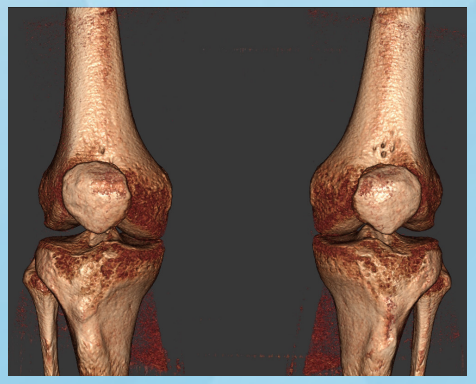
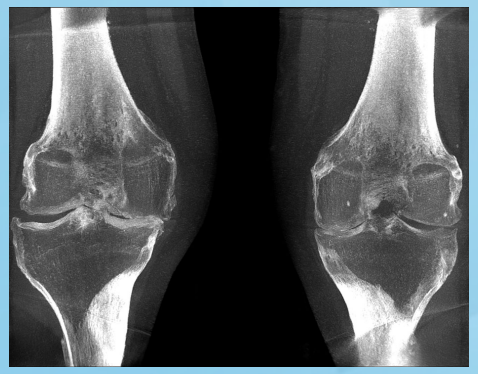
# BILATERAL, WEIGHT BEARING CT IMAGING

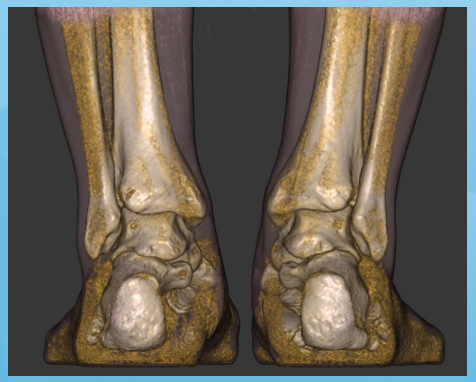
FOR THE KNEES & FEET
PLUS HAND & ELBOW


CurveBeam
LineUP

FDA 510(K)
CE Marking





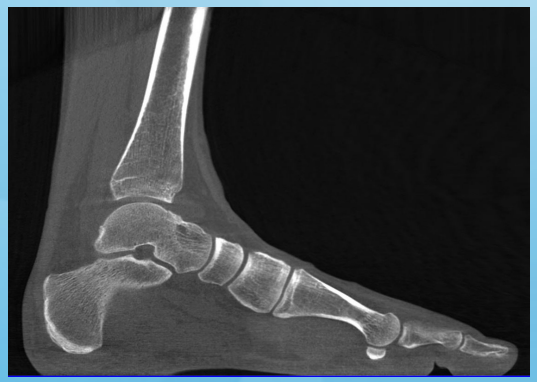


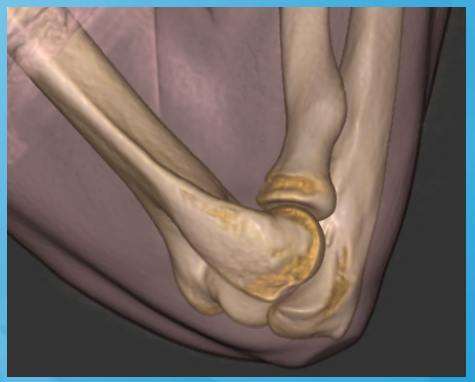
The CurveBeam **LineUP** is an extremity Cone Beam CT scanner that images Weight Bearing lower extremities; as well as hand and elbow.

Cone Beam CT technology captures the entire region of interest in a single 360-degree orbit. Straightforward kVp choices and fixed mA result in easy operation. High-contrast datasets provide ultra-fine trabecular detail.

High Resolution 3D scans of the extremities permit specialists to assess osseous structures with precision & clarity.

Bilateral, true weight bearing CT scans allow physicians to assess biomechanical spatial relationships and alignment.





The 3D renderings were created in CubeVue, CurveBeam's custom visualization software.

**FITS ANYWHERE**
**49” x 63”** footprint
Self-Shielded
Standard 115 (US)/220 (Int) VAC Outlet

**EASY TO OPERATE**
Easy entry & positioning
Straightforward kVp choices
Fixed mA

**QUICK SCAN TIMES**
Less than **30** seconds per scan

**0.3 MM SLICES + X-RAYS**
3D Reconstructions, Multi-Planar Slices, Digitally Reconstructed Radiographs, Plain X-Rays

**DICOM/PACS COMPATIBLE**

**ULTRA LOW DOSE**

**MINIMAL MAINTENANCE**

**STANDARD BILLING**
**CPT 73200** CT Upper Extremity
**CPT 73700** CT Lower Extremity

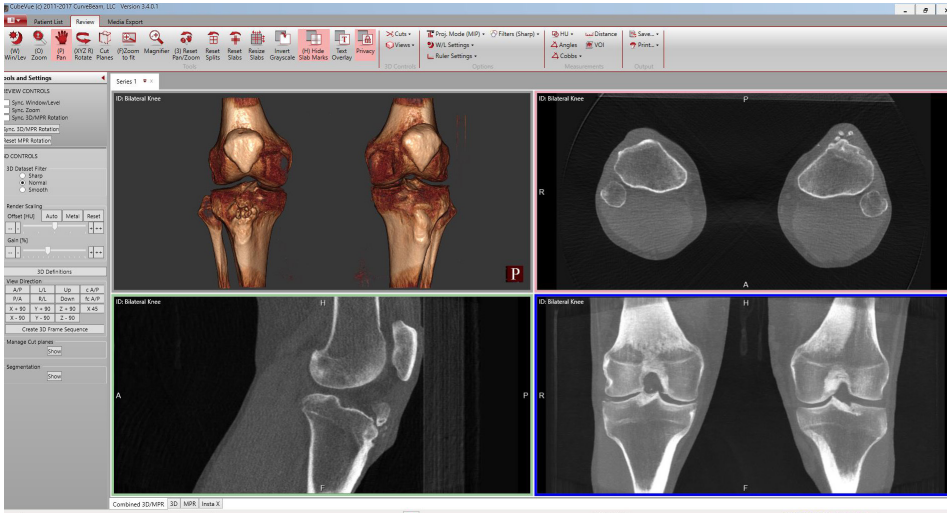
**UPPER EXTREMITY IMAGING**
Choose from 3 different chair options to accommodate any space

# Total Access to Images

CubeVue custom viewing software provides specialists powerful visualization tools to optimally view high resolution images.

- Instant reformatting and re-orientation of MPR Slices and 3D renderings
- Segmentation of individual bones
- Creation of custom MPR slabs
- Distance and measurement tools
- Automatic presentation of Insta-X (Digitally Reconstructed Radiographs) with every scan

  DRR's are synthesized X-Ray views, mathematically reconstructed from the original CT volume. DRRs represent the actual anatomical sizes and angles with no magnification or distortion, and all views are created from the original scan, without the need to re-position the patient.



CubeVue 3D Rendering + MPR Tab

CubeVue Insta-X Digitally Reconstructed Radiographs Tab

## Optimized Images

CurveBeam's proprietary metal artefact reduction algorithm employs a high density detection filter, which enables more authentic reconstructions in the vicinity of metal hardware. The option to apply metal artefact reduction can be activated before the start of each scan.

Before Metal Artefact Reduction

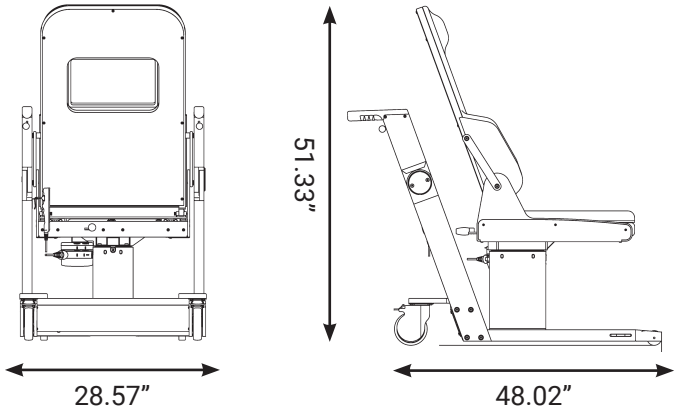
After Metal Artefact Reduction

## X-Ray Protocols

Ability to capture true digital radiographs accommodates orthopedic workflows.

# Multi-Extremity Chair

The LineUP's Multi-Extremity Chair permits non-weight bearing imaging of the foot and ankle, as well as the hand and elbow. It's ergonomic and sturdy design is not only comfortable, it also supports patients up to 400 lbs.



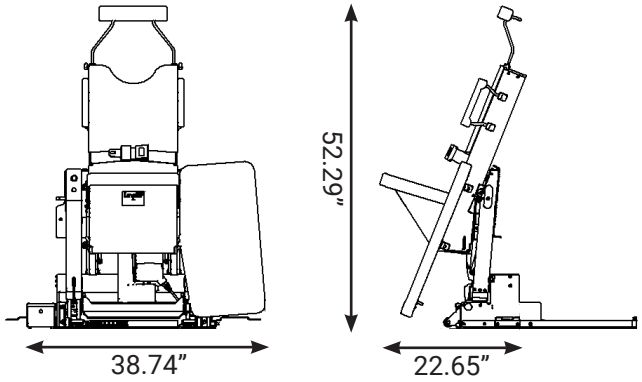

Remote Control is used to lower the chair back into bed position.

Chair back is reinforced for additional radiation protection.

The specialized positioning fixture ensures the upper extremity is comfortably within the field of view.

# Multi-Extremity Stowaway Chair*

The LineUP's Multi-Extremity Stowaway Chair permits non-weight bearing imaging, as well as provides the capability to capture the hand, wrist and elbow. Its convenient design enables the chair to collapse and be stored underneath the LineUP device and supports patients up to 300 lbs. The Multi-Extremity Stowaway Chair is ideal for facilities with space constraints, including mobile settings.

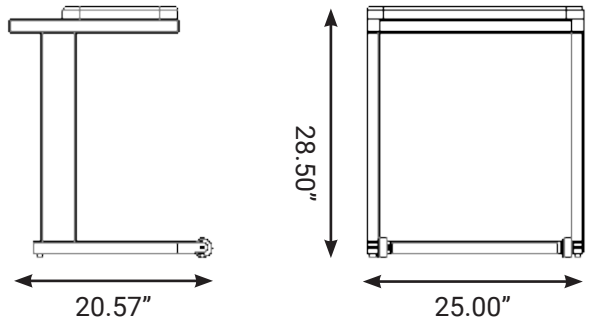



The Stowaway chair comes with two different attachments. The chair attachment (pictured left and center) permits hand and elbow imaging, while the seat attachment (pictured right) permits non-weight bearing foot and ankle imaging.

**Anticipated availability Q4 2019.*
*Design & availability subject to change.*

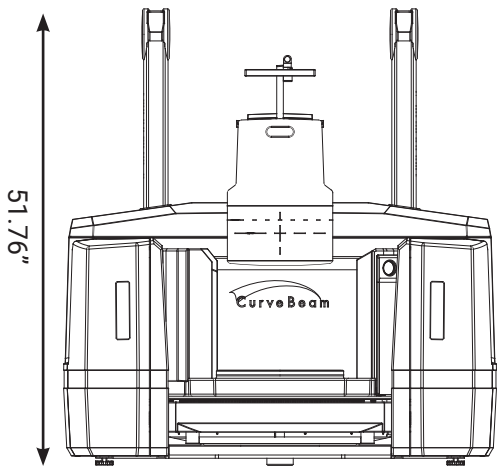
# Bench

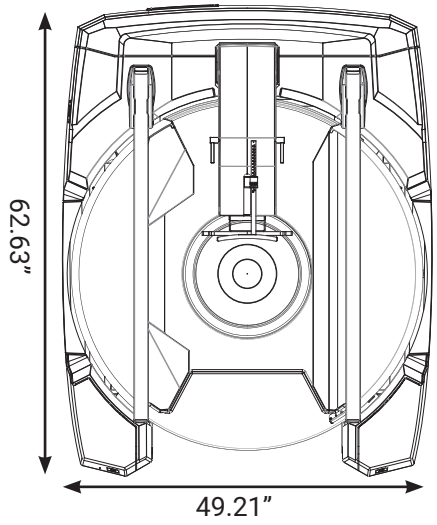
The LineUP's bench option enables non-weight bearing foot & ankle imaging. The bench slides and locks securely into place underneath the LineUP and can support patients up to 300 lbs. Its compact and lightweight design is easy for operators to maneuver, while occupying limited space at the facility.





# Specifications



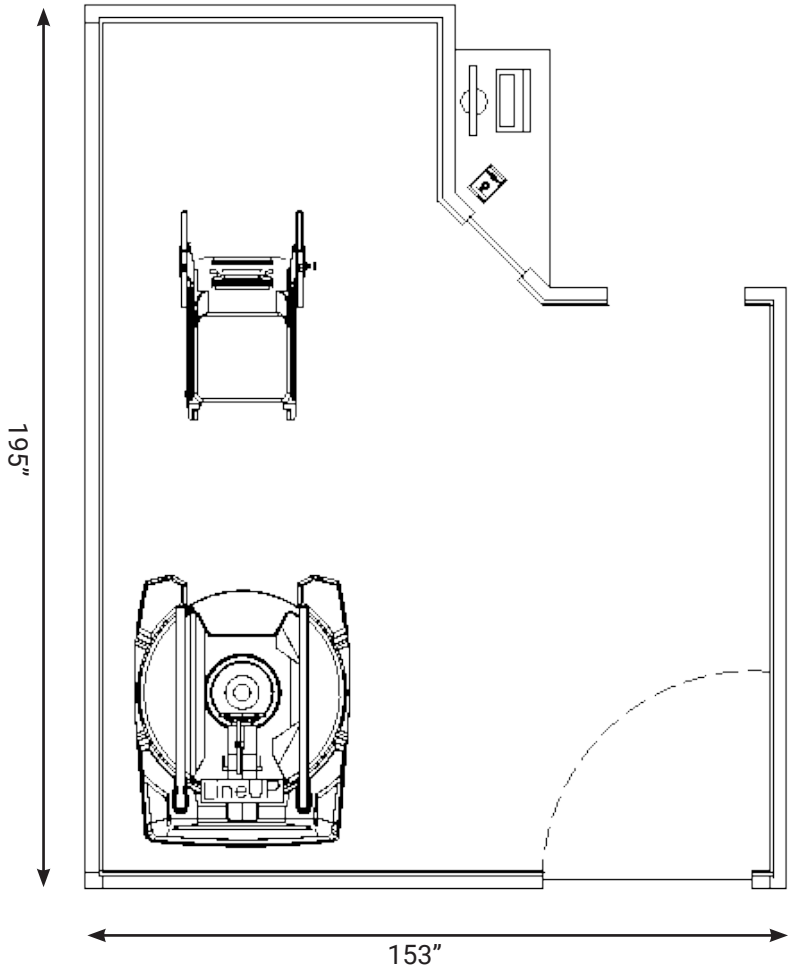




| Technical Specifications | |
|---|---|
| 3D Imaging Volume | 20cm (height) x 35cm (diameter) and smaller |
| Resolution | 0.3mm voxel size |
| Procedure Time | 26 seconds (approx.) |
| Max Exposure Time | 8.7 seconds |
| Tube Voltage | 100-120 kVp |
| Tube Current | 5 mA |
| Image Detector | CMOS flat panel |
| Gray Scale | 16 bit |
| System Dimensions | 4.2ft (h) x 4.1ft (w) x 5.2ft (d) |
| System Weight | 750lbs |
| Power Requirements | 1150VA |

**Approvals**
US FDA 510(k)
Health Canada
CE Marking
Australia TGA

**US Reimbursement**
CPT Code 73700 - CT lower extremity without contrast
CPT Code 73200 - CT upper extremity without contrast

# Sample Room Design

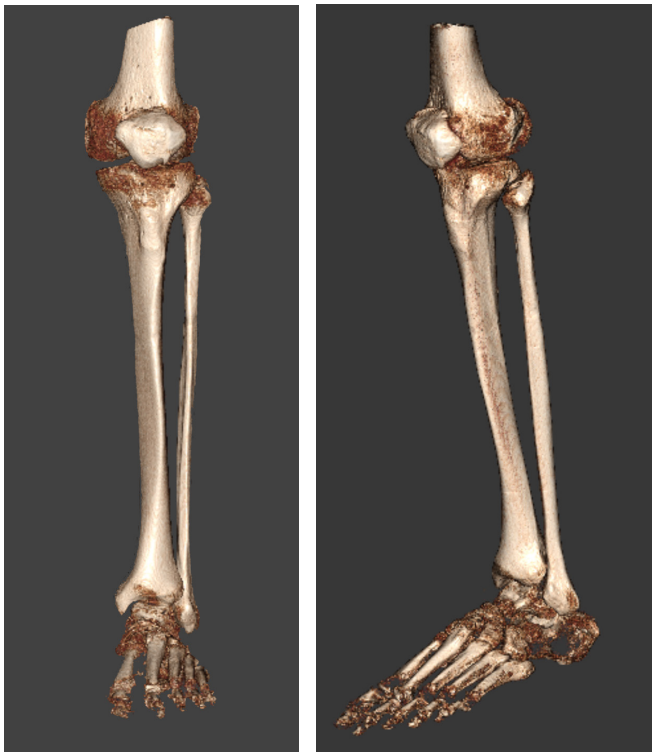


# Ultra Low Dose

| Technique | Micro Sieverts | Comparable Natural Background Radiation |
|---|---|---|
| Bilateral Knee LineUP CT | 1(1) | 3.3 hours |
| Bilateral Foot & Ankle LineUP CT | 3.2(1) | 9.6 hours |
| Unilateral Hand LineUP CT | 0.5(1) | 1.5 hours |
| Bilateral Knee LineUP X-Ray | 0.04(1) | 0.12 hours |
| Bilateral Foot LineUP X-Ray | 0.04(1) | 0.12 hours |
| Hand Lateral LineUP X-Ray | 0.04(1) | 0.12 hours |
| Bone Densitometry (DEXA) | 1(2) | 3 hours |
| Extremity X-Ray Radiography | 1(2) | 3 hours |
| Unilateral Foot & Ankle Helical CT<br>(Siements CARE Dose) | 70(3)<br>25(4) | 8.75 days<br>3.13 days |

(1) Ludlow, J. "Hand-wrist, Knee, and Foot-ankle 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, Radiation Exposure from Musculoskeletal Computerized Tomographic Scans, Journal of Bone & Joint Surgery, Vol. 91-A, No. 8, August, 2009
(4) John B. Ludlow, Marija Ivanovic, Weightbearing CBCT, MDCT, and 2D Imaging Dosimetry of theFoot & Ankle, International Journal of Diagnostic Imaging, 2014, Vol. I, No. 2

# Complete Alignment View



The LineUP provides complete alignment views of the lower extremities.

## About **CurveBeam**

CurveBeam designs and manufactures Cone Beam CT imaging equipment for the orthopedic and podiatric specialties. CurveBeam was founded in 2009 and is privately owned and operated.

CurveBeam's corporate office is located in Hatfield, Pennsylvania, USA. All CurveBeam systems are designed and manufactured in the USA. CurveBeam's Europe office is located in London, United Kingdom.

The core team behind CurveBeam developed and pioneered the first commercially viable Cone Beam CT imaging systems for the dental/maxillofacial specialties starting in 2003.

In 2012, CurveBeam introduced the pedCAT, a bilateral weight bearing CT imaging system for the foot & ankle. In 2017, CurveBeam's InReach system, a multi-extremity CT device optimized for hand, wrist & elbow imaging, was cleared by the FDA.


## International WBCT Society

CurveBeam is a proud sponsor of the International Weight-Bearing CT Society, an independent research organization dedicated to promoting dialogue and collaboration on Weight Bearing CT research initiatives. This group is working to create standardized protocols for Weight Bearing CT anatomical measurements and analysis.

For more information, upcoming meeting locations, or to apply for membership please visit https://www.wbctsociety.com/.

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Bilateral Weight Bearing CT Imaging