American College of Radiology
ACR Appropriateness Criteria®

Liver Lesion-Initial Characterization

Variant 1: Indeterminate, greater than 1 cm liver lesion on initial imaging with US. Normal liver. No suspicion or evidence of extrahepatic malignancy or underlying liver disease.

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	0	0	0	0	0	3	7	7

References	Study Quality
11 (24270109)	4
12 (18580333)	1
15 (21597893)	2
16 (22194486)	3
19 (20578020)	2
14 (19673015)	3
18 (25971695)	4
10 (23776623)	4

CT abdomen with IV contrast multiphase	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		8	8	0	0	0	0	0	0	8	8	1

References	Study Quality
11 (24270109)	4
9 (19542399)	2
13 (19688670)	3
12 (18580333)	1
10 (23776623)	4

US abdomen with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	3	4	6	2	1

References	Study Quality
9 (19542399)	2
35 (20652854)	3
13 (19688670)	3
34 (21655534)	4
31 (21390342)	3
32 (21188330)	4
29 (19666405)	3
37 (17206071)	2
14 (19673015)	3
36 (26649337)	4
18 (25971695)	4
33 (25666723)	4
30 (24689098)	4

MRI abdomen without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	1	2	2	4	7	1	0	0

References	Study Quality
11 (24270109)	4
12 (18580333)	1
15 (21597893)	2
16 (22194486)	3
14 (19673015)	3
18 (25971695)	4
10 (23776623)	4

CT abdomen without IV contrast	Usually not appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	2	3	9	2	0	1	0	0	0

References	Study Quality
11 (24270109)	4
9 (19542399)	2

13 (19688670)	3
12 (18580333)	1
10 (23776623)	4

CT abdomen without and with IV contrast	Usually not appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	3	1	7	6	2	2	0	0	0	0

References	Study Quality
11 (24270109)	4
9 (19542399)	2
13 (19688670)	3
12 (18580333)	1
10 (23776623)	4

Image-guided biopsy liver	Usually not appropriate	Limited	Varies	Varies	2	2	3	7	8	0	0	0	0	0	0

References	Study Quality
21 (27623001)	4
20 (28119260)	4
28 (27080009)	4
23 (27017289)	3
22 (26649339)	3
26 (24531352)	3
25 (23980215)	3
4 (28927870)	4
24 (29299367)	3
27 (26847020)	4

Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		2	2	8	5	3	0	1	0	0	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	2	2	8	4	3	1	1	0	0	0	0

Octreotide scan with SPECT or SPECT/CT chest and abdomen	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	12	2	2	0	1	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	4	3	1	0	0	0	0	0
DOTATATE PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	4	2	0	1	0	0	0	0

Variant 2: Indeterminate, greater than 1 cm liver lesion on initial imaging with CT (noncontrast or single-phase) or noncontrast MRI. Normal liver. No suspicion or evidence of extrahepatic malignancy or underlying liver disease.

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	0	1	0	0	0	2	7	7

References	Study Quality
38 (19459531)	2
12 (18580333)	1
15 (21597893)	2
19 (20578020)	2
10 (23776623)	4

CT abdomen with IV contrast multiphase	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		8	8	0	0	0	0	1	0	6	9	1

References	Study Quality
9 (19542399)	2
12 (18580333)	1
10 (23776623)	4

US abdomen with IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	3	5	6	1	1

References	Study Quality
9 (19542399)	2

		37 (17206071)		2												
		39 (24387826)		3												
US abdomen	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	0	3	6	6	1	1	0	1
		References		Study Quality												
		9 (19542399)		2												
		29 (19666405)		3												
CT abdomen without and with IV contrast	Usually not appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	3	0	8	8	2	0	0	0	0	0
		References		Study Quality												
		9 (19542399)		2												
		12 (18580333)		1												
		10 (23776623)		4												
Image-guided biopsy liver	Usually not appropriate	Limited	Varies	Varies	3	3	4	4	5	3	2	0	0	0	0
		References		Study Quality												
		21 (27623001)		4												
		20 (28119260)		4												
		28 (27080009)		4												
		23 (27017289)		3												
		22 (26649339)		3												
		26 (24531352)		3												
		25 (23980215)		3												
		24 (29299367)		3												
		27 (26847020)		4												
Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	2	2	1	1	0	1	0	0
Octreotide scan with SPECT or SPECT/CT chest and abdomen	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	11	3	2	0	0	1	0	0	0

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	4	2	0	1	0	0	0	0
DOTATATE PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	4	2	0	0	1	0	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	2	2	1	1	0	1	0	0

Variant 3: Indeterminate, greater than 1 cm liver lesion on initial imaging with US. Known history of an extrahepatic malignancy.

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	O 0 mSv	O 0 mSv [ped]	9	9	0	0	1	0	0	0	3	3	10

References	Study Quality
49 (21702068)	2
41 (21293130)	3
48 (28449169)	3
50 (25025151)	4
47 (24289722)	4

CT abdomen with IV contrast multiphase	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv		8	8	0	0	0	0	1	0	7	7	2

References	Study Quality
45 (19077417)	4
42 (19057427)	2
41 (21293130)	3
43 (27397022)	4
44 (24331274)	4
40 (24089057)	4

Image-guided biopsy liver	May be appropriate	Limited	Varies	Varies	6	6	0	0	1	1	6	4	3	2	0

References	Study Quality
21 (27623001)	4
20 (28119260)	4
28 (27080009)	4
23 (27017289)	3
22 (26649339)	3
26 (24531352)	3
25 (23980215)	3
24 (29299367)	3
27 (26847020)	4

FDG-PET/CT skull base to mid-thigh	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	0	0	5	4	5	2	1

References	Study Quality
42 (19057427)	2
40 (24089057)	4

CT abdomen without and with IV contrast	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	5	0	2	2	1	11	2	0	0	0

References	Study Quality
45 (19077417)	4
42 (19057427)	2
41 (21293130)	3
43 (27397022)	4
44 (24331274)	4
40 (24089057)	4

MRI abdomen without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	1	0	1	3	7	5	0	0	0

References	Study Quality

References	Study Quality
49 (21702068)	2
41 (21293130)	3
48 (28449169)	3
50 (25025151)	4
47 (24289722)	4

US abdomen with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	0	10	6	1	0	1

References	Study Quality
35 (20652854)	3
37 (17206071)	2
48 (28449169)	3

DOTATATE PET/CT skull base to mid-thigh	May be appropriate	Limited	☢☢☢ 1-10 mSv		5	5	0	1	0	5	7	2	2	0	0

References	Study Quality
8 (25143861)	4

Octreotide scan with SPECT or SPECT/CT chest and abdomen	May be appropriate	Limited	☢☢☢☢ 10-30 mSv		4	4	2	1	1	6	5	1	1	0	0

References	Study Quality
46 (19713709)	4

CT abdomen without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	2	3	6	5	0	0	1	0	0

References	Study Quality
45 (19077417)	4
42 (19057427)	2
41 (21293130)	3
43 (27397022)	4
44 (24331274)	4
40 (24089057)	4

Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	3	2	2	0	0	1	0	0

RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	3	2	2	0	0	0	0	0

Variant 4: Indeterminate, greater than 1 cm liver lesion on initial imaging with CT (noncontrast or single-phase) or noncontrast MRI. Known history of an extrahepatic malignancy.

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	O 0 mSv	O 0 mSv [ped]	8	8	0	1	0	0	0	0	2	7	7

References	Study Quality
49 (21702068)	2
41 (21293130)	3
48 (28449169)	3
50 (25025151)	4
47 (24289722)	4

FDG-PET/CT skull base to mid-thigh	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	7	7	0	0	0	0	1	6	6	3	1

References	Study Quality
42 (19057427)	2
40 (24089057)	4

CT abdomen with IV contrast multiphase	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv		7	7	0	0	0	0	1	0	8	7	1

References	Study Quality
45 (19077417)	4
41 (21293130)	3
43 (27397022)	4
44 (24331274)	4
40 (24089057)	4

US abdomen with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	5	10	1	1	0

References	Study Quality
35 (20652854)	3
37 (17206071)	2
2 (26427339)	4

CT abdomen without and with IV contrast	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	5	0	1	0	6	10	0	1	0	0

References	Study Quality
45 (19077417)	4
41 (21293130)	3
43 (27397022)	4
44 (24331274)	4
40 (24089057)	4

Image-guided biopsy liver	May be appropriate	Strong	Varies	Varies	5	5	0	0	0	1	9	7	0	1	0

References	Study Quality
21 (27623001)	4
20 (28119260)	4
28 (27080009)	4
23 (27017289)	3
22 (26649339)	3
54 (25170868)	4
26 (24531352)	3
25 (23980215)	3
53 (21757981)	2
51 (21387263)	3
24 (29299367)	3
27 (26847020)	4
52 (29404497)	3

Octreotide scan with SPECT or SPECT/CT chest and abdomen	May be appropriate	Limited	☢☢☢☢ 10-30 mSv		5	5	1	1	2	3	9	0	1	0	0
	References		Study Quality												
	46 (19713709)		4												
DOTATATE PET/CT skull base to mid-thigh	May be appropriate	Limited	☢☢☢ 1-10 mSv		5	5	0	0	0	2	13	1	2	0	0
	References		Study Quality												
	8 (25143861)		4												
US abdomen	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	4	4	2	5	0	3	5	0	1	1	0
	References		Study Quality												
	9 (19542399)		2												
Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		2	2	8	4	1	2	0	2	0	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	9	3	1	3	0	1	0	0	0

Variant 5: Incidental liver lesion, greater than 1 cm on US, noncontrast or single-phase CT, or noncontrast MRI. Known chronic liver disease.

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]	9	9	0	0	0	0	0	1	2	4	10
References		Study Quality													
35 (20652854)		3													
65 (20882620)		2													
64 (21563246)		2													
73 (20657216)		3													
61 (21969663)		3													
57 (20098330)		2													

71 (28723741)	4
70 (28078512)	3
62 (27835984)	2
63 (25192607)	3
72 (23116806)	4
67 (23011874)	4
56 (20806437)	3

CT abdomen with IV contrast multiphase	Usually appropriate	Moderate	☢☢☢☢ 10-30 mSv		8	8	0	0	0	0	0	1	5	10	1

References	Study Quality
57 (20098330)	2
59 (23883211)	3
56 (20806437)	3

US abdomen with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	1	0	0	1	4	2	7	1	1

References	Study Quality
35 (20652854)	3
31 (21390342)	3
32 (21188330)	4
77 (18834687)	3
78 (25812115)	4
79 (25202903)	4
72 (23116806)	4
56 (20806437)	3
76 (25717230)	4

Image-guided biopsy liver	May be appropriate	Limited	Varies	Varies	4	4	1	2	5	2	5	1	0	0	1

References	Study Quality
54 (25170868)	4
6 (-3148733)	4
27 (26847020)	4

	74 (29038857)	4														
	75 (18669577)	4														
	52 (29404497)	3														
CT abdomen without and with IV contrast	Usually not appropriate	Moderate	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	3	0	3	7	0	5	1	1	0	0	
	References	Study Quality														
	57 (20098330)	2														
	59 (23883211)	3														
	56 (20806437)	3														
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	1	9	3	2	1	0	1	0	0	
	References	Study Quality														
	6 (-3148733)	4														
	60 (19191771)	4														
Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	4	2	0	2	0	0	0	0	
Octreotide scan with SPECT or SPECT/CT chest and abdomen	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	11	4	1	0	1	0	0	0	0	
DOTATATE PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	5	2	0	0	0	1	0	0	
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	9	4	3	1	0	0	0	0	0	

Variant 6: Indeterminate, less than 1 cm liver lesion on initial imaging with US. Known history of an extrahepatic malignancy.

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	0	1	0	1	0	4	7	4

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
	References		Study Quality												
	84 (19501995)		2												
	15 (21597893)		2												
CT abdomen with IV contrast multiphase	May be appropriate	Limited	☢☢☢☢ 10-30 mSv		6	6	0	0	0	1	7	5	4	1	0
	References		Study Quality												
	82 (9885589)		4												
	83 (24674191)		4												
	81 (12439304)		4												
	80 (19842564)		4												
US abdomen with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	8	8	1	1	0
	References		Study Quality												
	9 (19542399)		2												
	30 (24689098)		4												
MRI abdomen without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	8	8	1	1	0	0
	References		Study Quality												
	84 (19501995)		2												
	15 (21597893)		2												
Image-guided biopsy liver	Usually not appropriate	Expert Consensus	Varies	Varies	3	3	4	2	3	5	3	0	0	0	0
DOTATATE PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		3	3	3	4	4	1	4	1	0	0	0
CT abdomen without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	5	6	4	1	1	0	0	0	0

References	Study Quality
82 (9885589)	4
83 (24674191)	4
81 (12439304)	4
80 (19842564)	4

CT abdomen without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	2	2	2	8	8	0	0	0	0	0	0

References	Study Quality
82 (9885589)	4
83 (24674191)	4
81 (12439304)	4
80 (19842564)	4

Octreotide scan with SPECT or SPECT/CT chest and abdomen	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		2	2	5	4	3	2	2	1	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	4	6	6	1	1	0	0	0	0
Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	4	2	0	0	0	1	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	4	2	1	0	0	0	0	0

Variant 7: Indeterminate, less than 1 cm liver lesion on initial imaging with CT (noncontrast or single-phase) or noncontrast MRI. Known history of an extrahepatic malignancy.

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	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	1	3	4	6	3

References	Study Quality

		86 (16845289)		3												
		87 (20829538)		M												
CT abdomen with IV contrast multiphase	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv		7	7	0	0	1	0	5	2	9	1	0
		References		Study Quality												
		82 (9885589)		4												
		85 (15833992)		4												
US abdomen with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	1	2	4	4	5	1	0
		References		Study Quality												
		88 (20517816)		4												
		9 (19542399)		2												
Image-guided biopsy liver	May be appropriate	Expert Consensus	Varies	Varies	4	4	3	0	4	6	3	1	0	0	0
US abdomen	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	3	3	3	4	1	0	0	0
		References		Study Quality												
		88 (20517816)		4												
CT abdomen without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	2	2	2	8	8	0	0	0	0	0	0
		References		Study Quality												
		82 (9885589)		4												
		85 (15833992)		4												
Octreotide scan with SPECT or SPECT/CT chest and abdomen	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		2	2	6	4	2	3	1	0	1	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	5	6	6	1	0	0	0	0	0
DOTATATE PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		2	2	5	4	2	2	2	1	1	0	0

Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	4	2	0	0	0	1	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	4	2	0	0	1	0	0	0

Variant 8: Incidental liver lesion, less than 1 cm on US, noncontrast or single-phase CT, or noncontrast MRI. Known chronic liver disease.

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	0	1	1	1	1	3	7	3

References	Study Quality
57 (20098330)	2
92 (18069697)	2
67 (23011874)	4
91 (23932636)	2

CT abdomen with IV contrast multiphase	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		7	7	0	0	0	1	3	0	13	1	0

References	Study Quality
57 (20098330)	2
91 (23932636)	2

US abdomen with IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	1	0	1	6	1	7	1	0

References	Study Quality
30 (24689098)	4
95 (-3128692)	4

Image-guided biopsy liver	Usually not appropriate	Limited	Varies	Varies	3	3	3	5	4	2	3	0	0	0	0

References	Study Quality
94 (23271200)	4

		54 (25170868)	4												
		93 (20616581)	4												
		27 (26847020)	4												
		75 (18669577)	4												
		52 (29404497)	3												
CT abdomen without and with IV contrast	Usually not appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	2	2	2	8	8	0	0	0	0	0	0
		References	Study Quality												
		57 (20098330)	2												
		91 (23932636)	2												
Liver spleen scan	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	4	2	0	0	1	0	0	0
Octreotide scan with SPECT or SPECT/CT chest and abdomen	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	11	4	2	0	0	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	6	2	0	0	0	0	0	0
DOTATATE PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	5	2	0	0	0	0	0	0
RBC scan abdomen and pelvis	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	1	1	10	4	3	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.**