

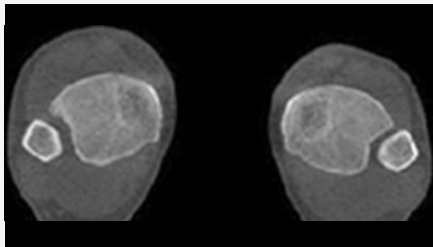


Weight Bearing CT Imaging for Orthopedics

Low Dose | Comfortable Standing Position | Quick Scan Times

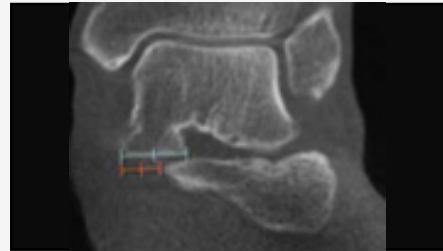
Common Indications

Syndesmosis



- Provide increased sensitivity and specificity over radiographs¹.
- Differentiate pathology from natural variability in patient anatomy via contralateral comparison to uninjured ankle as internal control².
- Help detect subtle syndesmosis injuries¹.

Flat Foot



- Provide an assessment of important anatomical markers of pronounced hindfoot deformity and peritalar subluxation (PTS), difficult to visualize on conventional two-dimensional radiographs².
- Allow for accurate evaluation of subtalar joint subluxation as well as sinus tarsi and subfibular impingement³.

Charcot Foot



- Assist in early detection and aid in an informed plan for early intervention, reducing complication risks⁴.
- Be used to monitor progression of deformity and help determine appropriate stage in which to surgically intervene, with the goal of preventing ulceration and infection.

The Weight Bearing Difference

A 58-year-old patient with significant ankle pain sought a consultation with Dr. Walther. The patient had seen several orthopedic surgeons, one of whom had prescribed orthotics. However, the orthotics did not alleviate her pain. Her supine medical CT (MDCT) scan denoted only minimal arthritis. The patient could not get an MRI due to her pacemaker. Dr. Walther ordered a weight bearing CT (WBCT) scan, which revealed significantly reduced joint space. He performed a successful total ankle replacement on the patient three months later.



Cone Beam CT

Supine CT



“ A WBCT exam of the ankle joint and the foot allows a completely new evaluation of many deformities. It allows axis misalignments, joint instabilities, or osteoarthritis to be better classified. ”

Dr. Markus Walther, MD
Foot and Ankle MD

(1) Lintz F, Bernasconi A, Ferkel EI. Can Weight-Bearing Computed Tomography Be a Game-Changer in the Assessment of Ankle Sprain and Ankle Instability? *Foot Ankle Clin.* 2023 Jun;28(2):283-295. doi: 10.1016/j.fcl.2023.01.003. PMID: 37137623.
 (2) Hagemeyer NC, Chang SH, Abdelaziz ME, Casey JC, Waryasz GR, Guss D, DiGiovanni CW. Range of Normal and Abnormal Syndesmotic Measurements Using Weightbearing CT. *Foot Ankle Int.* 2019 Dec;40(12):1430-1437. doi: 10.1177/1071100719866831. Epub 2019 Aug 23. PMID: 31442094(2) de Cesar Netto C, Myerson MS, Day J, Ellis SJ, Hintermann B, Johnson JE, Sangeorzan BJ, Schon LC, Thordarson DB, Deland JT. Consensus for the Use of Weightbearing CT in the Assessment of Progressive Collapsing Foot Deformity. *Foot Ankle Int.* 2020 Oct;41(10):1277-1282. doi: 10.1177/1071100720950734. Epub 2020 Aug 27. PMID: 32851880.
 (3) Jeng CL, Rutherford T, Hull MG, Cerrato RA, Campbell JT. Assessment of Bony Subfibular Impingement in Flatfoot Patients Using Weight-Bearing CT Scans. *Foot Ankle Int.* 2019 Feb;40(2):152-158. doi: 10.1177/1071100718804510. Epub 2018 Oct 8. PMID: 30293451.
 (4) Wukich DK, Sung W, Wipf SA, Armstrong DG. The consequences of complacency: managing the effects of unrecognized Charcot feet. *Diabet Med.* 2011 Feb;28(2):195-8. doi: 10.1111/j.1464-5491.2010.03141.x. PMID: 21219429.