American College of Radiology ACR Appropriateness Criteria®

Chronic Foot Pain

Variant 1: Chronic foot pain. Unknown etiology. Initial imaging.

	Appropriaten	PSS GOT							F	inal '	Гаbu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Radiography foot	Usually appropriate	Moderate	⊕ <0.1 mSv		9	9	0	0	0	0	0	0	0	0	0
		References		Study	y Quality										
		11 (18894612))		4										
		13 (25805712))		4										
		14 (23811947))		4										
		15 (16697701))		2										
		5 (20439021)			4										
		12 (8356270)			4		_								
CT foot with IV contrast	Usually not appropriate		 	�� 0.03- 0.3 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT foot without IV contrast	Usually not appropriate		⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT foot without and with IV contrast	Usually not appropriate		⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
MRI foot without IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
MRI foot without and with IV contrast	Usually not appropriate		O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0

Bone scan foot	Usually not appropriate	Expert Consensus	୫୫୫ 1-10 mSv	���� 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
US foot	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0

Variant 2: Persistent posttraumatic foot pain. Radiographs negative or equivocal. Clinical concern includes complex regional pain syndrome type I. Next imaging study.

ъ .	Appropriate	eness	,	4.1.4. DDI	_	n i nni	D 4	3.6 11			F	inal '	Гаbи	latio	ns		
Procedure	Categor	son son	<u> </u>	Adults RRI	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropria		ed	O 0 mSv		O 0 mSv [ped]	9	n/a	0	0	0	0	0	0	0	0	0
		Refer	ences			Study	Quality										
		20 (78	92471)				3										
		19 (175	515744)				2										
		17 (221	177715)			Inac	lequate										
		18 (241	61450)				4									,	
3-phase bone scan foot	Usually appropria		ed	��� 1-10 mSv)		7	n/a	0	0	0	0	0	0	0	0	0
		Refer	rences			Study	Quality										
		16 (16	20860)				3										
		17 (221	177715)			Inac	lequate										
MRI foot without and with IV contrast	May be appropria	Limite Limite	ed	O 0 mSv		O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0
		Refer	ences			Study	Quality										
		20 (78	92471)				3										
		19 (175	515744)				2										
		17 (221	177715)			Inac	lequate										
		18 (241	(61450)				4		_								
US foot	Usually n appropria		ed	O 0 mSv		O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

		References 22 (9798855)			Study	Quality										
		22 (9798855)				4										
CT foot with IV contrast	Usually approp	Expert Consensus	≎ <0.1 mS	Sv	�� 0.03- 0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT foot without IV contrast	Usually approp	Expert Consensus	⊕ <0.1 mS	Sv	�� 0.03- 0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT foot without and with IV contrast	Usually approp	Expert Consensus	≎ <0.1 mS	Sv	�� 0.03- 0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

Variant 3: Chronic metatarsalgia including plantar great toe pain. Radiographs negative or equivocal. Clinical concern includes sesamoiditis, Morton's neuroma, intermetatarsal bursitis, chronic plantar plate injury, or Freiberg's infraction. Next imaging study.

	Appropri	iateness	COL	4.1.1. DD	_	D I DDI	D (1	3.5.11			F	inal	Tabu	latio	ns		
Procedure	Categ		SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usua approp		Strong		,	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	3	10
			References			Study	Quality		-								
			39 (8372200)				4										
			37 (9114115)				3										

References	Study Quality
39 (8372200)	4
37 (9114115)	3
38 (17420632)	3
36 (25809742)	Good
40 (22727342)	2
32 (11706214)	4
44 (19038613)	4
41 (28109309)	4
12 (8356270)	4
33 (9765133)	4
34 (10551246)	3
35 (9016241)	3
42 (20308514)	4

		43 (12668744)			4										
		45 (30685010)			4										
US foot	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	5	3	3	2	0
		References		Study	Quality										
		49 (16819605)			3										
		36 (25809742)		G	lood										
		47 (25466436)			4										
		41 (28109309)			4										
		46 (25027985)			2										
		48 (28398696)		•	2										
CT foot without IV contrast	May be appropriate	Limited	⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	5	5	1	0	0	1	7	2	2	0	0
		References		Study	Quality										
		References 29 (19038614)			4										
		30 (21817003)			3										
		28 (12627621)			4										
		31 (8079860)			4				_						
MRI foot without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	2	1	9	1	0	0	1
		References		Study	Quality										
		37 (9114115)			3										
		38 (17420632)			3										
		36 (25809742)		G	lood										
		40 (22727342)			2										
		32 (11706214)			4										
		44 (19038613)			4										
		41 (28109309)			4										
		12 (8356270)			4										
		33 (9765133)			4										
		34 (10551246)			3										

							1								
		35 (9016241)			3										
		42 (20308514)			4										
		43 (12668744)			4										
		45 (30685010)			4										
Bone scan foot	May be appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	5	5	1	0	3	2	6	2	0	0	0
		References		Study	Quality										
		12 (8356270)			4										
		24 (7633586)			2										
		26 (11595853)			4										
		27 (3806228)			4										
CT foot with IV contrast	Usually not appropriate	Limited	⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	11	0	2	0	0	0	0	0	0
		References		Study	Quality										
		29 (19038614)			4										
		30 (21817003)			3										
		28 (12627621)			4										
		31 (8079860)			4										
CT foot without and with IV contrast	Usually not appropriate	Limited	⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0
		References		Study	Quality										
		29 (19038614)			4										
		30 (21817003)			3										
		28 (12627621)			4										
		31 (8079860)			4										

Variant 4: Chronic plantar heel pain. Radiographs negative or equivocal. Clinical concern includes plantar fasciitis or plantar fascia tear. Next imaging study.

	Appropri	ateness	GOT.	4 1 1/ BBI	D I DDI	D	3.6.11			F	inal	Tabu	latio	ns		
Procedure	Categ		SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usual appropr		Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	2	11
			References		Study	Quality										
			52 (10470906)			4										
			53 (20964964)			3										
US foot	Usual appropr		Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	1	2	4	4	2
			References		Study	Quality										
		58 (19664484) 54 (16040817) 57 (27957702)				4										
			54 (16040817) 57 (27957702)			1										
			57 (27957702)			4										
		57 (27957702) 55 (-3145751) 56 (-3145753)				3										
			56 (-3145753)			2										
Bone scan with SPECT or SPECT/CT foot	Usually		Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	3	3	5	1	2	3	1	0	1	0	0
	,		References		Study	Quality		•	•		•		•	•		
			50 (18806575)		-	4										
			51 (2054987)			4										
CT foot with IV contrast	Usually		Expert Consensus	≎ <0.1 mSv	• • 0.03- 0.3 mSv [ped]	1	1	12	1	0	0	0	0	0	0	0
CT foot without IV contrast	Usually		Expert Consensus	≎ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	10	0	0	2	1	0	0	0	0
CT foot without and with IV contrast	Usually		Expert Consensus	≎ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	13	0	0	0	0	0	0	0	0
MRI foot without and with IV contrast	Usually		Limited	O 0 mSv	O 0 mSv [ped]	1	1	8	0	2	1	1	1	0	0	0
			References		Study	Quality										

52 (10470906)	4
53 (20964964)	3

Variant 5: Nonradiating chronic midfoot pain of suspected osseous origin. Radiographs negative or equivocal. Clinical concern includes occult fracture, or painful accessory ossicles. Next imaging study.

D 1	Appropriateness	GOT.	A L L DDI	D I DDI	D (1	3.6.31			I	inal	Tab	ulatio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	2	11
		References		Study	Quality										
		72 (22078792)			4										
		69 (8571860)			4										
		65 (11858605)			4										
		74 (27888854)			4										
		71 (26888876)			2										
		75 (27885856)			4										
		64 (29876712)			3										
		70 (26557590)			3										
		73 (29228800)			4										
CT foot without IV contrast	Usually appropriate	Moderate	⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	7	7	0	0	0	0	4	0	3	4	2
		References		Study	Quality										
		69 (8571860)			4										
		66 (15333345)			3										
		65 (11858605)			4										
		68 (15018183)			4										
		67 (29679212)		(Good										
		64 (29876712)			3										

Bone scan foot	May be appropriate	Limited	��� 1-10 mSv	���� 3- 10 mSv [ped]	4	4	0	0	3	6	3	1	1	0	0
		References		Study	y Quality		-								
		61 (1424449)			4										
		60 (21540716)			4										
		62 (15230772)			4										
		63 (25210293)			4										
		59 (30788224)			4										
US foot	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	5	0	4	1	2	1	0	0	0
		References		Study	y Quality										
		78 (20489099)			2										
		79 (18064426)			3										
		62 (15230772)			4										
		77 (22506252)			4										
		76 (10477883)			4										
CT foot with IV contrast	Usually not appropriate	Moderate	≎ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0
		References		Study	y Quality										
		69 (8571860)			4										
		66 (15333345)			3										
		65 (11858605)			4										
		68 (15018183)			4										
		67 (29679212)		(Good										
		64 (29876712)			3										
CT foot without and with IV contrast	Usually not appropriate	Moderate	⊕ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	13	0	0	0	0	0	0	0	0
		References		Study	y Quality										
		69 (8571860)			4										
		66 (15333345)			3										

							,								
		65 (1185860:													
		68 (15018183													
		67 (29679212	C]											
		64 (2987671)	3												
MRI foot without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	0	2	0	1	1	0	0	0
		References		Study							•				
		72 (2207879)													
		69 (8571860													
		65 (1185860)	5)												
		74 (27888854	4)												
		71 (2688887)	6)		2										
		75 (2788585)													
		63 (2521029)	4]									
		64 (2987671)		3]									
		70 (2655759)		3											
		73 (2922880)		4											

Variant 6: Chronic foot pain. Entrapment Syndromes. Radiographs negative or equivocal. Clinical concern includes Baxter's neuropathy. Next imaging study.

ъ .	Appropriates Category		SOE	4.1.14. DD		L Peds RRL	Rating	Median	Final Tabulations								
Procedure				Adults RR	(L				1	2	3	4	5	6	7	8	9
MRI foot without IV contrast	Usua approp			O 0 mSv	/	O 0 mSv [ped]	9	9	0	0	0	0	0	0	1	1	11
		References				Study											
	80 (19703848		80 (19703848)														
US foot	Usually appropriate		Limited	O 0 mSv	/	O 0 mSv [ped]	7	7	0	1	0	2	0	0	11	0	0
		References				Study	Quality										
		81 (23980227)					3										

CT foot with IV contrast	Usually no appropriate		≎ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0
CT foot without IV contrast	Usually no appropriate				1	1	10	0	2	0	0	1	0	0	0
CT foot without and with IV contrast	Usually no appropriate	t Expert Consensus	≎ <0.1 mSv	�� 0.03- 0.3 mSv [ped]	1	1	12	0	1	0	0	0	0	0	0
MRI foot without and with IV contrast	Usually no appropriate		O 0 mSv	O 0 mSv [ped]	1	1	10	0	0	0	1	1	0	0	1
		References		Study	y Quality										
		80 (19703848)			2										
Bone scan with SPECT or SPECT/CT foot	Usually no appropriate		��� 1-10 mSv	���� 3- 10 mSv [ped]	1	1	13	0	0	0	0	0	0	0	0

Appendix Key

A more complete discussion of the items presented below can be found by accessing the supporting documents at the designated hyperlinks.

Appropriateness Category: The panel's recommendation for a procedure based on the assessment of the risks and benefits of performing the procedure for the specified clinical scenario.

SOE: Strength of Evidence. The assessment of the amount and quality of evidence found in the peer reviewed medical literature for an appropriateness recommendation.

- **References:** The citation number and PMID for the reference(s) associated with the recommendation.
- Study Quality: The assessment of the quality of an individual reference based on the number of study quality elements described in the reference.

RRL: Relative Radiation Level. A population based assessment of the amount of radiation a typical patient may be exposed to during the specified procedure.

Rating: The final rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Median: The median rating (1-9 scale) for the procedure as determined by the panel during rating rounds.

Final tabulations: A histogram showing the number of panel members who rated the procedure as noted in the column heading (ie, 1, 2, 3, etc.).

Additional supporting documents about the AC methodology and processes can be found at www.acr.org/ac.