CurveBeam AI

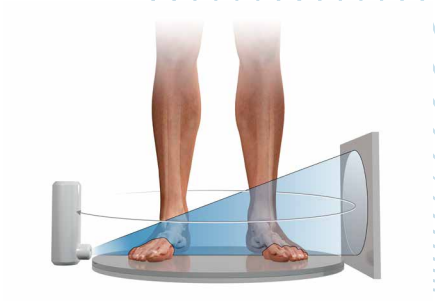
Cone Beam CT - A Primer for Orthopedic Surgeons

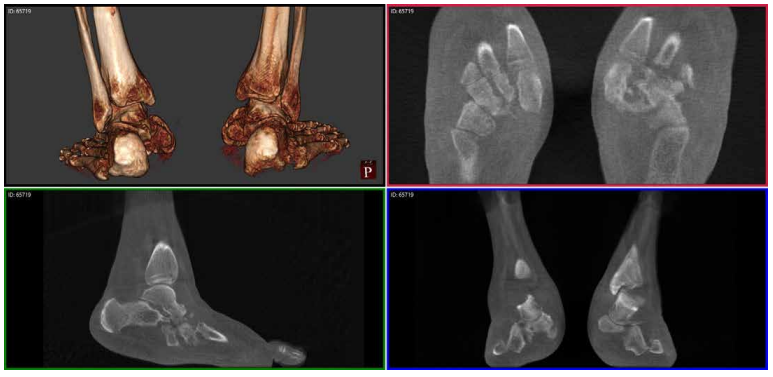
CurveBeam AI Cone Beam CT (CBCT) systems are designed to capture three-dimensional weight bearing and non-weight bearing volumetric images of the body extremities.

Cone Beam CT images are initially acquired as two-dimensional projections, using a rotating gantry with a fixed-anode X-Ray tube firing a pulsed X-Ray beam on to a flat panel detector. The gantry rotates 360 degrees and acquires image projections, which are then reconstructed to create a series of axial slices.

The osseous (high contrast) details in CBCT datasets should be at par with (or very close to) conventional medical CT. This is the primary diagnostic objective for CBCT scans.

The default slice thickness for CurveBeam AI datasets ranges from 0.2 - 0.37 mm, depending on the system and field of view setting.





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Weight Bearing Advantage

Weight bearing CT (WBCT) imaging systems scan the patient while he or she is standing naturally. The resulting study gives orthopedic surgeons a 3D view of bone morphology, alignment, and joint spaces in the lower extremities.

Lower extremity specialists may elect to order WBCT scans for the same indications they would have otherwise requested weight bearing radiographs. The indications for weight bearing CT are broader than the indications for conventional medical CT.

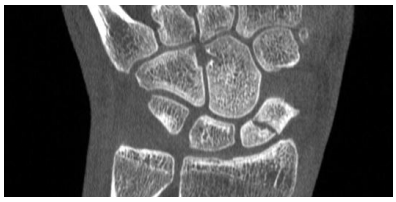
Indications for weight bearing CT include:

- Arthritic joint space evaluation
- Hindfoot alignment evaluation
- Patellar alignment and instability
- Syndesmosis
- Forefoot evaluation for hallux valgus (bunion)
- Flat foot evaluation
- Post-surgical fusion evaluation

Improved FX Detection Rate

CBCT provides 35% improved simple fracture detection rates and 2-fold improved identification of complex fractures over X-Ray[1], which helps in the evaluation of the fracture healing process which X-Ray can over or under-estimate[2]. In addition, CBCT imaging shows a higher sensitivity in detection of small bone and joint trauma over X-Ray and may visualize occult fractures[3].

HiRise



(1) Lodlow.J Hand-wrist, Knee, and Foot-ankel Dosimetry and image quality measurements of a Novel Extremity Imaging Unit Providing CBCT and 2D Imaging Options. Draft version 1/18/2018.
(2) RSNA Radiologyinfo.org/en/info.cfm?pg=safety-xray
(3) Biswas Debdut et al, Radiantion Exposure from Musculoskeletal computerized Tomographic Scans. Journal of Bone & Joint Surgery, Vol 91-A, NO. 8, August, 2009

CPT Codes

73200* - CT Upper Extremity w/o contrast
73700* - CT Lower Extremity w/o contrast
73201* - CT Upper Extremity w/ contrast
73701* - CT Lower Extremity w/ contrast
76376* - 3D Render with Interpretation Post-Processing

Low Dose

CurveBeam AI systems are specifically designed to expose the patient to radiation dose that is As Low as Reasonably Achievable (ALARA) while acquiring the images. This chart depicts the effective dose to the patient in milliSieverts, depending on the protocol selected. Please note that the mA ranges from 5 - 6.5, and kVp ranges from 100 - 130.

pedCAT large field of view bilateral foot scan:	.006 mSv
InReach hand/wrist scan:	.001 mSv
LineUP bilateral knee scan:	.001 mSv
HiRise elbow scan:	.002 mSv

**These guidelines are intended to outline the basis for coverage and reimbursement for certain imaging services to the extent the services may be covered by a particular payor. They do not in any way guarantee actual payment and are not intended as legal advice. Healthcare providers should exercise clinical judgement when selecting codes and submitting claims to accurately reflect the services rendered. Further, proper coding may require analysis of statutes, regulations or payor contracts and policies, and as a result, the proper code result may vary from one payor to another. It is the provider's responsibility to determine and submit appropriate codes, modifiers and charges for the services that are rendered. For appropriate code selection, you should contact your local payor prior to submitting claims.*