American College of Radiology
ACR Appropriateness Criteria®

Post-Treatment Surveillance of Bladder Cancer

Variant 1: Nonmuscle invasive bladder cancer (NMIBC), no symptoms or risk factors. Post-treatment surveillance.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations 1	2	3	4	5	6	7	8	9
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
23 (10992362)	3
24 (10367843)	4
29 (24072383)	2
28 (26760195)	2
30 (20152273)	3

Radiography intravenous urography	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
27 (23680310)	3

Radiography chest	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢ <0.03 mSv [ped]	2	n/a	0	0	0	0	0	0	0	0	0
US pelvis (bladder)	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

	References	Study Quality
	25 (21655537)	2
	26 (18096730)	2

MRI abdomen and pelvis without IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

	References	Study Quality
	24 (10367843)	4
	23 (10992362)	3
	30 (20152273)	3
	29 (24072383)	2
	28 (26760195)	2

CT chest without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT chest without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT chest with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

	References	Study Quality
	27 (23680310)	3

CT abdomen and pelvis with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

	References	Study Quality
	27 (23680310)	3

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

Variant 2: Nonmuscle invasive bladder cancer (NMIBC), with symptoms or risk factors. Post-treatment surveillance.

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 without and with IV contrast	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
35 (25341140)	1
36 (18796677)	3

MRI abdomen and pelvis without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
28 (26760195)	2
29 (24072383)	2
37 (19332849)	2
38 (19247665)	2
39 (20171676)	2

Radiography chest	May be appropriate	Expert Consensus	☢ <0.1 mSv	☢ <0.03 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
MRI abdomen and pelvis without IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
28 (26760195)	2
29 (24072383)	2
37 (19332849)	2
38 (19247665)	2
39 (20171676)	2

Radiography intravenous urography	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
35 (25341140)	1
36 (18796677)	3

FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
US pelvis (bladder)	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
25 (21655537)	2
26 (18096730)	2

CT chest without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT chest without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT chest with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
35 (25341140)	1
36 (18796677)	3

Variant 3: Muscle-invasive bladder cancer (MIBC) with or without cystectomy. Post-treatment surveillance.

Procedure	Appropriateness Category	SOE	Adults RRL	Peds RRL	Rating	Median	Final Tabulations								
							1	2	3	4	5	6	7	8	9
Radiography chest	Usually appropriate	Expert Consensus	☢ <0.1 mSv	☢ <0.03 mSv [ped]	9	n/a	0	0	0	0	0	0	0	0	0
Fluoroscopy abdomen loopogram	Usually appropriate	Expert Consensus	☢☢☢ 1-10 mSv		8	n/a	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	8	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
35 (25341140)	1

MRI abdomen and pelvis without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
39 (20171676)	2
50 (19396568)	3
51 (19914691)	3

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

References	Study Quality
35 (25341140)	1

CT chest with IV contrast	May be appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	0	2	5	7	1	1	0
MRI abdomen and pelvis without IV contrast	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0

References	Study Quality
39 (20171676)	2
51 (19914691)	3

		50 (19396568)		3												
CT chest without IV contrast	May be appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	0	0	0	2	11	2	0	1	0
FDG-PET/CT skull base to mid-thigh	May be appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	5	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		52 (19652070)		2												
		53 (20151968)		2												
		54 (17475965)		3												
		55 (27565154)		2												
		56 (22448033)		4												
		57 (16741302)		2												
US pelvis (bladder)	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		42 (24462548)		3												
Radiography intravenous urography	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢ 0.3-3 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		49 (21512076)		3												
CT abdomen and pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	n/a	0	0	0	0	0	0	0	0	0
		References		Study Quality												
		35 (25341140)		1												
CT chest without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	n/a	0	0	0	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.**