

**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.

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		○ 0 mSv	○ 0 mSv [ped]	8	8	1	0	0	0	1	0	2	9	2
C-11 choline PET/CT skull base to mid-thigh	Usually appropriate		⊗⊗⊗ 1-10 mSv		8	8	0	0	0	0	0	2	4	8	1
F-18 fluciclovine PET/CT skull base to mid-thigh	Usually appropriate		⊗⊗⊗⊗ 10-30 mSv		7	7	0	0	1	1	0	4	3	4	2
CT abdomen and pelvis with IV contrast	May be appropriate		⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	6	6	0	0	0	1	6	7	0	0	1
MRI-targeted biopsy prostate	May be appropriate		○ 0 mSv	○ 0 mSv [ped]	6	6	0	0	1	1	3	9	2	0	0
MRI abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)		○ 0 mSv	○ 0 mSv [ped]	5	5	0	1	7	0	5	0	2	0	0
Tc-99m bone scan whole body	May be appropriate		⊗⊗⊗ 1-10 mSv	⊗⊗⊗⊗ 3-10 mSv [ped]	5	5	0	1	0	1	9	0	0	3	1
TRUS guided biopsy prostate	May be appropriate		○ 0 mSv	○ 0 mSv [ped]	5	5	1	0	0	6	3	1	3	0	1
MRI abdomen and pelvis without IV contrast	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	3	3	1	2	7	2	3	0	0	0	0

FDG-PET/CT skull base to mid-thigh	Usually not appropriate		☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	3	3	1	2	5	2	3	1	1	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate		☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	1	5	5	4	0	0	0	0	0
MRI pelvis without IV contrast	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	3	3	1	2	5	4	2	1	0	0	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		3	3	0	4	4	2	2	1	0	1	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	4	4	3	1	1	1	1	0	0
CT chest abdomen pelvis without IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		2	2	2	10	1	1	0	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		2	2	4	6	3	1	0	0	0	0	0
Radiography skeletal survey	Usually not appropriate		☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	1	1	12	1	2	0	0	0	0	0	0
TRUS prostate	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	1	1	10	1	3	0	0	0	1	0	0

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

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		○ 0 mSv	○ 0 mSv [ped]	8	8	0	0	0	0	1	2	1	8	3
C-11 choline PET/CT skull base to mid-thigh	Usually appropriate		☼☼☼ 1-10 mSv		8	8	0	0	0	0	0	2	3	9	1

TRUS guided biopsy prostate	Usually appropriate		○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	1	2	1	3	7	1	0
F-18 fluciclovine PET/CT skull base to mid-thigh	Usually appropriate		⊕⊕⊕⊕ 10-30 mSv		7	7	0	0	1	0	2	2	3	6	1
MRI-targeted biopsy prostate	Usually appropriate		○ 0 mSv	○ 0 mSv [ped]	7	7	0	0	0	0	4	1	7	2	0
CT abdomen and pelvis with IV contrast	May be appropriate		⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	0	0	1	1	6	6	1	0	0
MRI abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)		○ 0 mSv	○ 0 mSv [ped]	5	5	0	0	4	4	5	0	2	0	0
Tc-99m bone scan whole body	May be appropriate (Disagreement)		⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	5	5	1	0	2	0	7	2	0	3	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	3	3	0	3	9	1	2	0	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate		⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	3	3	1	2	6	2	3	0	1	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate		⊕⊕⊕ 1-10 mSv	⊕⊕⊕⊕ 3-10 mSv [ped]	3	3	1	6	6	2	0	0	0	0	0
MRI pelvis without IV contrast	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	3	3	1	1	7	2	4	0	0	0	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate		⊕⊕⊕⊕ 10-30 mSv		3	3	1	3	4	2	2	1	0	1	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate		⊕⊕⊕⊕ 10-30 mSv	⊕⊕⊕⊕⊕ 10-30 mSv [ped]	2	2	5	3	3	2	0	1	1	0	0
TRUS prostate	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	2	2	7	3	2	1	1	0	1	0	0

CT chest abdomen pelvis without IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		2	2	3	9	1	1	0	0	0	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		2	2	4	7	3	0	0	0	0	0	0
Radiography skeletal survey	Usually not appropriate		☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	1	1	13	2	0	0	0	0	0	0	0

Variant 3: Metastatic prostate cancer treated by systemic therapy (androgen deprivation therapy [ADT], chemotherapy, immunotherapy). Follow-up.

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		☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	8	8	0	0	1	0	0	1	5	5	3
Tc-99m bone scan whole body	Usually appropriate		☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	8	8	0	0	0	0	0	1	3	7	4
C-11 choline PET/CT skull base to mid-thigh	Usually appropriate		☼☼☼ 1-10 mSv		7	7	0	0	0	0	4	1	6	3	1
F-18 fluciclovine PET/CT skull base to mid-thigh	Usually appropriate		☼☼☼☼ 10-30 mSv		7	7	1	0	0	0	1	5	3	4	1
MRI abdomen and pelvis without and with IV contrast	May be appropriate		○ 0 mSv	○ 0 mSv [ped]	6	6	0	0	0	1	2	7	4	1	0
CT chest abdomen pelvis with IV contrast	May be appropriate		☼☼☼☼ 10-30 mSv		6	6	0	0	1	1	3	3	1	4	1
MRI pelvis without and with IV contrast	May be appropriate		○ 0 mSv	○ 0 mSv [ped]	5	5	0	1	3	3	6	2	0	0	0
MRI pelvis without IV contrast	May be appropriate		○ 0 mSv	○ 0 mSv [ped]	4	4	1	2	2	6	2	1	1	0	0

FDG-PET/CT skull base to mid-thigh	May be appropriate		☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	4	4	0	0	1	7	2	4	1	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate		☼☼☼ 1-10 mSv	☼☼☼☼ 3-10 mSv [ped]	3	3	1	5	5	2	2	0	0	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	3	3	0	2	7	3	2	1	0	0	0
CT chest abdomen pelvis without IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		3	3	1	6	4	1	1	1	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv	☼☼☼☼☼ 10-30 mSv [ped]	2	2	2	6	5	0	1	0	0	0	1
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate		☼☼☼☼ 10-30 mSv		2	2	3	5	3	1	0	1	1	0	0
TRUS prostate	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	1	1	12	2	1	0	0	0	0	0	0
Radiography skeletal survey	Usually not appropriate		☼☼☼ 1-10 mSv	☼☼☼ 0.3-3 mSv [ped]	1	1	13	1	1	0	0	0	0	0	0
TRUS guided biopsy prostate	Usually not appropriate		○ 0 mSv	○ 0 mSv [ped]	1	1	9	3	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.