

TABLE E-1 Pathological Conditions for Control Patients Included in the Study

No. of Patients	Foot and Ankle Pathology
3	Hallux valgus with hammer toes
2	Hallux rigidus
1	Hammer-toe deformity of lesser toe(s)
1	Metatarsalgia following web space neuroma excision
1	Fracture at base of fifth metatarsal
1	Sinus tarsi syndrome
1	Anterolateral osseous ankle impingement

TABLE E-2 Comparison of Conventional Radiographic Results in the Current Study and Those in Other Studies *

	Current Study	Younger et al. ³ (2005)	Coughlin and Kaz ¹⁴ (2009)	Lee et al. ¹⁵ (2010)
Lateral talar-first metatarsal angle (PTTD)	18.47° ± 12.46°	21.2° ± 10.8°	17.5° ± 6.4°	20.5° ± 11.0°
Lateral talar-first metatarsal (controls)	9.84° ± 6.53°	7.1° ± 10.7°	3.3° ± 4.9°	13° ± 7.5°
Anteroposterior talonavicular coverage angle (PTTD)	17.89° ± 15.26°	21.2° ± 12.5°	22.3° ± 6.7°	31.6° ± 13.7°
Anteroposterior talonavicular coverage angle (controls)	12.82° ± 11.49°	19.3° ± 23.8°	10.4° ± 4.2°	20° ± 9.8°
Anteroposterior tarsal-first metatarsal (PTTD)	10.75° ± 7.71°	16.5° ± 14°	-	27.0° ± 11.1°
Anteroposterior tarsal-first metatarsal (controls)	5.68° ± 4.41°	7.7° ± 8.2°	-	10° ± 7.0°

*The values are given as the mean and the standard deviation. PTTD = posterior tibial tendon dysfunction.

TABLE E-3 Definitions of Common Radiographic Parameters Measured on Radiographs and Multiplanar Weight-Bearing Images

Radiographic Parameter	Definition
Anteroposterior view of foot	
1. Talar-first metatarsal angle	Angle between the longitudinal axis of the talus (joining the bisectors of the talar body and neck) and the longitudinal axis of the first metatarsal (joining the bisectors of the first metatarsal diaphysis)*
2. Talonavicular coverage angle	A line connecting the points defining the most medial and lateral margins of the articular surface of the talus, and a similar line connecting the similar points on the most medial and lateral margins of the articular surface on the navicular; the talonavicular coverage angle is the angle between perpendicular lines drawn from each of these two lines†
3. Talonavicular uncoverage percent	The percent that the navicular overlaps an arc drawn along the articular surface of the talus starting at the most medial edge of the articular surface and ending at the most lateral edge of the articular surface as seen on a weight-bearing, anteroposterior radiograph of the foot‡
4. Talocalcaneal angle	Angle between the longitudinal axis of the talus (joining the bisectors of the talar body and neck) and the longitudinal axis of the calcaneus (joining the bisectors of the anterior articular margin and posterior tuberosity)§
Anteroposterior view of ankle	
1. Talar tilt	Angle between a line drawn along the inferior border of the tibial articular surface and a second line along the superior border of the talar articular surface#
2. Subtalar joint subluxation	Distance from the lateral margin of the calcaneal articular surface to the lateral margin of the talar articular surface**
3. Talofibular impingement	Any contact between the two bones of interest (talus and fibula) at the talofibular articulation††
4. Lateral gutter distance	Distance between the lateral surface of the talus and medial surface of the fibula at the midpoint of the talofibular articulation‡‡
Lateral view of ankle and foot	
1. Talar-first metatarsal angle	Angle between the longitudinal axis of the talus (joining the bisectors of the talar body and neck) and the longitudinal axis of the first metatarsal (joining the bisectors of the first metatarsal diaphysis)†††
2. Talonavicular angle	Angle between the longitudinal axis of the talus (joining the bisectors of the talar body and neck) and the longitudinal axis of the navicular (joining the bisectors of the two lines; the line joining the most dorsal and plantar points of the talonavicular joint and another line joining the most dorsal and plantar points of the naviculocuneiform joint)§§
3. Talocalcaneal angle	Angle between the longitudinal axis of the talus (joining the bisectors of the talar body and neck) and the longitudinal axis of the calcaneus (joining the bisectors of the calcaneus, at the cephalad and caudad margins at the level of the sustentaculum tali and the posterior tuberosity, respectively)###
4. Angle of the talus with respect to floor	Angle between the longitudinal axis of the talus (joining the bisectors of the talar body and neck) and a horizontal line drawn parallel to the floor

*According to Younger et al.³. †According to Sangeorzan et al.⁹ and Coughlin and Kaz¹⁴. ‡According to Deland¹. §According to Saltzman et al.⁷. #According to Deland¹ and Myerson (Myerson MS. Adult acquired flatfoot deformity: treatment of dysfunction of the posterior tibial tendon. Instr Course Lect. 1997;46:393-405.). **According to Ferri et al.¹¹. ††According to Ellis et al.⁸. ‡‡According to Gould (Gould N. Graphing the adult foot and ankle. Foot Ankle. 1982 Jan;2[4]:213-9). §§According to Ellis et al.⁸ and Greisberg et al.¹². ###According to Younger et al.³, Coughlin and Kaz¹⁴, and Aronson et al. (Aronson J, Nunley J, Frankovitch K. Lateral talocalcaneal angle in assessment of subtalar valgus: follow-up of seventy Grice-Green arthrodeses. Foot Ankle. 1983 Sep-Oct;4[2]:56-63.).