

**American College of Radiology
ACR Appropriateness Criteria®**

Right Upper Quadrant Pain

Variant 1: Right upper quadrant pain. Unknown etiology. Initial Imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
US abdomen	Usually appropriate	Moderate	○ 0 mSv	○ 0 mSv [ped]	9	9	1	0	0	0	0	0	1	4	10
		References		Study Quality											
		29 (15208132)		4											
		28 (11420481)		3											
		27 (28586152)		4											
		26 (31493199)		3											
		25 (22798223)		Good											
		16 (15256633)		4											
		7 (26526429)		4											
CT abdomen with IV contrast	Usually appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	8	8	0	0	1	0	0	0	7	7	1
		References		Study Quality											
		10 (25424561)		3											
		9 (29702020)		3											
		7 (26526429)		4											
CT abdomen without IV contrast	May be appropriate	Limited	⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	1	0	0	5	6	1	2	1	0
		References		Study Quality											
		10 (25424561)		3											

CT abdomen without and with IV contrast	Usually not appropriate	14 (15290472)		2		2	2	4	9	2	0	0	1	0	0	0
		Limited	⊗⊗⊗⊗ 10-30 mSv	⊗⊗⊗⊗⊗ 10-30 mSv [ped]												
		References		Study Quality												
		10 (25424561)		3												
		9 (29702020)		3												
		7 (26526429)		4												

Variant 2: Right upper quadrant pain. Suspected biliary disease. Initial imaging.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations									
							1	2	3	4	5	6	7	8	9	
US abdomen	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	9	9	0	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		40 (7255722)		3												
		16 (15256633)		4												
		43 (12467321)		3												
		17 (19098200)		4												
		41 (7730462)		3												
		15 (14661666)		4												
		42 (7979854)		4												
		22 (10749232)		2												
		7 (26526429)		4												
		30 (24224584)		4												
		44 (26070243)		4												
CT abdomen with IV contrast	May be appropriate	Strong	⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0	0
		References		Study Quality												

16 (15256633)	4
31 (11804880)	3
17 (19098200)	4
15 (14661666)	4
33 (19559349)	2
34 (20489092)	4
32 (16671375)	3
35 (19497464)	3
7 (26526429)	4
30 (24224584)	4
10 (25424561)	3

MRI abdomen without and with IV contrast with MRCP	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
36 (19711404)	4
37 (17581902)	3
38 (14628868)	2
7 (26526429)	4

MRI abdomen without IV contrast with MRCP	May be appropriate	Limited	0 0 mSv	0 0 mSv [ped]	5	5	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
36 (19711404)	4
37 (17581902)	3
38 (14628868)	2
7 (26526429)	4

Nuclear medicine scan gallbladder	May be appropriate	Limited	☢☢ 0.1-1mSv		5	5	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
40 (7255722)	3
16 (15256633)	4
17 (19098200)	4

CT abdomen without and with IV contrast	Usually not appropriate	Limited	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	3	3	0	0	0	0	0	0	0	0	0	
References			Study Quality													
7 (26526429)			4													
10 (25424561)			3													

Variant 4: Right upper quadrant pain. Fever, elevated WBC count. Suspected biliary disease. Negative or equivocal ultrasound. Next imaging study.

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 with MRCP	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	8	8	0	0	0	0	0	0	0	0	0	
References			Study Quality													
49 (26526902)			3													
36 (19711404)			4													
25 (22798223)			Good													
37 (17581902)			3													
47 (10937751)			2													
38 (14628868)			2													
48 (9676460)			2													
7 (26526429)			4													
CT abdomen with IV contrast	Usually appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼☼ 3-10 mSv [ped]	7	7	0	0	0	0	0	0	0	0	0	
References			Study Quality													
16 (15256633)			4													
31 (11804880)			3													
17 (19098200)			4													
15 (14661666)			4													
33 (19559349)			2													

34 (20489092)	4
32 (16671375)	3
35 (19497464)	3
7 (26526429)	4
30 (24224584)	4
10 (25424561)	3
46 (22332066)	2

Nuclear medicine scan gallbladder	Usually appropriate	Moderate	☼☼☼ 0.1-1mSv		7	7	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
42 (7979854)	4
25 (22798223)	Good

MRI abdomen without IV contrast with MRCP	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
36 (19711404)	4
37 (17581902)	3
47 (10937751)	2
38 (14628868)	2
48 (9676460)	2
7 (26526429)	4
49 (26526902)	3
25 (22798223)	Good

CT abdomen without IV contrast	May be appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	4	4	0	0	0	0	0	0	0	0	0	0
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References	Study Quality
46 (22332066)	2
16 (15256633)	4
31 (11804880)	3
17 (19098200)	4
15 (14661666)	4

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.