American College of Radiology
ACR Appropriateness Criteria®

Pretreatment Detection, Surveillance, and Staging of Prostate Cancer

Variant 1: Clinically suspected prostate cancer. No prior biopsy (biopsy naïve). Initial diagnosis. Initial imaging.

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

References	Study Quality
49 (26215604)	M
45 (27488931)	3
48 (30667329)	3
39 (28196723)	Good
41 (28570099)	2
46 (26395278)	2
40 (27101772)	3
47 (27439401)	3
44 (28336078)	Good
42 (29341356)	2
43 (30268722)	2

TRUS-guided biopsy prostate	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	3	0	3	3	5

References	Study Quality
18 (26481576)	4
69 (22110983)	4
71 (21632511)	3

		70 (19154461)	3												
		68 (2659827)	4												
		72 (27864107)	2												
MRI-targeted biopsy prostate	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	1	0	1	7	5
		References	Study Quality												
		56 (24262102)	2												
		55 (25869459)	4												
		23 (29552975)	2												
		61 (27574821)	1												
		62 (27500389)	3												
		57 (30522912)	3												
		24 (30477981)	1												
		26 (32130814)	3												
		63 (28165653)	3												
		60 (25862143)	2												
		64 (27305918)	3												
		25 (30470502)	1												
		58 (30527787)	2												
		28 (31022301)	Good												
		30 (31204311)	Good												
		59 (32925739)	2												
MRI pelvis without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	1	0	0	2	4	1	6	0
		References	Study Quality												
		50 (22623539)	4												
		51 (26427566)	4												
		52 (27133703)	2												
		53 (26900904)	3												
		54 (30240296)	Good												

TRUS prostate	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	2	2	6	4	3	0	0	0	0	0	0

References	Study Quality
67 (15247717)	3
65 (22595778)	4
66 (30534650)	3

CT abdomen and pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	8	4	1	0	0	0	1	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	1	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	9	4	0	0	0	0	1	0	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	0	0	0	1	0
CT chest abdomen pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	1	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	10	3	0	0	0	0	1	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	2	0	0	1	0	0	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	1	0	1	0	0	1	0
MRI whole body without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	3	1	0	1	0	0	0	0
MRI whole body without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	3	0	1	1	0	0	0	0

Bone scan whole body	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	4	0	0	0	0	0	0	1
FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	2	0	0	0	1	0	0	0
Choline PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	2	0	0	0	0	1	0	0
Fluciclovine PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	9	3	0	1	0	0	1	0	0
FDG-PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	3	0	0	1	0	0	0	0
Fluoride PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	2	0	0	0	0	1	0	0
Choline PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	2	0	0	0	0	1	0	0
Fluciclovine PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	2	1	1	0	0	1	0	0
PSMA PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	8	2	2	1	0	0	0	0	1

Variant 2: Clinically suspected prostate cancer. Negative TRUS-guided biopsy. Initial diagnosis. 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 pelvis without and with IV contrast	Usually appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	9	9	0	1	0	0	0	0	0	4	9

References	Study Quality
29 (22743165)	4
49 (26215604)	M

		45 (27488931)	3												
		40 (27101772)	3												
		44 (28336078)	Good												
MRI-targeted biopsy prostate	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	9	9	0	0	0	0	0	0	2	5	7
		References	Study Quality												
		56 (24262102)	2												
		55 (25869459)	4												
		23 (29552975)	2												
		61 (27574821)	1												
		57 (30522912)	3												
		24 (30477981)	1												
		26 (32130814)	3												
		60 (25862143)	2												
		25 (30470502)	1												
		58 (30527787)	2												
		28 (31022301)	Good												
		30 (31204311)	Good												
		59 (32925739)	2												
TRUS-guided biopsy prostate	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	1	0	7	4	1
		References	Study Quality												
		74 (23452046)	3												
		77 (22416859)	3												
		76 (24094934)	4												
		75 (11992052)	4												
		73 (7514690)	3												
MRI pelvis without IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	1	0	0	0	6	2	5	0
		References	Study Quality												
		50 (22623539)	4												

51 (26427566)	4
52 (27133703)	2
29 (22743165)	4
49 (26215604)	M
45 (27488931)	3
40 (27101772)	3
44 (28336078)	Good
53 (26900904)	3
54 (30240296)	Good

CT abdomen and pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	5	1	0	0	0	1	0	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	4	2	0	0	0	0	1	0
CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	1	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	9	4	0	0	0	0	1	0	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	0	0	0	1	0
CT chest abdomen pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	2	0	0	0	1	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	10	3	0	0	0	0	1	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	2	0	0	1	0	0	0
MRI whole body without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	3	1	0	1	0	0	0	0

MRI whole body without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	9	3	1	0	1	0	0	0	0
Bone scan whole body	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	3	0	0	1	0	0	0	1
FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	2	0	0	0	1	0	0	0
TRUS prostate	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	9	2	1	0	1	0	0	1	0

References	Study Quality
65 (22595778)	4
66 (30534650)	3

Choline PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	2	0	0	0	0	1	0	0
Fluciclovine PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	9	3	0	1	0	0	1	0	0
FDG-PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	10	3	0	0	1	0	0	0	0
Fluoride PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	2	0	1	0	0	1	0	0
Choline PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	2	0	0	0	0	1	0	0
Fluciclovine PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	2	1	1	0	0	1	0	0
PSMA PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	8	2	1	1	0	1	0	0	1

Variant 3: Clinically established low-risk prostate cancer. Active surveillance.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
MRI pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	1	0	0	0	0	0	11	2

References	Study Quality
84 (30179620)	3
82 (31825297)	3
83 (26482887)	2
81 (30487646)	Inadequate

MRI-targeted biopsy prostate	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	0	1	9	2

References	Study Quality
56 (24262102)	2
55 (25869459)	4
90 (27236496)	3
88 (29339663)	3
57 (30522912)	3
84 (30179620)	3
89 (30017404)	3
82 (31825297)	3
91 (26699628)	1
83 (26482887)	2
92 (26920465)	3
85 (29645347)	3
81 (30487646)	Inadequate
58 (30527787)	2
87 (31479660)	3
86 (30577395)	3
59 (32925739)	2

TRUS-guided biopsy prostate	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	2	2	2	2	3	3

		References		Study Quality												
		82 (31825297)		3												
		91 (26699628)		1												
		92 (26920465)		3												
MRI pelvis without IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	1	0	0	1	2	5	4	1
		References		Study Quality												
		84 (30179620)		3												
		82 (31825297)		3												
		83 (26482887)		2												
		81 (30487646)		Inadequate												
CT abdomen and pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	5	1	0	0	0	1	0	0
MRI whole body without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	5	1	0	1	0	0	0	0
MRI whole body without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	4	2	0	1	0	0	0	0
Bone scan whole body	Usually not appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	3	3	0	0	0	0	0	1
		References		Study Quality												
		78 (28317247)		3												
		79 (29043431)		2												
		80 (28958581)		Good												
CT abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	4	0	0	1	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	10	3	0	0	0	0	1	0	0

CT chest abdomen pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	0	0	0	1	0
CT chest abdomen pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	3	0	0	1	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	10	3	0	0	0	0	1	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	2	0	0	0	0	1	0
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	2	0	0	1	0	0	0
FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	11	2	0	0	0	1	0	0	0
TRUS prostate	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	1	1	8	2	1	1	1	0	0	1	0

References	Study Quality
93 (22920360)	2
67 (15247717)	3
65 (22595778)	4
94 (27117443)	4

Choline PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	3	0	0	0	1	1	0	0
Fluciclovine PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	9	2	1	0	0	1	1	0	0
FDG-PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	11	2	0	0	1	0	0	0	0
Fluoride PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	3	1	0	0	0	0	1	0

Choline PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	3	0	0	0	1	1	0	0
Fluciclovine PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		1	1	9	2	1	0	0	1	1	0	0
PSMA PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	7	4	0	1	1	0	0	0	0

Variant 4: Clinically established intermediate-risk prostate cancer. Staging or surveillance.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
CT chest abdomen pelvis with IV contrast	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	0	0	0	0	1	1	3	8	0

References	Study Quality
20 (23271765)	4

MRI pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	1	2	1	7	3

References	Study Quality
115 (22109291)	3
110 (26181182)	3
114 (15197809)	3
49 (26215604)	M
109 (21115873)	4
111 (31909690)	4
112 (30759371)	3

CT abdomen and pelvis with IV contrast	Usually appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	7	7	0	0	1	0	1	5	2	5	0

References	Study Quality
20 (23271765)	4

MRI abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	0	3	6	3	0

References	Study Quality
20 (23271765)	4
110 (26181182)	3
109 (21115873)	4
113 (27043655)	3
111 (31909690)	4
112 (30759371)	3

MRI-targeted biopsy prostate	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	1	8	4	0

References	Study Quality
110 (26181182)	3
109 (21115873)	4
111 (31909690)	4
112 (30759371)	3

Fluciclovine PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		7	7	0	0	0	1	4	1	7	0	0

References	Study Quality
105 (29294158)	2
102 (29147764)	2
103 (28986510)	3
104 (27817158)	2
98 (31358294)	Good
106 (32347780)	2

PSMA PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		7	7	0	0	0	0	0	2	9	1	1

References	Study Quality
117 (28957842)	2
19 (30226456)	2
120 (30120038)	2

		122 (29794224)		3											
		121 (26682756)		2											
		118 (29678358)		Good											
		123 (31562225)		3											
		119 (32209449)		2											
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	1	1	0	5	6	1	0	0
		References		Study Quality											
		20 (23271765)		4											
CT chest abdomen pelvis without IV contrast	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	0	1	5	6	1	0	0
		References		Study Quality											
		20 (23271765)		4											
MRI abdomen and pelvis without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	6	6	1	0	0
		References		Study Quality											
		110 (26181182)		3											
		109 (21115873)		4											
		113 (27043655)		3											
		111 (31909690)		4											
		112 (30759371)		3											
MRI pelvis without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	2	2	4	2	1	3
		References		Study Quality											
		115 (22109291)		3											
		110 (26181182)		3											
		114 (15197809)		3											
		49 (26215604)		M											
		109 (21115873)		4											
		111 (31909690)		4											

		112 (30759371)		3											
Bone scan whole body	May be appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	1	0	3	4	2	2	2
		References		Study Quality											
		20 (23271765)		4											
		78 (28317247)		3											
		79 (29043431)		2											
		80 (28958581)		Good											
		95 (31127357)		Good											
		97 (30972933)		4											
		96 (30519933)		2											
Choline PET/CT skull base to mid-thigh	May be appropriate	Strong	☢☢☢ 1-10 mSv		6	6	0	0	0	1	4	7	1	0	0
		References		Study Quality											
		99 (25649494)		3											
		100 (30448957)		3											
		96 (30519933)		2											
		98 (31358294)		Good											
Fluoride PET/CT whole body	May be appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	2	0	0	4	6	1	0	0
		References		Study Quality											
		20 (23271765)		4											
		79 (29043431)		2											
		107 (30877561)		Good											
		108 (30382380)		3											
Fluciclovine PET/MRI skull base to mid-thigh	May be appropriate	Strong	☢☢☢ 1-10 mSv		6	6	0	0	0	2	3	4	4	0	0
		References		Study Quality											
		105 (29294158)		2											
		102 (29147764)		2											

		103 (28986510)	3												
		98 (31358294)	Good												
		106 (32347780)	2												
CT abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	5	9	1	0	0	1	0	2	0	0
TRUS-guided biopsy prostate	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	1	0	1	7	1	2	1	1
		References	Study Quality												
		110 (26181182)	3												
		109 (21115873)	4												
		111 (31909690)	4												
MRI whole body without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	0	9	0	2	0	0
		References	Study Quality												
		115 (22109291)	3												
		110 (26181182)	3												
		114 (15197809)	3												
		49 (26215604)	M												
		109 (21115873)	4												
		117 (28957842)	2												
		116 (28216327)	3												
		96 (30519933)	2												
		111 (31909690)	4												
		112 (30759371)	3												
		108 (30382380)	3												
MRI whole body without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	0	3	5	2	1	0
		References	Study Quality												
		115 (22109291)	3												

Choline PET/MRI skull base to mid-thigh	May be appropriate	Strong	☢☢☢ 1-10 mSv		5	5	0	0	0	1	6	4	2	0	0
FDG-PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		2	2	7	3	2	1	0	1	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	11	0	0	0	1	0	1	0	0
FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	8	2	2	1	0	1	0	0	0
TRUS prostate	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	2	1	0	2	0	0	1	0

References	Study Quality
110 (26181182)	3
114 (15197809)	3
49 (26215604)	M
109 (21115873)	4
117 (28957842)	2
116 (28216327)	3
96 (30519933)	2
111 (31909690)	4
112 (30759371)	3
108 (30382380)	3

References	Study Quality
99 (25649494)	3
101 (29323548)	2
100 (30448957)	3
96 (30519933)	2
98 (31358294)	Good

Variant 5: Clinically established high-risk prostate cancer. Staging.

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]	8	8	0	0	0	0	0	1	3	6	4
	References		Study Quality												
	20 (23271765)		4												
CT chest abdomen pelvis with IV contrast	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	0	0	1	0	1	1	2	7	2
	References		Study Quality												
	20 (23271765)		4												
MRI pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	2	1	3	5	3
	References		Study Quality												
	115 (22109291)		3												
	114 (15197809)		3												
	49 (26215604)		M												
Bone scan whole body	Usually appropriate	Strong	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	0	0	0	0	0	0	2	6	6
	References		Study Quality												
	20 (23271765)		4												
	78 (28317247)		3												
	79 (29043431)		2												
	80 (28958581)		Good												
	95 (31127357)		Good												
	97 (30972933)		4												
	96 (30519933)		2												
PSMA PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		8	8	0	0	0	0	0	1	3	4	6
	References		Study Quality												
	117 (28957842)		2												

		120 (30120038)	2												
		121 (26682756)	2												
		119 (32209449)	2												
MRI abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	2	2	6	3	1
		References	Study Quality												
		20 (23271765)	4												
		110 (26181182)	3												
		109 (21115873)	4												
		113 (27043655)	3												
		111 (31909690)	4												
		112 (30759371)	3												
Choline PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢ 1-10 mSv		7	7	0	0	0	0	1	0	7	4	2
		References	Study Quality												
		99 (25649494)	3												
		100 (30448957)	3												
		96 (30519933)	2												
		98 (31358294)	Good												
Fluciclovine PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv		7	7	0	0	0	0	2	1	5	5	1
		References	Study Quality												
		102 (29147764)	2												
		98 (31358294)	Good												
		106 (32347780)	2												
Fluoride PET/CT whole body	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	7	7	0	1	0	0	1	0	6	5	1
		References	Study Quality												
		79 (29043431)	2												
		107 (30877561)	Good												

		108 (30382380)		3											
Choline PET/MRI skull base to mid-thigh	Usually appropriate	Strong	☢☢☢ 1-10 mSv		7	7	0	0	0	0	1	1	6	4	2
		References		Study Quality											
		99 (25649494)		3											
		101 (29323548)		2											
		100 (30448957)		3											
		96 (30519933)		2											
		98 (31358294)		Good											
Fluciclovine PET/MRI skull base to mid-thigh	Usually appropriate	Strong	☢☢☢ 1-10 mSv		7	7	0	0	0	0	1	3	5	4	1
		References		Study Quality											
		105 (29294158)		2											
		102 (29147764)		2											
		98 (31358294)		Good											
		106 (32347780)		2											
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	1	0	4	4	3	2	0
		References		Study Quality											
		20 (23271765)		4											
CT chest abdomen pelvis without IV contrast	May be appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	1	0	0	5	3	3	2	0
		References		Study Quality											
		20 (23271765)		4											
MRI abdomen and pelvis without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	0	3	7	2	1	0
		References		Study Quality											
		20 (23271765)		4											
		110 (26181182)		3											
		109 (21115873)		4											

		113 (27043655)	3												
		111 (31909690)	4												
		112 (30759371)	3												
MRI pelvis without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	1	1	3	4	2	1	2
		References	Study Quality												
		115 (22109291)	3												
		114 (15197809)	3												
		49 (26215604)	M												
MRI whole body without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	1	0	1	6	2	2	1
		References	Study Quality												
		115 (22109291)	3												
		114 (15197809)	3												
		49 (26215604)	M												
		117 (28957842)	2												
		96 (30519933)	2												
		108 (30382380)	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	10	1	0	0	0	0	1	1	0
MRI whole body without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	5	5	0	0	1	0	6	1	3	2	0
		References	Study Quality												
		115 (22109291)	3												
		114 (15197809)	3												
		49 (26215604)	M												
		117 (28957842)	2												
		96 (30519933)	2												
		108 (30382380)	3												

FDG-PET/CT whole body	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	4	1	6	0	0	1	1	0	0
FDG-PET/MRI skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv		3	3	4	1	6	0	1	0	1	0	0
TRUS-guided biopsy prostate	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	6	7	0	0	0	0	0	0	0
MRI-targeted biopsy prostate	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	4	6	1	0	1	1	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	10	1	0	0	1	0	0	1	0
TRUS prostate	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	3	1	0	1	0	1	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.**