## American College of Radiology ACR Appropriateness Criteria<sup>®</sup>

## **Post-Treatment Surveillance of Bladder Cancer**

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

	Appropr	iateness	005							F	'inal '	Tabu	latio	ns		
Procedure	Categ		SOE	Adults RRI	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
Radiography intravenous urography	Usuall approp		Expert Consensus	ତତତ 1-10 mSv	&&& 0.3- 3 mSv [ped]	3	3	0	0	0	0	0	0	0	0	0
MRU without and with IV contrast	Usuall approp		Limited	O 0 mSv	O 0 mSv [ped]	3	3	5	3	5	1	0	0	1	1	0
			References		Study	v Quality										
			31 (20152273)			3										
			20 (10367843)			4										
			19 (10992362)			3		_								
CT abdomen and pelvis with IV contrast	Usuall approp		Expert Consensus	ତତତ 1-10 mSv	ଡଡଡଡଡ 3- 10 mSv [ped]	2	2	6	4	4	0	0	0	2	0	0
CT abdomen and pelvis without IV contrast	Usuall approp		Expert Consensus	ତତତ 1-10 mSv	ବ୍ୟବହ୍ୟ 3- 10 mSv [ped]	2	2	8	4	2	0	2	0	0	0	0
CT abdomen and pelvis without and with IV contrast	Usuall approp		Expert Consensus	ଡଡଡଡ 10-3 mSv	0 10-30 mSv [ped]	2	2	8	4	2	0	0	0	2	0	0
CTU without and with IV contrast		Limited		ତତତତ 10-3 mSv	0 20000 0 10-30 mSv [ped]	2	2	4	7	5	1	0	0	0	0	0
		References		Study	v Quality											

		23 (23680310)			3										
		20 (10367843)			4										
		19 (10992362)			3										
MRI abdomen and pelvis without and with IV contrast	Usually not appropriate	Strong	O 0 mSv	O 0 mSv [ped]	2	2	7	4	3	0	0	1	1	0	0
		References		Study	Quality			-							
		29 (26760195)			2										
		30 (24072383)			2										
		27 (30922688)			2										
		28 (31012814)			2										
		25 (29727910)		Inac	dequate										
		26 (29206594)		(	Good										
		24 (28987698)		(	Good						1	1			
Radiography chest	Usually not appropriate	Expert Consensus	<b>≎</b> <0.1 mSv		2	2	0	0	0	0	0	0	0	0	0
CT chest with IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT chest without IV contrast	Usually not appropriate	Expert Consensus	ତତତ 1-10 mSv	€€€€ 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT chest without and with IV contrast	Usually not appropriate	Expert Consensus	ତେତେ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	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]	1	1	10	2	2	0	1	0	1	0	0
		References		Study	Quality										
		29 (26760195)			2										
		30 (24072383)			2										
		27 (30922688)			2										
		28 (31012814)			2										
		25 (29727910)		Inac	dequate										

		26 (29206594)			Good										
		24 (28987698)			Good										
FDG-PET/CT skull base to mid- thigh	Usuall <sub>2</sub> approp			30 🗢 😌 😌 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
US pelvis (bladder)	Usually approp	Strong	O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Stu	dy Quality										
		32 (21655537)		2											
		33 (18096730)		2											

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

	Appropriateness	SOF							F	'inal '	Tabu	latio	ns		
Procedure	Category	SOE	Adults RRL	Peds RRL	Rating	Median	1	2	3	4	5	6	7	8	9
CTU without and with IV contrast	Usually appropriate	Limited	֎֎֎֎ 10-30 mSv	<b>ଡଡଡଡଡ</b> 10-30 mSv [ped]	8	8	1	0	0	0	0	2	4	7	2
		References		Study	Quality										
		38 (25341140)			1		_			- <u>-</u>		-			
MRU without and with IV contrast	Usually appropriate	Limited	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	0	0	1	11	5	0
		References		Study	Quality										
		40 (20171676)		-	2								_		
Radiography chest	May be appropriate	Expert Consensus	& <0.1 mSv		5	5	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis with IV contrast	May be appropriate	Expert Consensus	<del>ଡଡ</del> େ 1-10 mSv	֎֎֎֎ 3- 10 mSv [ped]	4	4	1	1	3	9	1	1	1	0	0
MRI abdomen and pelvis without and with IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	4	4	1	1	3	10	2	0	0	0	0

			References		Study	Quality										
			29 (26760195)			2										
			30 (24072383)			2										
			27 (30922688)			2										
			28 (31012814)			2										
	T T		25 (29727910)		Inad	lequate										
			26 (29206594)		G	iood										
	T T		24 (28987698)		G	iood										
Radiography intravenous urography	Usually appropr		Expert Consensus	ତତତ 1-10 mSv	ବଟ୍ଟ 0.3- 3 mSv [ped]	3	3	0	0	0	0	0	0	0	0	0
FDG-PET/CT skull base to mid- thigh	Usually appropr		Expert Consensus	ତତତତ 10-3 mSv	0 \$\$\$\$\$ 3- 10 mSv [ped]	3	3	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without IV contrast	Usually appropr	not Expert 😌 😌 1-10		֎֎֎֎ 3- 10 mSv [ped]	2	2	8	7	1	1	0	0	0	0	0	
CT abdomen and pelvis without and with IV contrast	Usually appropr	not Expert 😔 😌 10-3		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2	2	6	7	2	1	1	0	0	0	0	
MRI abdomen and pelvis without IV contrast	Usually appropr	not iate	Strong	O 0 mSv	O 0 mSv [ped]	2	2	3	8	3	3	0	0	0	0	0
			References		Study	Quality										
			29 (26760195)			2										
			30 (24072383)			2										
			27 (30922688)			2										
			28 (31012814)			2										
		25 (29727910)			Inad	lequate										
		26 (29206594)			G	iood										
		24 (28987698)		G	iood											
CT chest with IV contrast	Usually appropr		Expert Consensus	ତତତ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0

CT chest without IV contrast	Usually appropr	Expert Consensus	ତତତ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
CT chest without and with IV contrast	Usually appropri	Expert Consensus	ତତତ 1-10 mSv	֎֎֎֎ 3- 10 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
US pelvis (bladder)	Usually approp	Strong	O 0 mSv	O 0 mSv [ped]	1	1	0	0	0	0	0	0	0	0	0
		References		Study	Quality			_	-				•		
	-	32 (21655537)			2										
		33 (18096730)			2										

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

	Appropri	iateness	COL								F	'inal '	Fabu	latio	ıs		
Procedure	Categ		SOE	Adults RR	L Peds R		ating	Median	1	2	3	4	5	6	7	8	9
CTU without and with IV contrast	Usua approp		Limited	<del>ଡେଡଡ</del> େ 10- mSv	30 2000 mSv [ped	<b>)</b>	9	9	0	0	0	0	1	0	2	4	9
			References			Study Qu	ality										
			38 (25341140)			1											
Radiography chest	Usua approp		Expert Consensus	ଝ <0.1 mସ	& <0.0 €v mSv [ped		9	9	0	0	0	0	0	0	0	0	0
Fluoroscopy abdomen loopogram	Usua approp		Expert Consensus	ଝେଡେଡ 1-1। mSv	D		8	8	0	0	0	0	0	0	0	0	0
MRU without and with IV contrast	Usua approp		Limited	O 0 mSv	, O 0 m [ped		8	8	0	0	0	0	0	2	5	4	5
			References			Study Qu	ality										
			40 (20171676)			2											

CT abdomen and pelvis with IV contrast	Usually appropriate	Expert Consensus	େଡେଡ 1-10 mSv	≎≎≎≎ 3- 10 mSv [ped]	7	7	0	0	1	1	1	2	4	3	4
MRI abdomen and pelvis without and with IV contrast	Usually appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	7	7	0	0	0	1	2	3	4	5	1
		References		Study	Quality		•								
		62 (19396568)		¥	3										
		63 (19914691)			3										
		61 (29381380)		C	Good										
CT chest with IV contrast	May be appropriate	Expert Consensus	<del>ଡଡ</del> େ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	6	6	0	0	0	0	0	0	0	0	0
CT abdomen and pelvis without and with IV contrast	May be appropriate (Disagreement)	Expert Opinion	ଡଡଡଡ 10-30 mSv	<b>☎☎∞∞∞</b> 10-30 mSv [ped]	5	5	2	1	5	2	0	6	0	1	0
CT chest without IV contrast	May be appropriate	Expert Consensus	େଡେଡ 1-10 mSv	ଡଡଡଡ 3- 10 mSv [ped]	5	5	0	0	0	0	0	0	0	0	0
MRI abdomen and pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	3	1	3	5	3	1	1	0
		References		Study	Quality										
		62 (19396568)			3										
		63 (19914691)			3										
		61 (29381380)			Good										
FDG-PET/CT skull base to mid- thigh	May be appropriate	Strong	֎֎֎֎ 10-30 mSv	େତ୍ତେତେ 3- 10 mSv [ped]	5	5	0	0	0	0	0	0	0	0	0
		References		Study	/ Quality										
		54 (17475965)			3										
		50 (19652070)			2										
		51 (20151968)			2										
		56 (22448033)			4										
		60 (16741302) 2													

			55 (27565154)			2										
			58 (30001845)			2										
			52 (28753817)			2										
			53 (29847834)		C	Good										
			57 (28674853)			2										
			59 (28532260)			3				_						
CT abdomen and pelvis without IV contrast	Usually appropr		Expert Consensus	֎֎֎ 1-10 mSv	ଡେଡେଡ 3- 10 mSv [ped]	3	3	3	4	3	7	0	0	0	0	0
Radiography intravenous urography	Usually appropr	v not riate	Limited	ଷଷଷ 1-10 mSv	&& 0.3- 3 mSv [ped]	3	3	0	0	0	0	0	0	0	0	0
			64 (21512076)			3							-			
US pelvis (bladder)	Usually appropr		Limited	O 0 mSv	O 0 mSv [ped]	3	3	0	0	0	0	0	0	0	0	0
			References		Study Quality											
			43 (24462548)		3											
CT chest without and with IV contrast	Usually appropr		Expert Consensus	ତତତ 1-10 mSv	ଡେଡେଡ 3- 10 mSv [ped]	1	1	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.