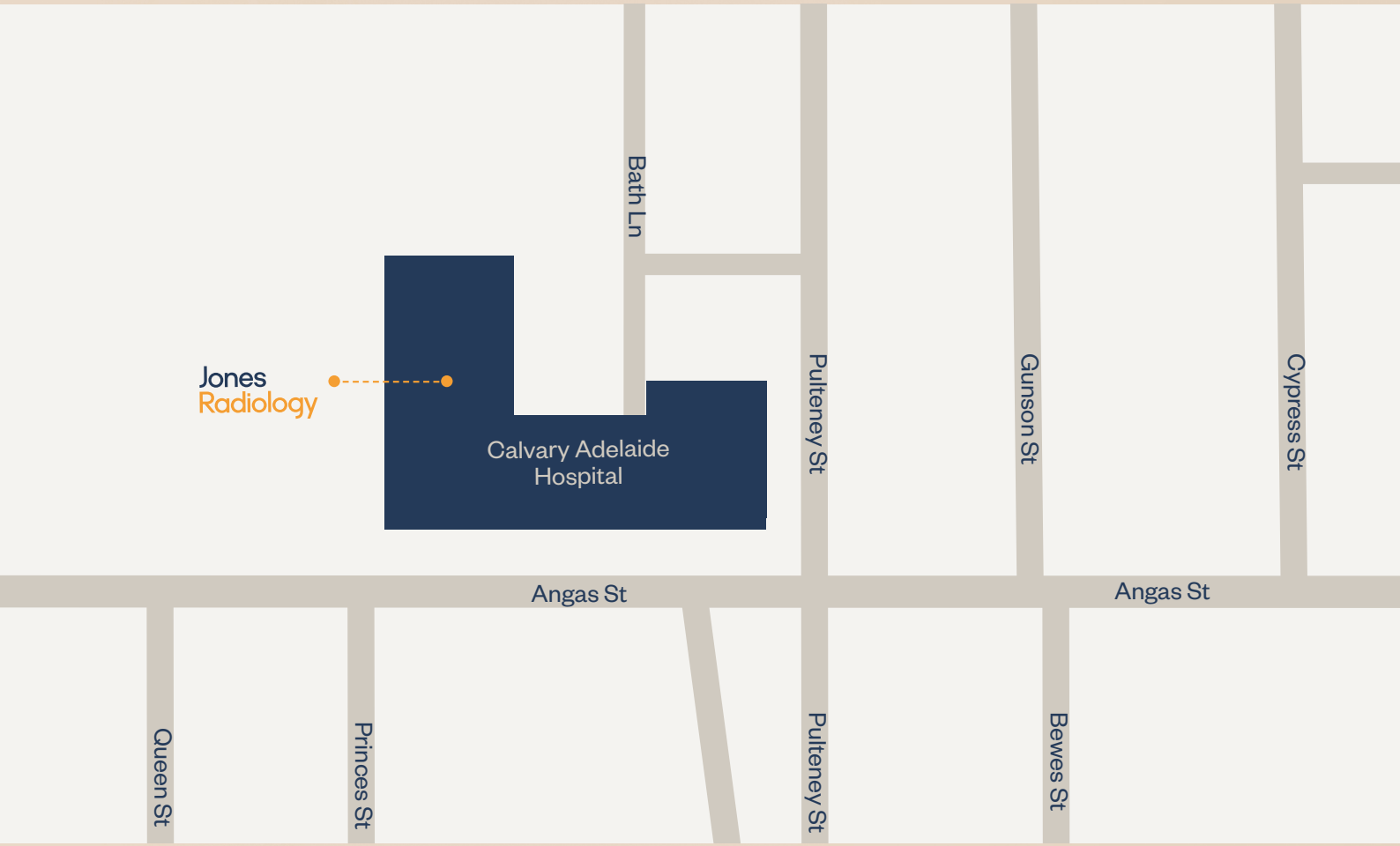
(5) A pelvis axial rotation is positive when the pelvis is rotated towards the patient left side.

(6) Parameters calculated in 3D.

(7) Parameters calculated relative to bi-condylar plane.

Available at Jones Radiology, Calvary Adelaide Hospital,
Level 2, 120 Angas Street, Adelaide 5000

Referrer Priority No: 1800 669 115



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