American College of Radiology ACR Appropriateness Criteria[®]

Post-Treatment Follow-up of Prostate Cancer

Variant 1: Prostate cancer follow-up. Status post radical prostatectomy. Clinical concern for residual or recurrent disease.

	Appropri	ateness	<i></i>			-				ŀ	Final	Tabu	atio	ns		
Procedure	Categ	ory	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
MRI pelvis without and with IV contrast	Usua approp	lly riate	Strong	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	1	0	2	3	5	5
			References		Study	v Quality										
			40 (28216327)			3										
			39 (23313568)			М										
			38 (23521479)			2										
			37 (8501793)			3										
			36 (20205350)			2										
			35 (20106624)			3										
			34 (11418435)			2										
			33 (23377546)			2										
			32 (15064390)			3										
			31 (18226441)			1										
			30 (18430830)			2										
			29 (19921202)			4										
			28 (19948393)			4										
			10 (24978358)			3										
			8 (24434294)			3										
			6 (18825386)			3										

Choline PET/CT skull base to mid-thigh	Usually appropriate	Limited	ତତତ 1-10 mSv		7	7	0	1	0	1	2	0	5	7	0
		References		Stud	y Quality										
		47 (30205893)			3]								
		56 (29425221)			3										
		55 (30521498)			3										
		57 (25319322)			3										
		54 (22549847)			3										
		53 (17891394)			3										
		52 (20306038)			3										
		51 (19756592)			3										
		50 (19690023)			3										
		49 (23069923)			3										
		48 (22621862)			4										
		46 (23123372)			3										
		45 (23628493)			М		-								
		44 (23486334)			М		-								
		8 (24434294)			3	1		1		-					
Fluciclovine PET/CT skull base to mid-thigh	Usually appropriate	Strong	ତତତତ 10-30 mSv		7	7	0	0	0	0	3	2	6	3	2
		References		Stud	y Quality										
		66 (31216198)			3										
		67 (30179618)			3										
		65 (30589673)			3										
		69 (33427655)			1										
		68 (33517323)			1										
		64 (27746282)			3										
		63 (25907118)			М		1								
		62 (26960562)			3		1								
		61 (26053708)			2		-								
		60 (23591953)			3										

		59 (27091135)		2]		-	-			-		
Fluciclovine PET/MRI skull base to mid-thigh	Usually appropriate	Strong	ଡଡଡ 1-10 mSv	7	7	0	0	1	0	2	4	5	3	1
		References		Study Quality	•									
		78 (17204699)		2										
		77 (27694179)		4										
		76 (27694178)		4										
		75 (29970541)		3										
		74 (17926036)		3										
		73 (16315004)		3										
		72 (16865395)		3										
		71 (12679398)		1										
		70 (16832632)		3										
		84 (27557844)		3	1							1		
PSMA PET/CT skull base to mid- thigh	Usually appropriate	Strong	֎֎֎֎ 10-30 mSv	7	7	1	0	0	1	3	1	4	5	1
		References		Study Quality										
		84 (27557844)		3										
		87 (28408526)		4										
		86 (31283605)		2										
		85 (31375469)		2										
		83 (30920593)		2										
		82 (-3194111)		4										
DCFPyL PET/CT skull base to mid-thigh	Usually appropriate	Moderate	ତତତତ 10-30 mSv	7	7	0	0	0	0	1	1	10	1	1
		References		Study Quality										
		92 (31676732)		3										
		91 (33981607)		Good										
		90 (31201249)		4										
		89 (27908968)		3										

MRI-targeted biopsy prostatectomy bed	May approp		Limited	O 0 mSv	O 0 mSv [ped]	6	6	1	0	0	2	4	4	3	2	0
			References		Study	Quality										
			10 (24978358)			3										
CT abdomen and pelvis with IV contrast	May approp		Moderate	ତତତ 1-10 mSv	&&&& 3- 10 mSv [ped]	5	5	0	0	0	3	9	3	0	1	0
			References		Study	Quality										
			26 (22417806)			2										
			27 (14571410)			4										
MRI abdomen and pelvis without and with IV contrast	May approp		Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	4	12	0	0	0	0
Bone scan whole body	May approp		Limited	ହହହ 1-10 mSv	&&&& 3- 10 mSv [ped]	5	5	0	0	0	1	12	2	1	0	0
			References		Study	Quality										
			25 (23903557)			М										
			24 (20483148)			4										
			23 (23707439)			4										
			22 (-3098847)			4										
			21 (9751361)			3										
			20 (12639656)			3			-			-				-
Fluoride PET/CT skull base to mid-thigh	May approp (Disagre	oriate	Expert Opinion	ଡଡଡଡ 10-30 mSv)	5	5	1	1	7	1	1	0	4	1	0
Choline PET/MRI skull base to mid-thigh	May approp (Disagre	oriate	Expert Opinion	ତତତ 1-10 mSv		5	5	0	1	1	1	2	0	4	7	0
			References		Study	Quality										
			58 (28803358)			2										
TRUS-guided biopsy prostatectomy bed	May approp		Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	3	11	1	1	0	0
			References		Study	Quality										

		41 (17440730)			2										
MRI pelvis without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	4	4	0	0	6	6	2	0	1	1	0
		References		Study	y Quality										
		40 (28216327)			3										
		39 (23313568)			М										
		38 (23521479)	1		2										
		37 (8501793)			3										
		36 (20205350)	1		2										
		35 (20106624)	1		3										
		34 (11418435)	1		2										
		33 (23377546)	1		2										
		32 (15064390)	1		3										
		31 (18226441)	1		1										
		30 (18430830)	1		2										
		29 (19921202)	1		4										
		28 (19948393)			4										
		10 (24978358)			3										
		8 (24434294)			3										
		6 (18825386)			3				1						
CT abdomen and pelvis without IV contrast	Usually not appropriate	Moderate	ତତତ 1-10 mSv	≎≎≎≎≎ 3- 10 mSv [ped]	3	3	5	2	3	0	4	2	0	0	0
		References		Study	y Quality										
		26 (22417806)			2										
		27 (14571410)			4										
CT chest abdomen pelvis with IV contrast	Usually not appropriate	Expert Consensus	ଡେଡେଡ 10-30 mSv	≎≎≎≎ 3- 10 mSv [ped]	3	3	3	3	10	0	0	0	0	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	1	3	6	2	2	2	0	0	0

FDG-PET/CT skull base to mid- thigh	Usually not appropriate	Limited	ଡଡଡଡ 10-30 mSv	0	3	3	2	5	6	1	1	0	1	0	0
		References		Study	Quality										
		81 (15950100)			4										
		80 (8638000)			3										
		79 (16000572)			3						-		-	-	
TRUS prostatectomy bed	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	3	3	4	4	4	0	2	2	0	0	0
		References		Study	Quality										
		19 (16602039)			2										
		42 (8819374)			3										
		43 (16546462)			2										
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Moderate	ବ୍ୟତ୍ତକ 10-3(mSv	0	2	2	5	4	5	0	1	0	0	1	0
		References		Study	Quality										
		26 (22417806)			2										
		27 (14571410)			4										
CT chest abdomen pelvis without IV contrast	Usually not appropriate	Expert Consensus	ଷତ୍ତତ 10-3(mSv	0	2	2	7	2	3	1	2	1	0	0	0
Radiography skeletal survey	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	&& ⊕ 0.3- 3 mSv [ped]	2	2	8	5	3	0	0	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	ଡଡଡଡ 10-3(mSv	0 10-30 mSv [ped]	1	1	9	2	3	0	1	0	0	1	0

Variant 2: Prostate cancer follow-up. Clinical concern for residual or recurrent disease after nonsurgical local and pelvic treatments.

	Appropriateness							Final Tabulations 1 2 3 4 5 6 7 8 9 0 1 0 1 3 0 3 8 0							
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2						8	9
Choline PET/CT skull base to mid-thigh	Usually appropriate	Limited	ଷଷଷ 1-10 mSv		8	8	0	1	0	1	3	0	3	8	0
		References		Study	Quality										
		44 (23486334)			М										
		45 (23628493)			М										
		124 (27597240))		3										
		125 (28126302))	-	3						_		-		
MRI pelvis without and with IV contrast	Usually appropriate	Strong	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	1	1	6	3	4
		References		Study	Quality										
		118 (27663393))		3										
		116 (27527896))		2										
		117 (29317377))		3										
		120 (31361529))		2										
		119 (30730409))		3										
		115 (17707266))		3										
		114 (19161194))		3										
		113 (15134982)			2										
		112 (19130116)			3										
		111 (17881141)			2										
		110 (20551184)			2										
		109 (15972335)			3										
		108 (15375223)			2										
		107 (21785087)			3										
		39 (23313568)			M										
Fluciclovine PET/CT skull base to mid-thigh	Usually appropriate	38 (23521479) Strong	ବଟଟଟ 10-30 mSv		2 7	7	0	0	0	0	4	2	5	4	1
		References		Study	Quality		1							1	<u>. </u>

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		127 (29685521))		1										
		128 (30954940))		1										
		126 (24991547))		3										
		64 (27746282)			3										
		63 (25907118)			М										
Fluciclovine PET/MRI skull base to mid-thigh	Usually appropriate	Expert Consensus	ଝେଝ 1-10 mSv		7	7	0	0	0	1	5	0	6	3	1
PSMA PET/CT skull base to mid- thigh	Usually appropriate	Limited	ଡଡଡଡ 10-30 mSv		7	7	1	0	0	0	3	2	4	5	1
		References		Study	y Quality		•	-							
		82 (-3194111)			4										
		129 (32531840))		3										
DCFPyL PET/CT skull base to mid-thigh	Usually appropriate	Limited	ଷତ୍ତତ 10-30 mSv		7	7	0	0	0	1	0	1	10	1	1
		References		Study	y Quality										
		92 (31676732)			3										
		89 (27908968)			3										
TRUS-guided biopsy prostate	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	1	7	4	1	0
		References		Study	y Quality								-		
		123 (10974448))		1										
		122 (-3098926))		4										
MRI-targeted biopsy prostate	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	2	5	6	0	0
CT abdomen and pelvis with IV contrast	May be appropriate	Moderate	େଡେଡ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	5	5	0	0	0	1	12	1	2	0	0
		References		Study	y Quality										
		26 (22417806)			2										
		27 (14571410)			4										

MRI abdomen and pelvis without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	0	11	4	1	0	0
Bone scan whole body	May be appropriate	Limited	ଡେଡଡ 1-10 mSv	&&&& 3- 10 mSv [ped]	5	5	0	0	0	0	13	3	0	0	0
		References		Study	/ Quality										
		3 (23806388)			3										
		5 (-3102557)			4										
		20 (12639656)			3										
		23 (23707439)			4										
Fluoride PET/CT skull base to mid-thigh	May be appropriate (Disagreement)	Expert Opinion	ତତତତ 10-30 mSv		5	5	0	0	9	1	1	0	3	2	0
Choline PET/MRI skull base to mid-thigh	May be appropriate (Disagreement)	Expert Opinion	ତତତ 1-10 mSv		5	5	0	0	3	1	2	1	3	6	0
MRI pelvis without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	4	4	0	0	6	5	3	0	1	1	0
		References		Study	/ Quality										
		120 (31361529))		2										
		119 (30730409))		3										
		118 (27663393))		3										
		117 (29317377))		3										
		116 (27527896))		2										
		115 (17707266))		3										
		114 (19161194))		3										
		113 (15134982))		2										
		112 (19130116)			3										
		111 (17881141))		2										
		110 (20551184)			2										
		109 (15972335)			3										
		108 (15375223)			2										
		107 (21785087))		3										

		39 (23313568)			М										
		38 (23521479)			2										
CT abdomen and pelvis without IV contrast	Usuall approp	Moderate	ଡେଡ ଡ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	3	3	4	2	4	1	3	2	0	0	0
		References		Stud	y Quality										
		26 (22417806)			2										
		27 (14571410)			4							-			
CT abdomen and pelvis without and with IV contrast	Usuall approp	Moderate	֎֎֎֎ 10-30 mSv	☆☆☆☆☆ 10-30 mSv [ped]	3	3	4	3	6	0	1	1	0	1	0
		References		Study	y Quality										
		26 (22417806)			2										
		27 (14571410)			4										
CT chest abdomen pelvis with IV contrast	Usuall approp	Expert Consensus	ଡେଡେ≎ 10-30 mSv	ଡଡଡଡ 3- 10 mSv [ped]	3	3	2	3	10	0	0	0	1	0	0
MRI abdomen and pelvis without IV contrast	Usuall approp	Expert Consensus	O 0 mSv	O 0 mSv [ped]	3	3	3	2	4	2	4	1	0	0	0
FDG-PET/CT skull base to mid- thigh	Usuall approp	Expert Consensus	ଡଡଡଡ 10-30 mSv	ତତତତ 3- 10 mSv [ped]	3	3	1	6	4	2	2	0	1	0	0
TRUS prostate	Usuall approp	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	4	6	1	0	0	0	0	0
		References		Study	y Quality										
		93 (10664674)			4										
		121 (7690016)			3							-		-	
CT chest abdomen pelvis without IV contrast	Usuall approp	Expert Consensus	ଡଡଡ≎≎ 10-30 mSv	େବେବେତ 3- 10 mSv [ped]	2	2	5	4	2	1	4	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usuall approp	Expert Consensus	ତତତତ 10-30 mSv	&&&& 10-30 mSv [ped]	2	2	6	4	4	1	1	0	0	0	0

Radiography skeletal survey	Usually not appropriate	Expert Consensus	ଡେଡେ 1-10 mSv	≎≎≎ 0.3- 3 mSv [ped]	2	2	8	4	4	0	0	0	0	0	0	
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Variant 3: Metastatic prostate cancer treated by systemic therapy (androgen deprivation therapy [ADT], chemotherapy, immunotherapy). Follow-up.

	Appropriate	eness	202		-						F	inal	Tabu	latio	ns		
Procedure	Category	y	SOE	Adults RR	L	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Bone scan whole body	Usually appropriat		Limited	ତତତ 1-1(mSv	0	≎≎≎≎≎ 3- 10 mSv [ped]	8	8	0	0	0	0	0	3	5	5	3
			References			Study	/ Quality										
			134 (26956538)				4			_	_						
CT abdomen and pelvis with IV contrast	Usually appropriat		Limited	≎≎≎≎ 1-1(mSv	0	֎֎֎֎ 3- 10 mSv [ped]	7	7	0	0	1	1	0	3	4	5	2
			References			Study	Quality										
			27 (14571410)				4										
			135 (28473088))			4				-						
CT chest abdomen pelvis with IV contrast	Usually appropriat		Limited	ଝଝଝଝ 10∹ mSv	30	ଡଡଡଡ 3- 10 mSv [ped]	7	7	0	0	0	2	3	3	5	2	1
		·	References			Study	/ Quality										
			27 (14571410)				4										
			135 (28473088))			4			_	_	_					
Choline PET/CT skull base to mid-thigh	Usually appropriat		Strong	≎≎≎≎ 1-1(mSv	0		7	7	0	0	0	1	2	5	3	5	0
			References			Study	Quality										
			139 (26768648))			2										
			138 (25808631))			3										
			137 (25504434))			1										
			136 (26323576))			3										
			44 (23486334)				М										

		45 (23628493)	23628493) M											
Fluciclovine PET/CT skull base to mid-thigh	Usually appropriate	Limited	ଷଷଷଷ 10-30 mSv	7	7	0	0	0	0	1	4	7	4	0
		References		Study Quality										
		145 (31343613))	3										
		144 (33237350))	4										
		143 (26278491) 4												
	142 (24943499) 4													
Choline PET/MRI skull base to mid-thigh	Usually appropriate	Expert Consensus	ତତତ 1-10 mSv	7	7	0	0	1	1	2	3	4	5	0
Fluciclovine PET/MRI skull base to mid-thigh	Usually appropriate	Strong	ଡଡଡ 1-10 mSv	7	7	0	0	0	0	4	2	5	5	0
		References		Study Quality						•				
	146 (33052718) 2													
		140 (31127357)												
	78 (17204699)		2											
		77 (27694179)		4										
		76 (27694178)		4										
		74 (17926036)		3										
		73 (16315004)												
		72 (16865395)		3										
		71 (12679398)		1										
		70 (16832632)		3										
PSMA PET/CT skull base to mid- thigh	Usually appropriate	Limited	ଡଡଡଡ 10-30 mSv	7	7	1	0	0	0	1	3	5	6	0
		References		Study Quality										
		153 (28758969))	3										
		154 (32481743))	3										
DCFPyL PET/CT skull base to mid-thigh	Usually appropriate	Limited	֎֎֎֎ 10-30 mSv	7	7	1	0	0	1	4	1	3	6	0
References				Study Quality										

		156 (33452039)			4										
		155 (31451492)			3										
MRI abdomen and pelvis without and with IV contrast	May be appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	6	6	0	0	1	1	3	6	4	1	0
FDG-PET/CT skull base to mid- thigh	May be appropriate	Limited	ଷଷଷଷ 10-3(mSv	0 🕸 🏵 🥸 3- 10 mSv [ped]	6	6	0	0	1	1	5	6	1	1	1
		References		Study	v Quality										
		79 (16000572)		3 3 3 3 3											
		80 (8638000)													
		152 (12031380))												
		151 (15867215))												
		150 (20975102))		3										
		149 (10492189))												
		148 (27383216))	М											
		147 (27694167))	4											
MRI abdomen and pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	5	5	2	1	0	1
Fluoride PET/CT whole body	May be appropriate (Disagreement)	Expert Opinion	ଷତ୍ତତତ 10-3(mSv	0 \$\$\$\$\$ 3- 10 mSv [ped]	5	5	0	0	3	2	3	2	2	4	0
		References		Study											
		140 (31127357))	0											
		141 (30877561))	Good											
CT abdomen and pelvis without IV contrast	May be appropriate	Limited	ତତତ 1-10 mSv	₩₩₩₩ 3- 10 mSv [ped]	4	4	1	1	6	1	5	2	0	0	0
		References		Study											
		27 (14571410)		4											
		135 (28473088))		4			1	1	1					
CT chest abdomen pelvis without IV contrast	May be appropriate	Limited	ଡଡଡଡ 10-3(mSv	0 88883- 10 mSv [ped]	4	4	0	3	5	3	3	2	0	0	0

		References			Stu	dy Quality										
			27 (14571410) 135 (28473088)			4										
	1					_										
MRI pelvis without and with IV contrast	May approp		Expert Consensus	O 0 mSv	, O 0 mSv [ped]	4	4	0	2	3	4	5	2	0	0	0
CT abdomen and pelvis without and with IV contrast	Usuall approp			ଡଡଡ ଡ 10- mSv	30 00000000000000000000000000000000000	3	3	3	3	9	0	0	1	0	0	0
			References		Stu											
		2			4											
			135 (28473088))						_						
CT chest abdomen pelvis without and with IV contrast	Usuall approp		Limited	ଡଡଡଡ 10- mSv	30 00000000000000000000000000000000000	3	3	3	2	10	0	0	1	0	0	0
			References		Study Quality											
			27 (14571410)		4											
			135 (28473088))		4										
MRI pelvis without IV contrast	Usuall approp		Expert Consensus	O 0 mSv	, O 0 mSv [ped]	3	3	2	3	5	1	4	1	0	0	0
TRUS-guided biopsy prostatectomy bed	Usuall approp		Expert Consensus	O 0 mSv	, O 0 mSv [ped]	3	3	3	4	7	0	2	0	0	0	0
MRI-targeted biopsy prostatectomy bed	Usuall approp		Expert Consensus	O 0 mSv	, O 0 mSv [ped]	3	3	3	3	6	2	2	0	0	0	0
Radiography skeletal survey	Usuall approp		Expert Consensus	ଡଡଡ 1-10 mSv	0	2	2	5	5	5	1	0	0	0	0	0
TRUS prostatectomy bed	Usuall approp		Expert Consensus	O 0 mSv	, O 0 mSv [ped]	2	2	6	4	5	0	1	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.