American College of Radiology
ACR Appropriateness Criteria®

Acute Trauma to the Knee

Variant 1: Adult or child 5 years of age or older. Fall or acute twisting trauma to the knee. No focal tenderness, no effusion, able to walk. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography knee	May be appropriate	Strong	☢ <0.1 mSv	☢ <0.03 mSv [ped]	5	5	0	0	1	1	10	3	1	1	0
CT knee with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
CT knee without IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	15	1	1	0	0	0	0	0	0
CT knee without and with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
9 (15769564)	2
10 (8594242)	3
8 (15995467)	4
2 (8536122)	3
3 (7574123)	3
6 (23399332)	1
11 (22636383)	4
1 (29243880)	4
5 (23827289)	2

MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRI knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	15	1	0	0	0	1	0	0	0
MRI knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
US knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
Bone scan with SPECT or SPECT/CT knee	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

Variant 2: Adult or child 5 years of age or older. Fall or acute twisting trauma to the knee. One or more of the following: focal tenderness, effusion, inability to bear weight. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography knee	Usually appropriate	Strong	☢ <0.1 mSv	☢ <0.03 mSv [ped]	9	9	0	0	0	0	0	0	0	1	16

References	Study Quality
8 (15995467)	4
6 (23399332)	1
5 (23827289)	2

CT knee with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

CT knee without IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	10	4	1	1	1	0	0	0	0
CT knee without and with IV contrast	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	1	0	0	0	0	0	0	0
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRI knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	13	0	1	1	1	0	0	1	0
MRI knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
US knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	11	4	0	0	1	1	0	0	0
Bone scan with SPECT or SPECT/CT knee	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	16	1	0	0	0	0	0	0	0

Variant 3: Adult or skeletally mature child. Fall or acute twisting trauma to the knee. No fracture seen on radiographs. Suspect occult fracture or internal derangement. Next study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI knee without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	0	3	14

References	Study Quality
23 (16118171)	1
26 (16861540)	3

21 (23677359)	2
22 (17394470)	4
24 (18795300)	4
20 (23773879)	4
30 (21380741)	2
35 (17483932)	2
36 (12324825)	3
19 (-3093387)	4
25 (29752650)	4
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
27 (27097792)	4
28 (27177438)	3

CT knee without IV contrast	May be appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	6	6	0	0	0	0	3	6	2	1	5

References	Study Quality
14 (26025120)	3
17 (20551186)	1
12 (16392612)	3
13 (17136560)	3
16 (23020888)	2
15 (28214478)	4
18 (25816992)	2

CT knee with IV contrast	Usually not appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
14 (26025120)	3

CT knee without and with IV contrast	Usually not appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRI knee without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
17 (20551186)	1
12 (16392612)	3
13 (17136560)	3
16 (23020888)	2
15 (28214478)	4
18 (25816992)	2

References	Study Quality
14 (26025120)	3
17 (20551186)	1
12 (16392612)	3
13 (17136560)	3
16 (23020888)	2
15 (28214478)	4
18 (25816992)	2

References	Study Quality
23 (16118171)	1
26 (16861540)	3
21 (23677359)	2
22 (17394470)	4
24 (18795300)	4

		20 (23773879)	4												
		30 (21380741)	2												
		35 (17483932)	2												
		36 (12324825)	3												
		19 (-3093387)	4												
		25 (29752650)	4												
		34 (28680889)	3												
		32 (28432395)	4												
		33 (28424850)	4												
		29 (27775896)	3												
		31 (28293698)	4												
		27 (27097792)	4												
		28 (27177438)	3												
US knee	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	13	2	1	0	0	1	0	0	0
		References	Study Quality												
		40 (16786321)	2												
		43 (17678659)	3												
		44 (21982460)	3												
		41 (28374066)	4												
		47 (29466145)	Good												
		49 (27145775)	4												
		48 (28343806)	4												
		46 (25916746)	Good												
		42 (25911713)	3												
		45 (23412237)	2												
Bone scan with SPECT or SPECT/CT knee	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	14	2	0	0	0	0	0	0	1
		References	Study Quality												
		38 (16894322)	2												
		37 (12218448)	3												

39 (25558700)	3

Variant 4: Skeletally immature child. Fall or acute twisting trauma to the knee. No fracture seen on radiographs. Suspect occult fracture or internal derangement. Next study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI knee without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	1	0	0	0	0	0	0	1	15

References	Study Quality
26 (16861540)	3
21 (23677359)	2
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
27 (27097792)	4
28 (27177438)	3

CT knee without IV contrast	May be appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	5	5	1	0	0	2	12	1	1	0	0

References	Study Quality
14 (26025120)	3
17 (20551186)	1
26 (16861540)	3
21 (23677359)	2
12 (16392612)	3
50 (22965381)	4
16 (23020888)	2
51 (28190582)	3
34 (28680889)	3

		32 (28432395)	4												
		33 (28424850)	4												
		29 (27775896)	3												
		31 (28293698)	4												
		15 (28214478)	4												
		27 (27097792)	4												
		28 (27177438)	3												
		18 (25816992)	2												
CT knee with IV contrast	Usually not appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
		References	Study Quality												
		14 (26025120)	3												
		17 (20551186)	1												
		26 (16861540)	3												
		21 (23677359)	2												
		12 (16392612)	3												
		50 (22965381)	4												
		16 (23020888)	2												
		51 (28190582)	3												
		34 (28680889)	3												
		32 (28432395)	4												
		33 (28424850)	4												
		29 (27775896)	3												
		31 (28293698)	4												
		15 (28214478)	4												
		27 (27097792)	4												
		28 (27177438)	3												
		18 (25816992)	2												
CT knee without and with IV contrast	Usually not appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
14 (26025120)	3
17 (20551186)	1
26 (16861540)	3
21 (23677359)	2
12 (16392612)	3
50 (22965381)	4
16 (23020888)	2
51 (28190582)	3
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
15 (28214478)	4
27 (27097792)	4
28 (27177438)	3
18 (25816992)	2

MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	16	0	0	0	0	0	0	0	1
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRI knee without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
26 (16861540)	3
21 (23677359)	2
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3

		31 (28293698)		4											
		27 (27097792)		4											
		28 (27177438)		3											
Bone scan with SPECT or SPECT/CT lower extremity	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality											
		38 (16894322)		2											
		37 (12218448)		3											
		39 (25558700)		3											
US knee	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	12	1	1	1	0	1	1	0	0
		References		Study Quality											
		40 (16786321)		2											
		44 (21982460)		3											
		47 (29466145)		Good											
		49 (27145775)		4											
		48 (28343806)		4											
		46 (25916746)		Good											
		42 (25911713)		3											
		45 (23412237)		2											
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

Variant 5: Skeletally immature child. Fall or acute twisting trauma to the knee. No fracture seen on radiographs. Suspect occult fracture or internal derangement. Next study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI knee without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	1	2	1	13
		References		Study Quality											

CT knee without IV contrast	May be appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	5	8	0	0	0	1	0	2	5	1	8

References	Study Quality
14 (26025120)	3
17 (20551186)	1
26 (16861540)	3
21 (23677359)	2
12 (16392612)	3
50 (22965381)	4
16 (23020888)	2
51 (28190582)	3
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
15 (28214478)	4
27 (27097792)	4
28 (27177438)	3
18 (25816992)	2

CT knee with IV contrast	Usually not appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
14 (26025120)	3
17 (20551186)	1
26 (16861540)	3
21 (23677359)	2
12 (16392612)	3
50 (22965381)	4
16 (23020888)	2
51 (28190582)	3
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
15 (28214478)	4
27 (27097792)	4
28 (27177438)	3
18 (25816992)	2

CT knee without and with IV contrast	Usually not appropriate	Strong	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

References	Study Quality
14 (26025120)	3
17 (20551186)	1
26 (16861540)	3
21 (23677359)	2
12 (16392612)	3
50 (22965381)	4
16 (23020888)	2

51 (28190582)	3
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
15 (28214478)	4
27 (27097792)	4
28 (27177438)	3
18 (25816992)	2

MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRI knee without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	16	0	0	0	0	1	0	0	0

References	Study Quality
26 (16861540)	3
21 (23677359)	2
34 (28680889)	3
32 (28432395)	4
33 (28424850)	4
29 (27775896)	3
31 (28293698)	4
27 (27097792)	4
28 (27177438)	3

Bone scan with SPECT or SPECT/CT lower extremity	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
38 (16894322)	2

		37 (12218448)	3												
		39 (25558700)	3												
US knee	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	15	0	0	0	1	1	0	0	0
		References	Study Quality												
		40 (16786321)	2												
		44 (21982460)	3												
		47 (29466145)	Good												
		49 (27145775)	4												
		48 (28343806)	4												
		46 (25916746)	Good												
		42 (25911713)	3												
		45 (23412237)	2												
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0

Variant 6: Adult or child 5 years of age or older. Fall or acute twisting trauma to the knee. Tibial plateau fracture on radiographs. Suspect additional bone or soft-tissue injury. Next study.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI knee without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	n/a	0	0	0	0	0	0	0	0	0
		References	Study Quality												
		26 (16861540)	3												
		21 (23677359)	2												
		34 (28680889)	3												
		32 (28432395)	4												
		33 (28424850)	4												
		29 (27775896)	3												
		31 (28293698)	4												

		27 (27097792)	4												
		28 (27177438)	3												
CT knee without IV contrast	Usually appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0
		References	Study Quality												
		14 (26025120)	3												
		12 (16392612)	3												
		13 (17136560)	3												
		50 (22965381)	4												
		51 (28190582)	3												
		52 (25102505)	4												
		15 (28214478)	4												
US knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
MRI knee without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
		References	Study Quality												
		26 (16861540)	3												
		21 (23677359)	2												
		34 (28680889)	3												
		32 (28432395)	4												
		33 (28424850)	4												
		29 (27775896)	3												
		31 (28293698)	4												
		27 (27097792)	4												
		28 (27177438)	3												
MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
Bone scan with SPECT or SPECT/CT knee	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT knee with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
14 (26025120)	3
12 (16392612)	3
13 (17136560)	3
50 (22965381)	4
51 (28190582)	3
52 (25102505)	4
15 (28214478)	4

CT knee without and with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
14 (26025120)	3
12 (16392612)	3
13 (17136560)	3
50 (22965381)	4
51 (28190582)	3
52 (25102505)	4
15 (28214478)	4

Variant 7: Adult or child 5 years of age or older. Acute trauma to the knee. Mechanism unknown. Focal patellar tenderness, effusion, able to walk. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography knee	Usually appropriate	Strong	☢ <0.1 mSv	☢ <0.03 mSv [ped]	9	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	8 (15995467)		4												
	6 (23399332)		1												
	11 (22636383)		4												
	1 (29243880)		4												
	5 (23827289)		2												
CT knee with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	12 (16392612)		3												
CT knee without IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	12 (16392612)		3												
CT knee without and with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
	References		Study Quality												
	12 (16392612)		3												
MRA knee without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
MRA knee without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

MRI knee without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
55 (17056925)	4
54 (20063162)	2
53 (8517287)	4

MRI knee without and with IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
55 (17056925)	4
54 (20063162)	2
53 (8517287)	4

US knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
Bone scan with SPECT or SPECT/CT knee	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

Variant 8: Adult or child 5 years of age or older. Significant trauma to the knee (eg, motor vehicle accident, knee dislocation). Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography knee	Usually appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	9	9	0	0	0	0	1	0	0	0	16

References	Study Quality
10 (8594242)	3
3 (7574123)	3

CTA lower extremity with IV contrast	Usually appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	1	0	0	0	2	1	3	4	6

References	Study Quality

		58 (21156317)	4												
		59 (17869471)	4												
		60 (16498092)	2												
CT knee with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	5	5	9	0	2	1	3	0	1	1	0
		References	Study Quality												
		12 (16392612)	3												
CT knee without IV contrast	May be appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	5	5	3	3	1	1	7	2	0	0	0
		References	Study Quality												
		12 (16392612)	3												
Arteriography lower extremity	May be appropriate	Limited	☢☢ 0.1-1mSv	☢☢☢ 0.3-3 mSv [ped]	5	5	0	1	2	1	11	1	1	0	0
		References	Study Quality												
		58 (21156317)	4												
		56 (19932064)	4												
		57 (19074408)	4												
MRA knee without and with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	1	1	2	10	2	0	0	0
		References	Study Quality												
		61 (11972076)	4												
		62 (21446625)	3												
MRI knee without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	2	0	1	1	12	1	0	0	0
		References	Study Quality												
		26 (16861540)	3												
		21 (23677359)	2												
		62 (21446625)	3												
		32 (28432395)	4												
		29 (27775896)	3												

		31 (28293698)	4												
		27 (27097792)	4												
		28 (27177438)	3												
MRA knee without IV contrast	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	7	0	3	1	4	1	0	0	1
		References	Study Quality												
		61 (11972076)	4												
		62 (21446625)	3												
CT knee without and with IV contrast	Usually not appropriate	Limited	☢ <0.1 mSv	☢☢ 0.03-0.3 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
		References	Study Quality												
		12 (16392612)	3												
MR arthrography knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	17	0	0	0	0	0	0	0	0
MRI knee without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	1	16	0	0	0	1	0	0	0	0
		References	Study Quality												
		26 (16861540)	3												
		21 (23677359)	2												
		62 (21446625)	3												
		32 (28432395)	4												
		29 (27775896)	3												
		31 (28293698)	4												
		27 (27097792)	4												
		28 (27177438)	3												
US knee	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	14	1	0	0	0	2	0	0	0
Bone scan with SPECT or SPECT/CT knee	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	16	1	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.**