

CT abdomen without IV contrast	May be appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	6	6	0	0	0	2	4	3	2	0	1
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References	Study Quality
32 (33141305)	4
16 (28515418)	4
29 (35633387)	4
31 (25547671)	3

MRI abdomen without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	○ 0 mSv	○ 0 mSv [ped]	5	5	5	1	2	0	1	2	1	0	0
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References	Study Quality
40 (38530430)	4
24 (31270136)	2
22 (28550374)	4
17 (27341140)	4
27 (39477840)	4
43 (32523956)	4
23 (30666443)	4
21 (39049998)	4
39 (32969110)	4
25 (33821360)	4
26 (38344736)	4

CT abdomen with IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	4	2	3	2	0	0	1	0	0
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References	Study Quality
32 (33141305)	4
16 (28515418)	4
31 (25547671)	3

CT abdomen and pelvis with IV contrast	Usually not appropriate	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	5	1	4	1	0	0	0	1	0
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References	Study Quality
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32 (33141305)	4
16 (28515418)	4
31 (25547671)	3

CT abdomen and pelvis without IV contrast	Usually not appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	3	3	5	1	3	1	1	0	1	0	0
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References	Study Quality
32 (33141305)	4
16 (28515418)	4
29 (35633387)	4
31 (25547671)	3

US kidneys retroperitoneal	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	2	2	5	1	3	0	1	0	0	0	0
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References	Study Quality
28 (36333536)	4
34 (35476147)	4
31 (25547671)	3
43 (32523956)	4

CT abdomen without and with IV contrast	Usually not appropriate	Expert Consensus	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	1	1	8	2	2	0	0	0	0	0	0
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References	Study Quality
32 (33141305)	4
16 (28515418)	4
31 (25547671)	3

CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	1	1	8	1	3	0	0	0	0	0	0
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References	Study Quality
32 (33141305)	4
16 (28515418)	4

		31 (25547671)		3														
WBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		1	1	8	0	1	0	1	0	0	0	0	0	0	0

Variant 3: Adult. Known autosomal dominant polycystic kidney disease. Suspected complication. Normal kidney function. Initial imaging.

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	Limited	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	9	9	0	0	1	0	2	0	0	2	5			

References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

MRI abdomen without and with IV contrast	Usually appropriate	Limited	0 0 mSv	0 0 mSv [ped]	7	7	0	0	1	0	1	1	4	2	1			
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References	Study Quality
40 (38530430)	4
43 (32523956)	4
38 (27829402)	4
41 (27529555)	4
36 (26454062)	4
37 (32700112)	4
35 (24919173)	2
39 (32969110)	4

CT abdomen with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	5	5	3	1	3	2	0	1	2	0	0			
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References	Study Quality
43 (32523956)	4

42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

CT abdomen and pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	5	5	1	0	1	3	2	0	3	0	0
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References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

MRI abdomen without IV contrast	May be appropriate (Disagreement)	Expert Opinion	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	2	1	3	2	3	1	0
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References	Study Quality
40 (38530430)	4
43 (32523956)	4
38 (27829402)	4
41 (27529555)	4
36 (26454062)	4
37 (32700112)	4
35 (24919173)	2
39 (32969110)	4

CT abdomen without IV contrast	May be appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	4	4	3	1	1	2	3	0	0	0	0
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References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

CT abdomen without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	5	2	4	0	0	0	1	0	0
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References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	6	2	3	1	0	0	0	0	0
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References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 3-10 mSv [ped]	2	2	5	2	3	0	2	0	0	0	0
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References	Study Quality
46 (32556485)	4
43 (32523956)	4
36 (26454062)	4
45 (29653972)	4
37 (32700112)	4
44 (27014954)	2
35 (24919173)	2

US kidneys retroperitoneal	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	2	2	4	3	2	2	1	0	0	0	0
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References	Study Quality
42 (30517147)	4

		41 (27529555)		4													
WBC scan with SPECT or SPECT/CT abdomen and pelvis	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		2	2	5	0	1	3	0	0	1	0	0		
Gallium scan whole body	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		1	1	6	1	1	2	0	0	0	0	0		

Variant 4: Adult. Known autosomal dominant polycystic kidney disease. Suspected complications. Reduced kidney function. Initial imaging.

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	Limited	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	1	0	1	4	1	3		

References	Study Quality
40 (38530430)	4
43 (32523956)	4
38 (27829402)	4
41 (27529555)	4
36 (26454062)	4
37 (32700112)	4
35 (24919173)	2
39 (32969110)	4

MRI abdomen without IV contrast	May be appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	6	6	0	0	1	0	2	3	2	0	2		
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References	Study Quality
40 (38530430)	4
43 (32523956)	4
38 (27829402)	4
41 (27529555)	4
36 (26454062)	4
37 (32700112)	4

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼ 3-10 mSv [ped]	2	2	5	2	3	0	1	0	1	0	0
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References	Study Quality
46 (32556485)	4
43 (32523956)	4
36 (26454062)	4
45 (29653972)	4
37 (32700112)	4
44 (27014954)	2
35 (24919173)	2

US kidneys retroperitoneal	Usually not appropriate	Limited	○ 0 mSv	○ 0 mSv [ped]	2	2	6	3	0	1	2	0	0	0	0
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References	Study Quality
42 (30517147)	4
41 (27529555)	4

CT abdomen without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	6	0	3	0	0	1	0	0	0
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References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2
41 (27529555)	4

CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	1	1	6	1	2	0	0	1	0	0	0
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References	Study Quality
43 (32523956)	4
42 (30517147)	4
35 (24919173)	2

		41 (27529555)		4											
Gallium scan whole body	Usually not appropriate	Expert Consensus	☼☼☼☼ 10-30 mSv		1	1	6	0	2	1	1	0	0	0	0
WBC scan with SPECT or SPECT/CT abdomen and pelvis	Usually not appropriate	Expert Consensus	☼☼☼ 1-10 mSv		1	1	6	1	2	0	0	1	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.