

TABLE E-1
 Data on Nineteen Patients Followed After Treatment of Talar Extrusion

Case	Age	Gender	Side	Wound Location	Talus Fracture (Hawkins)	Mechanism	Associated Injuries	Interval Between Injury and Operation (Hours)	Ipsilateral Lower-Extremity Injury	Fixation	Latest Follow-up (Years)
1	27	F	L	lateral	TN(H3)	MVA	L tibial plateau, R knee dislocation	4.5	Y	ex-fix, screws	9
2	60	F	L	posteromedial	TN (H4)	MVA	bilateral femoral fractures, Left ulnar fracture, R foot	18	Y	ex-fix, screws	2.25
4	68	M	R	medial	no	MVA	bilateral femoral fractures, R ankle fracture	19.5	Y	ex-fix	3
6	34	M	R	anterolateral	TN &body	MVA	L tibial plateau fracture, L calcaneal fracture, L toe fracture, R pilon fracture	10	Y	screws and ex-fix	7.25
8	29	F	L	lateral	no	MVA	L segmental tibial fracture	10	Y	none	5.3
10	39	F	L	medial	TN(H3)	MVA	open R ankle fracture	3	N	screws	5
13	27	M	L	medial	LP	crush	L fibular fracture	3	Y	ex-fix	2.25
14	27	M	R	lateral	no	tractor	none	3.5	N	none	4.75
15	44	F	R	posteromedial	TN(H3), TB	MVA	L acetabular fracture, R open elbow fracture-dislocation	4	Y	screws	4.25
16	18	F	L	posteromedial	TN(H4)	MVA	R talar fracture, L humeral fracture	5.5	N	screws	2
17	35	M	R	lateral	TN(H3)	MVA	L patellar fracture	4	N	screws	3
18	37	F	R	lateral	TH	MVA	none	9	N	screws	3.25
19	22	F	L	posteromedial	TN(H3)	MVA	none	4.5	N	screws	2
20	18	F	L	anterior	no	MVA	L acetabular fracture, R open calcaneal fracture	3	N	none	1.75
21	49	M	L	medial	no	MCA	L medial malleolar fracture	1.5	Y	none	7.5
23	37	F	R	medial	LP	MVA	R ulnar fracture	10	N	screws	1
26	24	M	L	anterior	no	MVA	R open femoral fracture, R segmental tibial fracture	5	Y	none	1
27	26	M	L	anterolateral	TN(H3)	MCA	R open bimalleolar fracture	3	N	screws	1.5
Talectomy											
3	68	M	L		TN(H3)	fall	none (underwent primary talectomy)	5	N	talectomy	2.3
Average								6.7			3.7

Talar fractures were classified as described by Hawkins with modification by Canale. Primary procedures are those done during the initial hospitalization and secondary procedures were done later. Talar fractures are classified by talar head (TH), talar body (TB), lateral process (LP) and talar neck (TN). MVA = motor vehicle accident, and MCA = motorcycle accident.

TABLE E-2
 Effect of Major Fracture on Subsequent Outcome and Development of Arthritis or Avascular Necrosis

Case	Age	Talar Fracture	Additional Procedures	Collapse/ Osteonecrosis	MFA Score	Primary Procedures	Secondary Procedures	ISS score	Soft-Tissue Attachments	Interval Between Injury and Operation (Hours)	Complications
Patients	With	Fracture									
1	27	TN(H3)	TAA, ROH	collapse	19	3	3	4	yes	4.5	
2	60	TN (H4)	none	collapse	18	2	0	22	unknown	18	
6	34	TN & body	TAA, osteotomy	collapse	59	4	2	22	no	10	
10	39	TN(H3)	none	collapse	13	1	0	9	yes	3	
15	44	TN(H3), TB	calcaneal osteotomy	collapse	52	3	4	17	no	4	infection
16	18	TN(H4)	Blair fusion	collapse		2	2	9	no	5.5	
17	35	TN(H3)	none		27	1	0	4	no	4	
19	22	TN(H3)	none	Osteonecrosis, OA	29	1	0	14	no	4.5	
27	26	TN(H3)	none	OA		2	0	9	yes	3	
Average	33.9				31	2.1	1.2	12.2		6.3	
Case	Without	Fracture									
4	68	no	none			2	0	25	yes	19.5	
8	29	no	none		5	1	0	14	no	10	
13	27	LP	ROH, flap revisions	none	26	3	4	9	yes	3	
14	27	no	cheilectomy	none	41	1	1	4	yes	3.5	
18	37	TH	none	collapse	32	3	0	8	yes	9	
20	18	no	none	OA	37	2	0	27	yes	3	
21	49	no	one		12	2	1	9	yes	1.5	
23	37	LP	none	none		2	0		yes	10	
26	24	no	none		47	1	0		yes	5	
Average	35.1				28.6	1.9	0.7	13.7		7.2	
Case	Talectomy										
3	68	TN(H3)	none		19	2	0	4	yes		

TAA is total ankle arthroplasty. OA is osteoarthritis. ROH is removal of hardware. Talar fractures are classified by talar head (TH), talar body (TB), lateral process (LP) and talar neck (TN).

TABLE E-3 Summary of Literature Review of Talar Extrusions from 1969 to Present

Study	Year	No. of Extrusions	No. Reimplanted	Infections (%)
Assal and Stern ²²	2004	1	1	0
Papaioannou et al. ¹³	1998	1	0	0
Palomo-Traver et al. ¹²	1997	1	1	0
Brewster and Maffulli ¹⁰	1997	2	2	0
Marsh et al. ³	1995	12	12	50
Jaffe et al. ⁹	1995	4	1	100
Hiraizumi et al. ¹¹	1992	2	1	0
Ritsema ¹⁴	1988	5 dislocations, 2 open	5 open reduced	0
Segal and Wasilewski ¹⁵	1980	1 closed	closed reduced	0
Detenbeck and Kelly ²⁰	1969	9 dislocations, 7 open	9	89