

Staging of Renal Cell Carcinoma

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT abdomen and pelvis with IV contrast	Usually appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢☢☢ 3-10 mSv [ped]	8	8	0	0	0	0	2	2	3	5	4
	References		Study Quality												
	48 (12090319)		4												
	47 (9888732)		4												
	46 (11734949)		3												
	45 (10350288)		4												
	43 (23325783)		2												
	42 (30456180)		4												
	41 (27867332)		3												
	40 (25304287)		3												
	39 (11796275)		2												
	38 (28296683)		3												
	37 (31607203)		2												
	36 (25410425)		2												
	35 (20937417)		2												
	34 (17082687)		1												
	33 (12704036)		3												
	32 (21342488)		3												
	31 (18937590)		3												

30 (11275723)	3
29 (18710440)	3
28 (20148365)	3
16 (14512329)	2
15 (15100536)	2
13 (-3195129)	4
5 (30803729)	4
3 (30523454)	3
44 (21843882)	2

MRI abdomen without and with IV contrast	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	8	8	0	0	1	0	0	0	5	5	5
--	---------------------	--------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
69 (29724245)	2
68 (18076946)	3
67 (11832712)	3
66 (15665685)	2
65 (31741596)	3
64 (15615960)	2
63 (15100535)	2
62 (14684543)	3
48 (12090319)	4
47 (9888732)	4
33 (12704036)	3
13 (-3195129)	4
5 (30803729)	4

CT abdomen with IV contrast	Usually appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	7	7	0	0	1	0	1	1	6	4	3
-----------------------------	---------------------	--------	--------------	---------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
46 (11734949)	3
45 (10350288)	4
44 (21843882)	2

43 (23325783)	2
42 (30456180)	4
41 (27867332)	3
40 (25304287)	3
39 (11796275)	2
38 (28296683)	3
37 (31607203)	2
36 (25410425)	2
35 (20937417)	2
34 (17082687)	1
33 (12704036)	3
32 (21342488)	3
31 (18937590)	3
30 (11275723)	3
29 (18710440)	3
28 (20148365)	3
27 (23108238)	M
26 (10737472)	2
25 (24321262)	4
24 (18311784)	3
23 (19007371)	3
22 (17286945)	M
21 (7954317)	4
20 (24819422)	3
19 (25593113)	3
18 (24566409)	3
17 (2196982)	4
16 (14512329)	2
15 (15100536)	2
14 (16304081)	3
13 (-3195129)	4

CT abdomen without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	5	5	3	2	5	2	0	1	2	1	0
---	-----------------------------------	----------------	----------------	-----------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
46 (11734949)	3
45 (10350288)	4
44 (21843882)	2
43 (23325783)	2
42 (30456180)	4
41 (27867332)	3
40 (25304287)	3
39 (11796275)	2
38 (28296683)	3
37 (31607203)	2
36 (25410425)	2
35 (20937417)	2
34 (17082687)	1
33 (12704036)	3
32 (21342488)	3
31 (18937590)	3
30 (11275723)	3
29 (18710440)	3
28 (20148365)	3
27 (23108238)	M
26 (10737472)	2
25 (24321262)	4
24 (18311784)	3
23 (19007371)	3
22 (17286945)	M
21 (7954317)	4
20 (24819422)	3

19 (25593113)	3
18 (24566409)	3
17 (2196982)	4
16 (14512329)	2
15 (15100536)	2
14 (16304081)	3
13 (-3195129)	4
5 (30803729)	4
3 (30523454)	3

CT abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	5	5	3	3	5	1	0	1	2	1	0
--	-----------------------------------	----------------	----------------	-----------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
48 (12090319)	4
47 (9888732)	4
46 (11734949)	3
45 (10350288)	4
44 (21843882)	2
43 (23325783)	2
42 (30456180)	4
41 (27867332)	3
40 (25304287)	3
39 (11796275)	2
38 (28296683)	3
37 (31607203)	2
36 (25410425)	2
35 (20937417)	2
34 (17082687)	1
33 (12704036)	3
32 (21342488)	3
31 (18937590)	3

30 (11275723)	3
29 (18710440)	3
28 (20148365)	3
16 (14512329)	2
15 (15100536)	2
13 (-3195129)	4
5 (30803729)	4
3 (30523454)	3

Radiography chest	May be appropriate	Limited	☼ <0.1 mSv	☼ <0.03 mSv [ped]	5	5	0	2	1	2	11	0	0	0	0
-------------------	--------------------	---------	------------	-------------------	---	---	---	---	---	---	----	---	---	---	---

References	Study Quality
13 (-3195129)	4
54 (27684653)	3
53 (21557795)	2

CT head with IV contrast	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	4	4	6	0	1	3	4	1	1	0	0
--------------------------	--------------------	---------	--------------	---------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
57 (33525046)	2
56 (33578374)	4
13 (-3195129)	4
5 (30803729)	4

Bone scan whole body with SPECT or SPECT/CT area of interest	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	4	4	2	2	4	2	4	2	0	0	0
--	--------------------	---------	--------------	---------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
14 (16304081)	3
13 (-3195129)	4
12 (11696720)	3
11 (4060382)	3
5 (30803729)	4

CT chest without and with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	5	3	5	2	1	0	0	0	0
		References	Study Quality												
		55 (31955483)	3												
		54 (27684653)	3												
		53 (21557795)	2												
		52 (19450840)	3												
		51 (25241004)	3												
		50 (20846691)	3												
		49 (26880407)	2												
		13 (-3195129)	4												
		5 (30803729)	4												
CT head without IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	3	3	6	1	7	1	0	0	0	1	0
		References	Study Quality												
		57 (33525046)	2												
		56 (33578374)	4												
		13 (-3195129)	4												
		5 (30803729)	4												
CT head without and with IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	6	0	6	1	3	0	0	0	0
		References	Study Quality												
		57 (33525046)	2												
		56 (33578374)	4												
		13 (-3195129)	4												
		5 (30803729)	4												
MRI abdomen without IV contrast	Usually not appropriate	Strong	0 0 mSv	0 0 mSv [ped]	3	3	5	2	5	1	3	0	0	0	0
		References	Study Quality												
		69 (29724245)	2												

MRI head without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	3	6	3	1	0	0	0	0
		References		Study Quality											
		57 (33525046)		2											
		56 (33578374)		4											
		13 (-3195129)		4											
		5 (30803729)		4											
MRU without IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	5	1	6	0	2	2	0	0	0
		References		Study Quality											
		5 (30803729)		4											
		13 (-3195129)		4											
MRU without and with IV contrast	Usually not appropriate	Limited	0 0 mSv	0 0 mSv [ped]	3	3	3	4	9	0	0	0	0	0	0
		References		Study Quality											
		13 (-3195129)		4											
		5 (30803729)		4											
Bone scan whole body	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	4	1	4	3	3	0	0	1	0
		References		Study Quality											
		13 (-3195129)		4											
		12 (11696720)		3											
		11 (4060382)		3											
		5 (30803729)		4											
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 3-10 mSv [ped]	3	3	3	4	9	0	0	0	0	0	0
		References		Study Quality											
		59 (30120698)		2											
		60 (30234688)		2											
		58 (25210086)		4											

			13 (-3195129)		4										
			5 (30803729)		4										
Fluoride PET/CT skull base to mid-thigh	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv		3	3	4	3	6	1	2	0	0	0	0
		References		Study Quality											
		61 (26202597)		3											
		13 (-3195129)		4											
		5 (30803729)		4											
CT abdomen without IV contrast	Usually not appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	5	4	7	0	0	0	0	0	0
		References		Study Quality											
		46 (11734949)		3											
		45 (10350288)		4											
		44 (21843882)		2											
		43 (23325783)		2											
		42 (30456180)		4											
		41 (27867332)		3											
		40 (25304287)		3											
		39 (11796275)		2											
		38 (28296683)		3											
		37 (31607203)		2											
		36 (25410425)		2											
		35 (20937417)		2											
		34 (17082687)		1											
		33 (12704036)		3											
		32 (21342488)		3											
		31 (18937590)		3											
		30 (11275723)		3											
		29 (18710440)		3											
		28 (20148365)		3											
		27 (23108238)		M											

26 (10737472)	2
25 (24321262)	4
24 (18311784)	3
23 (19007371)	3
22 (17286945)	M
21 (7954317)	4
20 (24819422)	3
19 (25593113)	3
18 (24566409)	3
17 (2196982)	4
16 (14512329)	2
15 (15100536)	2
14 (16304081)	3
13 (-3195129)	4
5 (30803729)	4
3 (30523454)	3

CT abdomen and pelvis without IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	2	2	4	5	7	0	0	0	0	0	0
---	-------------------------	--------	--------------	---------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
48 (12090319)	4
47 (9888732)	4
46 (11734949)	3
45 (10350288)	4
44 (21843882)	2
43 (23325783)	2
42 (30456180)	4
41 (27867332)	3
40 (25304287)	3
39 (11796275)	2
38 (28296683)	3
37 (31607203)	2

36 (25410425)	2
35 (20937417)	2
34 (17082687)	1
33 (12704036)	3
32 (21342488)	3
31 (18937590)	3
30 (11275723)	3
29 (18710440)	3
28 (20148365)	3
16 (14512329)	2
15 (15100536)	2
13 (-3195129)	4
5 (30803729)	4
3 (30523454)	3

CT chest without IV contrast	Usually not appropriate	Strong	☼☼☼☼ 1-10 mSv	☼☼☼☼☼ 3-10 mSv [ped]	2	2	6	3	3	1	3	0	0	0	0
------------------------------	-------------------------	--------	---------------	----------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
55 (31955483)	3
54 (27684653)	3
53 (21557795)	2
52 (19450840)	3
51 (25241004)	3
50 (20846691)	3
49 (26880407)	2
13 (-3195129)	4
5 (30803729)	4

CTU without and with IV contrast	Usually not appropriate	Limited	☼☼☼☼☼ 10-30 mSv	☼☼☼☼☼☼ 10-30 mSv [ped]	2	2	4	6	6	0	0	0	0	0	0
----------------------------------	-------------------------	---------	-----------------	------------------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
13 (-3195129)	4

		5 (30803729)			4											
US abdomen	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	2	2	6	4	5	0	0	0	1	0	0	
		References			Study Quality											
		73 (28073200)			3											
		72 (33006090)			2											
		71 (7347111)			3											
		70 (6252674)			3											
		13 (-3195129)			4											
		5 (30803729)			4											
US abdomen with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	2	2	6	3	6	0	0	0	0	1	0	
		References			Study Quality											
		73 (28073200)			3											
		72 (33006090)			2											
		71 (7347111)			3											
		70 (6252674)			3											
		13 (-3195129)			4											
		5 (30803729)			4											

Variant 2: Renal cell carcinoma. Contraindication to both iodinated CT and gadolinium-based MR intravenous contrast. Staging.

	References	Study Quality
	75 (17487856)	3
	74 (15577678)	4
	64 (15615960)	2

		63 (15100535)	2														
		49 (26880407)	2														
		34 (17082687)	1														
		13 (-3195129)	4														
		5 (30803729)	4														
MRI abdomen without IV contrast	Usually appropriate	Expert Consensus	O O mSv	O O mSv [ped]	8	8	1	0	0	1	0	0	2	6	6		
MRI abdomen and pelvis without IV contrast	Usually appropriate	Limited	O O mSv	O O mSv [ped]	8	8	0	0	1	0	1	2	3	6	3		
		References	Study Quality														
		5 (30803729)	4														
		13 (-3195129)	4														
		47 (9888732)	4														
		48 (12090319)	4														
CT abdomen and pelvis without IV contrast	May be appropriate	Strong	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	6	6	1	0	1	0	2	7	3	1	1		
		References	Study Quality														
		48 (12090319)	4														
		47 (9888732)	4														
		16 (14512329)	2														
		15 (15100536)	2														
CT abdomen without IV contrast	May be appropriate (Disagreement)	Expert Opinion	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	5	5	1	1	0	1	2	5	5	1	0		
		References	Study Quality														
		16 (14512329)	2														
		15 (15100536)	2														
MRI head without IV contrast	May be appropriate	Limited	O O mSv	O O mSv [ped]	4	4	1	3	3	7	2	0	0	0	0		
		References	Study Quality														
		5 (30803729)	4														

		References		Study Quality													
		5 (30803729)		4													
		13 (-3195129)		4													
		60 (30234688)		2													
		59 (30120698)		2													
		58 (25210086)		4													
Fluoride PET/CT skull base to mid-thigh	Usually not appropriate	Limited	⚠⚠⚠⚠ 10-30 mSv			3	3	6	2	5	1	0	0	2	0	0	
		References		Study Quality													
		5 (30803729)		4													
		13 (-3195129)		4													
		61 (26202597)		3													
MRU without IV contrast	Usually not appropriate	Limited	0 0 mSv		0 0 mSv [ped]	2	2	8	2	6	0	0	0	0	0	0	
		References		Study Quality													
		5 (30803729)		4													
		13 (-3195129)		4													
US abdomen	Usually not appropriate	Strong	0 0 mSv		0 0 mSv [ped]	2	2	7	4	4	0	0	0	1	0	0	
		References		Study Quality													
		5 (30803729)		4													
		13 (-3195129)		4													
		73 (28073200)		3													
		72 (33006090)		2													
		71 (7347111)		3													
		70 (6252674)		3													
US abdomen with IV contrast	Usually not appropriate	Strong	0 0 mSv		0 0 mSv [ped]	2	2	7	5	3	0	0	0	0	1	0	
		References		Study Quality													
		5 (30803729)		4													
		13 (-3195129)		4													

		73 (28073200)		3											
		72 (33006090)		2											
		71 (7347111)		3											
		70 (6252674)		3											
CT abdomen with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	13	1	0	0	0	0	1	1	0
		References		Study Quality											
		15 (15100536)		2											
		16 (14512329)		2											
CT abdomen without and with IV contrast	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	13	1	1	0	0	0	1	0	0
		References		Study Quality											
		16 (14512329)		2											
		15 (15100536)		2											
CT abdomen and pelvis with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	12	2	1	0	0	0	1	0	0
		References		Study Quality											
		48 (12090319)		4											
		47 (9888732)		4											
		16 (14512329)		2											
		15 (15100536)		2											
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	12	2	1	0	0	0	1	0	0
		References		Study Quality											
		48 (12090319)		4											
		47 (9888732)		4											
		16 (14512329)		2											
		15 (15100536)		2											

CT chest with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	13	1	1	0	0	0	1	0	0
---------------------------	-------------------------	--------	--------------	---------------------	---	---	----	---	---	---	---	---	---	---	---

References	Study Quality
75 (17487856)	3
74 (15577678)	4
64 (15615960)	2
63 (15100535)	2
49 (26880407)	2
34 (17082687)	1
13 (-3195129)	4
5 (30803729)	4

CT chest without and with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	13	1	1	0	0	0	1	0	0
---------------------------------------	-------------------------	--------	--------------	---------------------	---	---	----	---	---	---	---	---	---	---	---

References	Study Quality
75 (17487856)	3
74 (15577678)	4
64 (15615960)	2
63 (15100535)	2
49 (26880407)	2
34 (17082687)	1
13 (-3195129)	4
5 (30803729)	4

CT head with IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	1	1	14	1	1	0	0	0	0	0	0
--------------------------	-------------------------	---------	--------------	---------------------	---	---	----	---	---	---	---	---	---	---	---

References	Study Quality
5 (30803729)	4
13 (-3195129)	4

CT head without and with IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	14	1	1	0	0	0	0	0	0
--------------------------------------	-------------------------	---------	--------------	---------------------	---	---	----	---	---	---	---	---	---	---	---

References	Study Quality
------------	---------------

		5 (30803729)		4												
		13 (-3195129)		4												
CTU without and with IV contrast	Usually not appropriate	Limited	⊗⊗⊗⊗ 10-30 mSv	⊗⊗⊗⊗⊗ 10-30 mSv [ped]	1	1	14	0	2	0	0	0	0	0	0	0
		References		Study Quality												
		5 (30803729)		4												
		13 (-3195129)		4												
MRI abdomen without and with IV contrast	Usually not appropriate	Expert Consensus	○ ○ mSv	○ ○ mSv [ped]	1	1	14	1	1	0	0	0	0	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	1	1	12	2	2	0	0	0	0	0	0	0
		References		Study Quality												
		5 (30803729)		4												
		13 (-3195129)		4												
		47 (9888732)		4												
		48 (12090319)		4												
MRI head without and with IV contrast	Usually not appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	1	1	13	1	2	0	0	0	0	0	0	0
		References		Study Quality												
		5 (30803729)		4												
		13 (-3195129)		4												
MRU without and with IV contrast	Usually not appropriate	Limited	○ ○ mSv	○ ○ mSv [ped]	1	1	13	1	2	0	0	0	0	0	0	0
		References		Study Quality												
		5 (30803729)		4												
		13 (-3195129)		4												

Variant 3: Renal cell carcinoma. Contraindication only to iodinated CT intravenous contrast. Staging.

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

References	Study Quality
33 (12704036)	3
69 (29724245)	2
68 (18076946)	3
67 (11832712)	3
66 (15665685)	2
65 (31741596)	3
64 (15615960)	2
63 (15100535)	2
62 (14684543)	3

MRI abdomen and pelvis without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	1	0	0	0	1	5	6	3
---	---------------------	--------	---------	---------------	---	---	---	---	---	---	---	---	---	---	---

References	Study Quality
69 (29724245)	2
68 (18076946)	3
67 (11832712)	3
66 (15665685)	2
65 (31741596)	3
64 (15615960)	2
63 (15100535)	2
62 (14684543)	3
48 (12090319)	4
47 (9888732)	4
33 (12704036)	3
13 (-3195129)	4
5 (30803729)	4

CT chest without IV contrast	Usually appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	7	7	0	1	0	0	1	1	8	4	1
		References		Study Quality											
		75 (17487856)		3											
		74 (15577678)		4											
		64 (15615960)		2											
		63 (15100535)		2											
		49 (26880407)		2											
		34 (17082687)		1											
		13 (-3195129)		4											
		5 (30803729)		4											
CT abdomen without IV contrast	May be appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	6	6	0	1	1	1	4	8	1	0	0
		References		Study Quality											
		15 (15100536)		2											
		16 (14512329)		2											
CT abdomen and pelvis without IV contrast	May be appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	6	6	0	1	1	2	1	10	1	0	0
		References		Study Quality											
		48 (12090319)		4											
		47 (9888732)		4											
		16 (14512329)		2											
		15 (15100536)		2											
Bone scan whole body with SPECT or SPECT/CT area of interest	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	4	4	0	1	1	13	1	0	0	0	0
		References		Study Quality											
		14 (16304081)		3											
		13 (-3195129)		4											
		12 (11696720)		3											
		11 (4060382)		3											

		5 (30803729)			4											
Radiography chest	May be appropriate	Limited	☼ <0.1 mSv	☼ <0.03 mSv [ped]	4	4	0	1	1	8	5	1	0	0	0	
		References		Study Quality												
		13 (-3195129)		4												
		55 (31955483)		3												
		54 (27684653)		3												
CT head without IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	3	3	5	2	5	1	2	0	0	0	1	
		References		Study Quality												
		5 (30803729)		4												
		13 (-3195129)		4												
MRI abdomen without IV contrast	Usually not appropriate	Strong	○ ○ 0 mSv	○ ○ 0 mSv [ped]	3	3	4	1	5	4	1	0	1	0	0	
		References		Study Quality												
		33 (12704036)		3												
		69 (29724245)		2												
		68 (18076946)		3												
		67 (11832712)		3												
		66 (15665685)		2												
		65 (31741596)		3												
		64 (15615960)		2												
		63 (15100535)		2												
		62 (14684543)		3												
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Strong	○ ○ 0 mSv	○ ○ 0 mSv [ped]	3	3	3	1	6	1	4	1	0	0	0	
		References		Study Quality												
		69 (29724245)		2												
		68 (18076946)		3												
		67 (11832712)		3												

[illegible]

[illegible]

US abdomen with IV contrast	Usually not appropriate	Strong	0 0 mSv	0 0 mSv [ped]	2	2	8	3	4	0	0	0	0	1	0
		References		Study Quality											
		5 (30803729)		4											
		13 (-3195129)		4											
		73 (28073200)		3											
		72 (33006090)		2											
		71 (7347111)		3											
		70 (6252674)		3											
CT abdomen with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	12	2	1	0	0	0	1	0	0
		References		Study Quality											
		15 (15100536)		2											
		16 (14512329)		2											
CT abdomen without and with IV contrast	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	12	1	2	0	0	0	1	0	0
		References		Study Quality											
		15 (15100536)		2											
		16 (14512329)		2											
CT abdomen and pelvis with IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	1	1	13	2	0	0	0	0	1	0	0
		References		Study Quality											
		48 (12090319)		4											
		47 (9888732)		4											
		16 (14512329)		2											
		15 (15100536)		2											
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	13	2	0	0	0	0	1	0	0

		References		Study Quality													
		48 (12090319)		4													
		47 (9888732)		4													
		16 (14512329)		2													
		15 (15100536)		2													
CT chest with IV contrast	Usually not appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	1	1	12	1	2	0	0	0	1	0	0		
		References		Study Quality													
		75 (17487856)		3													
		74 (15577678)		4													
		64 (15615960)		2													
		63 (15100535)		2													
		49 (26880407)		2													
		34 (17082687)		1													
		13 (-3195129)		4													
		5 (30803729)		4													
CT chest without and with IV contrast	Usually not appropriate	Strong	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	1	1	12	1	2	0	0	0	1	0	0		
		References		Study Quality													
		75 (17487856)		3													
		74 (15577678)		4													
		64 (15615960)		2													
		63 (15100535)		2													
		49 (26880407)		2													
		34 (17082687)		1													
		13 (-3195129)		4													
		5 (30803729)		4													
CT head with IV contrast	Usually not appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹ 0.3-3 mSv [ped]	1	1	14	1	1	0	0	0	0	0	0		
		References		Study Quality													

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.