

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

Jaundice

Variant 1: Jaundice. No known predisposing conditions. 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 0 mSv	0 0 mSv [ped]	9	9	0	0	0	0	0	0	1	4	8

References	Study Quality
15 (12601199)	2
16 (8425846)	3
17 (1646222)	4
18 (25561782)	4
19 (15671013)	4
20 (8095802)	2
21 (6385676)	4
22 (11420481)	3
23 (6608232)	3
24 (3310222)	4
25 (25719223)	M
26 (18321943)	4
27 (10835126)	4
28 (1731843)	3
29 (19722262)	2
30 (12216762)	3
31 (18000708)	3
32 (27995906)	4

CT abdomen with IV contrast	Usually appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	8	8	0	0	0	0	1	0	4	7	1
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References	Study Quality
33 (16794173)	2
34 (19266258)	3
35 (11029095)	4
36 (10505997)	3
37 (20524442)	3
38 (18713297)	2
39 (27429673)	3
40 (25866583)	4
41 (9117928)	3
42 (-3144435)	4
43 (21862355)	3
44 (18544944)	3
45 (27089026)	3

MRI abdomen without and with IV contrast with MRCP	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	0	2	1	5	5	0
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References	Study Quality
26 (18321943)	4
34 (19266258)	3
36 (10505997)	3
44 (18544944)	3
47 (28448309)	3
48 (28154911)	3
49 (26607835)	3
50 (15615951)	2
51 (18050328)	2
52 (18212225)	2
53 (18956595)	1
54 (26901008)	3

55 (23925840)	4
56 (22560687)	4
57 (27101572)	4
58 (19910887)	3
59 (15837409)	2
60 (26688059)	3
61 (19029218)	4
62 (17531414)	4
63 (18463877)	2

MRI abdomen without IV contrast with MRCP	May be appropriate	Strong	0 0 mSv	0 0 mSv [ped]	6	6	0	0	0	2	0	7	2	2	0
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References	Study Quality
26 (18321943)	4
34 (19266258)	3
44 (18544944)	3
46 (15129871)	3
47 (28448309)	3
48 (28154911)	3
49 (26607835)	3
50 (15615951)	2
51 (18050328)	2
52 (18212225)	2
53 (18956595)	1
54 (26901008)	3
55 (23925840)	4
56 (22560687)	4
57 (27101572)	4
58 (19910887)	3
59 (15837409)	2
60 (26688059)	3
61 (19029218)	4

40 (25866583)	4
41 (9117928)	3
42 (-3144435)	4
43 (21862355)	3
44 (18544944)	3
45 (27089026)	3

ERCP	Usually not appropriate	Moderate	☹☹☹ 1-10 mSv		3	3	2	3	3	4	1	0	0	0	0
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References	Study Quality
26 (18321943)	4
53 (18956595)	1
65 (12447259)	4
66 (12933488)	4
67 (9240949)	3
68 (16635233)	4
69 (17509029)	Good
70 (9684657)	3
71 (11875959)	4
72 (18790436)	4
73 (17127190)	4
74 (3355239)	4
75 (8282260)	4

US abdomen endoscopic	Usually not appropriate	Moderate	○ 0 mSv	○ 0 mSv [ped]	3	3	2	3	5	3	0	0	0	0	0
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References	Study Quality
76 (19073413)	3
77 (19506529)	3
78 (19249774)	3
79 (18384788)	3
80 (27129552)	2
81 (27214660)	4

MRI abdomen without and with IV contrast with MRCP	Usually appropriate	114 (29101993)	4										
		Strong	0 0 mSv	0 0 mSv [ped]	8	8	0	0	0	0	0	2	1
		References	Study Quality										
		26 (18321943)	4										
		34 (19266258)	3										
		46 (15129871)	3										
		48 (28154911)	3										
		49 (26607835)	3										
		50 (15615951)	2										
		51 (18050328)	2										
		52 (18212225)	2										
		53 (18956595)	1										
		54 (26901008)	3										
		57 (27101572)	4										
		58 (19910887)	3										
		61 (19029218)	4										
		63 (18463877)	2										
		69 (17509029)	Good										
		70 (9684657)	3										
		91 (17955311)	3										
		93 (25132706)	3										
		94 (28298257)	3										
		95 (27986172)	4										
		96 (20829538)	M										
		97 (12024143)	2										
		98 (19025934)	3										
		99 (20195160)	2										
		100 (20382592)	4										
		101 (12949455)	3										
		102 (26409603)	4										

103 (17385107)	4
104 (26745601)	3
105 (1892027)	2
92 (22560689)	4

MRI abdomen without IV contrast with MRCP	Usually appropriate	Strong	0.0 mSv	0.0 mSv [ped]	7	7	0	0	1	0	0	4	4	3	1
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References	Study Quality
26 (18321943)	4
34 (19266258)	3
46 (15129871)	3
48 (28154911)	3
49 (26607835)	3
50 (15615951)	2
51 (18050328)	2
52 (18212225)	2
53 (18956595)	1
54 (26901008)	3
57 (27101572)	4
58 (19910887)	3
61 (19029218)	4
63 (18463877)	2
69 (17509029)	Good
70 (9684657)	3
91 (17955311)	3
92 (22560689)	4
93 (25132706)	3
94 (28298257)	3
95 (27986172)	4
96 (20829538)	M
97 (12024143)	2
98 (19025934)	3

99 (20195160)	2
100 (20382592)	4
101 (12949455)	3
102 (26409603)	4
103 (17385107)	4
104 (26745601)	3
105 (1892027)	2

US abdomen	Usually appropriate	Strong	0 0 mSv	0 0 mSv [ped]	7	7	0	0	1	1	1	0	4	2	4
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References	Study Quality
20 (8095802)	2
21 (6385676)	4
22 (11420481)	3
23 (6608232)	3
24 (3310222)	4
25 (25719223)	M
32 (27995906)	4
34 (19266258)	3
35 (11029095)	4
36 (10505997)	3
76 (19073413)	3

ERCP	May be appropriate	Strong	☹☹☹ 1-10 mSv		6	6	1	0	0	1	0	5	6	0	0
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References	Study Quality
26 (18321943)	4
34 (19266258)	3
51 (18050328)	2
52 (18212225)	2
53 (18956595)	1
58 (19910887)	3
62 (17531414)	4

63 (18463877)	2
65 (12447259)	4
66 (12933488)	4
67 (9240949)	3
68 (16635233)	4
69 (17509029)	Good
70 (9684657)	3
71 (11875959)	4
72 (18790436)	4
73 (17127190)	4
76 (19073413)	3
78 (19249774)	3
115 (14986787)	4
116 (26365063)	3
117 (19533558)	3
118 (19286177)	3
119 (15542504)	4
120 (20066744)	3

US abdomen endoscopic	May be appropriate	Moderate	0 0 mSv	0 0 mSv [ped]	5	5	1	0	0	4	7	2	1	0	0
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References	Study Quality
76 (19073413)	3
77 (19506529)	3
78 (19249774)	3
79 (18384788)	3
80 (27129552)	2
81 (27214660)	4
82 (22180307)	4
83 (14687813)	3
84 (27580856)	Good
85 (9165320)	3

CT abdomen without IV contrast	Usually not appropriate	Strong	☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	1	3	4	2	2	1	0	0	0
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References	Study Quality
33 (16794173)	2
34 (19266258)	3
35 (11029095)	4
36 (10505997)	3
37 (20524442)	3
38 (18713297)	2
39 (27429673)	3
52 (18212225)	2
54 (26901008)	3
106 (20489090)	2
107 (18520538)	2
108 (18509655)	3
109 (19478630)	2
110 (27770159)	3
111 (26261722)	4
112 (14736675)	4
113 (18941084)	4
114 (29101993)	4

CT abdomen without and with IV contrast	Usually not appropriate	Strong	☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	3	3	2	4	8	1	0	0	0	0	0
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References	Study Quality
33 (16794173)	2
34 (19266258)	3
35 (11029095)	4
36 (10505997)	3
37 (20524442)	3
38 (18713297)	2

39 (27429673)	3
52 (18212225)	2
54 (26901008)	3
106 (20489090)	2
107 (18520538)	2
108 (18509655)	3
109 (19478630)	2
110 (27770159)	3
111 (26261722)	4
112 (14736675)	4
113 (18941084)	4
114 (29101993)	4

Variant 3: Jaundice. Suspected medical, metabolic, or functional etiologies based on initial imaging, clinical condition, or laboratory values. No suspected mechanical obstruction.

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	Moderate	0 0 mSv	0 0 mSv [ped]	8	8	0	0	0	0	1	2	3	6	1
References			Study Quality												
12 ()			4												
32 (27995906)			4												
44 (18544944)			3												
105 (1892027)			2												
121 (12809842)			3												
122 (8537493)			4												
123 (17955076)			4												
124 (26455963)			3												
125 (16778613)			4												
126 (20656832)			Good												

127 (28668418)	4
128 (18666139)	4
129 (17663420)	3

CT abdomen with IV contrast	Usually appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	7	7	0	0	1	0	3	1	4	3	1
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References	Study Quality
12 ()	4
32 (27995906)	4
124 (26455963)	3

US abdomen	Usually appropriate	Strong	○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	0	0	2	9	1	3
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References	Study Quality
15 (12601199)	2
16 (8425846)	3
17 (1646222)	4
18 (25561782)	4
19 (15671013)	4
20 (8095802)	2
21 (6385676)	4
22 (11420481)	3
23 (6608232)	3
24 (3310222)	4
25 (25719223)	M
32 (27995906)	4

MRI abdomen without IV contrast with MRCP	May be appropriate (Disagreement)	Expert Opinion	○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	2	1	7	3	1	0	1
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References	Study Quality
12 ()	4
32 (27995906)	4
44 (18544944)	3

105 (1892027)	2
121 (12809842)	3
122 (8537493)	4
123 (17955076)	4
124 (26455963)	3
125 (16778613)	4
126 (20656832)	Good
127 (28668418)	4
128 (18666139)	4
129 (17663420)	3

CT abdomen without IV contrast	Usually not appropriate	Limited	☹☹☹ 1-10 mSv	☹☹☹☹ 3-10 mSv [ped]	3	3	2	3	3	1	4	0	0	0	0
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References	Study Quality
12 ()	4
32 (27995906)	4
124 (26455963)	3

CT abdomen without and with IV contrast	Usually not appropriate	Limited	☹☹☹☹ 10-30 mSv	☹☹☹☹☹ 10-30 mSv [ped]	3	3	3	3	6	3	0	0	0	0	0
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References	Study Quality
12 ()	4
32 (27995906)	4
124 (26455963)	3

ERCP	Usually not appropriate	Expert Consensus	☹☹☹ 1-10 mSv		2	2	4	4	3	1	1	0	0	0	0
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US abdomen endoscopic	Usually not appropriate	Expert Consensus	○ 0 mSv	○ 0 mSv [ped]	2	2	4	3	4	1	1	0	0	0	0
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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.