American College of Radiology
ACR Appropriateness Criteria®

Staging and Follow-up of Vulvar Cancer

Variant 1: Initial staging of pretreatment vulvar cancer: Primary tumor is less than or equal to 2 cm, confined to the vulva or perineum, and with less than or equal to 1 mm stromal invasion.

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 not appropriate	Expert Opinion	O 0 mSv	O 0 mSv [ped]	3	3	2	5	1	1	5	0	0	1	0
CT abdomen and pelvis with IV contrast	Usually not appropriate	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	6	8	0	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]	2	2	7	4	2	1	0	0	0	1	0
CT chest abdomen pelvis with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		2	2	7	3	2	1	0	0	1	1	0
CT chest abdomen pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		2	2	7	5	1	1	0	0	0	1	0
CT pelvis with IV contrast	Usually not appropriate	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	5	9	0	0	0	0	0	1	0
CT pelvis without IV contrast	Usually not appropriate	Expert Consensus	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	3	1	1	2	0	0	1	0
MRI pelvis without IV contrast	Usually not appropriate	Expert Opinion	O 0 mSv	O 0 mSv [ped]	2	2	3	6	0	2	3	1	0	0	0
Lymphoscintigraphy pelvis	Usually not appropriate	Expert Consensus	☢☢ 0.1-1mSv		2	2	6	4	2	2	0	0	1	0	0

US duplex Doppler and US-guided fine-needle aspiration biopsy groin	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	7	4	3	0	0	0	0	0	1
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	8	2	1	2	0	0	1	1	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		1	1	8	3	1	2	0	0	0	1	0
CT pelvis without and with IV contrast	Usually not appropriate	Expert Opinion	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	4	0	0	0	1	0	0	0
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	9	2	1	1	0	1	0	1	0
Radiography chest	Usually not appropriate	Expert Consensus	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	10	2	1	2	0	0	0	0	0
US-guided fine needle aspiration biopsy groin	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	4	1	1	0	0	0	0	1
US duplex Doppler groin	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	1	1	8	4	2	0	0	0	0	1	0

Variant 2: Initial staging of pretreatment vulvar cancer: Primary tumor is less than or equal to 4 cm with greater than 1 mm stromal invasion, confined to vulva or perineum, or with minimal involvement of the urethra, vagina, or anus.

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]	7	7	0	0	0	0	0	1	8	3	3

References	Study Quality
32 (20092880)	2
31 (11804896)	3
33 (16859737)	3

		34 (16803503)		2											
		35 (12409110)		3											
		6 (-3165329)		4											
Lymphoscintigraphy pelvis	May be appropriate	Strong	☢☢ 0.1-1mSv		6	6	0	1	0	0	2	6	3	2	1
		References		Study Quality											
		23 (22753905)		2											
		21 (25703673)		4											
		19 (20537946)		2											
		6 (-3165329)		4											
MRI pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	1	1	0	5	1	6	1	0
		References		Study Quality											
		32 (20092880)		2											
		31 (11804896)		3											
		33 (16859737)		3											
		34 (16803503)		2											
		35 (12409110)		3											
		6 (-3165329)		4											
US duplex Doppler and US-guided fine-needle aspiration biopsy groin	May be appropriate	Limited	O 0 mSv	O 0 mSv [ped]	5	5	0	0	0	4	4	2	3	1	1
		References		Study Quality											
		36 (23932893)		3											
		38 (12727164)		3											
		25 (16445651)		3											
		37 (10453840)		3											
CT pelvis with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	3	4	5	1	1	0	0	1	0
		References		Study Quality											
		25 (16445651)		3											

		6 (-3165329)		4												
US-guided fine needle aspiration biopsy groin	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	1	4	5	0	5	0	0	0	0
		References		Study Quality												
		36 (23932893)		3												
		38 (12727164)		3												
		25 (16445651)		3												
		37 (10453840)		3												
US duplex Doppler groin	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	3	4	3	2	2	0	0	1	0
		References		Study Quality												
		36 (23932893)		3												
		38 (12727164)		3												
		25 (16445651)		3												
		37 (10453840)		3												
CT abdomen and pelvis with IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	4	8	1	0	1	0	0	1	0
		References		Study Quality												
		25 (16445651)		3												
		6 (-3165329)		4												
CT abdomen and pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	5	1	1	0	0	0	1	0
		References		Study Quality												
		25 (16445651)		3												
		6 (-3165329)		4												
CT chest abdomen pelvis with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv		2	2	5	8	0	0	1	0	0	1	0
		References		Study Quality												
		26 (26059775)		3												
		25 (16445651)		3												

		6 (-3165329)		4											
FDG-PET/CT skull base to mid-thigh	Usually not appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	7	2	2	2	1	0	0	0	1
		References		Study Quality											
		30 (26790773)		3											
		27 (24984533)		3											
		29 (25477274)		2											
		28 (28930828)		3											
		6 (-3165329)		4											
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	1	1	10	1	1	1	1	0	0	1	0
		References		Study Quality											
		25 (16445651)		3											
		6 (-3165329)		4											
CT chest abdomen pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv		1	1	9	3	1	1	0	0	0	1	0
		References		Study Quality											
		26 (26059775)		3											
		25 (16445651)		3											
		6 (-3165329)		4											
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv		1	1	11	0	1	1	1	0	0	1	0
		References		Study Quality											
		26 (26059775)		3											
		25 (16445651)		3											
		6 (-3165329)		4											
CT pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	8	2	3	1	0	0	0	1	0
		References		Study Quality											

		25 (16445651)		3												
		6 (-3165329)		4												
CT pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	1	1	10	0	1	2	1	0	0	1	0
		References		Study Quality												
		25 (16445651)		3												
		6 (-3165329)		4												
Radiography chest	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	1	1	10	1	1	0	3	0	0	0	0
		References		Study Quality												
		26 (26059775)		3												

Variant 3: Initial staging of pretreatment vulvar cancer: Primary tumor is greater than 4 cm or tumor of any size with more than minimal involvement of the urethra, vagina, or anus.

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]	8	8	0	0	0	0	0	1	3	6	5
		References		Study Quality											
		32 (20092880)		2											
		31 (11804896)		3											
		33 (16859737)		3											
		34 (16803503)		2											
		35 (12409110)		3											
		6 (-3165329)		4											
CT chest abdomen pelvis with IV contrast	Usually appropriate	Limited	☢☢☢☢ 10-30 mSv		7	7	1	0	0	0	3	3	4	4	0
		References		Study Quality											
		26 (26059775)		3											

		25 (16445651)	3													
		6 (-3165329)	4													
FDG-PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	7	7	1	0	0	0	1	1	8	3	1	
		References	Study Quality													
		30 (26790773)	3													
		27 (24984533)	3													
		29 (25477274)	2													
		41 (28751058)	3													
		6 (-3165329)	4													
CT abdomen and pelvis with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	0	0	0	0	6	4	4	0	1	
		References	Study Quality													
		25 (16445651)	3													
		6 (-3165329)	4													
MRI pelvis without IV contrast	May be appropriate	Strong	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	4	3	6	1	0	
		References	Study Quality													
		32 (20092880)	2													
		31 (11804896)	3													
		33 (16859737)	3													
		34 (16803503)	2													
		35 (12409110)	3													
		6 (-3165329)	4													
CT abdomen and pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	1	4	3	4	1	0	1	1	0	
		References	Study Quality													
		25 (16445651)	3													
		6 (-3165329)	4													

CT chest abdomen pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢☢ 10-30 mSv		5	5	1	4	3	0	5	0	2	0	0

References	Study Quality
26 (26059775)	3
25 (16445651)	3
6 (-3165329)	4

CT pelvis with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	1	0	0	2	6	3	3	0	0

References	Study Quality
25 (16445651)	3
6 (-3165329)	4

US-guided fine needle aspiration biopsy groin	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	1	2	6	0	3	2	1	0	0

References	Study Quality
36 (23932893)	3
38 (12727164)	3
25 (16445651)	3
37 (10453840)	3

US duplex Doppler and US-guided fine-needle aspiration biopsy groin	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	0	4	0	3	2	4	1	1

References	Study Quality
36 (23932893)	3
38 (12727164)	3
25 (16445651)	3
37 (10453840)	3

CT pelvis without IV contrast	Usually not appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	3	3	3	3	3	4	1	0	1	0	0

References	Study Quality
25 (16445651)	3

		6 (-3165329)		4												
US duplex Doppler groin	Usually not appropriate	Limited	O 0 mSv	O 0 mSv [ped]	3	3	5	2	2	2	2	1	0	1	0
		References		Study Quality												
		36 (23932893)		3												
		38 (12727164)		3												
		25 (16445651)		3												
		37 (10453840)		3												
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	2	2	4	4	6	0	0	0	1	0	0
		References		Study Quality												
		25 (16445651)		3												
		6 (-3165329)		4												
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv		2	2	4	8	2	0	0	0	0	1	0
		References		Study Quality												
		26 (26059775)		3												
		25 (16445651)		3												
		6 (-3165329)		4												
CT pelvis without and with IV contrast	Usually not appropriate	Limited	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	5	4	5	0	0	0	1	0	0
		References		Study Quality												
		25 (16445651)		3												
		6 (-3165329)		4												
Radiography chest	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	2	2	4	4	2	1	3	0	1	0	0
		References		Study Quality												
		26 (26059775)		3												

Lymphoscintigraphy pelvis	Usually not appropriate	Limited	☢☢ 0.1-1mSv		2	2	6	4	3	0	0	0	1	0	0

References	Study Quality
36 (23932893)	3
38 (12727164)	3
25 (16445651)	3

Variant 4: Post-treatment assessment of clinically suspected recurrence of known vulvar cancer.

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		8	8	0	0	0	0	1	2	3	6	3

References	Study Quality
26 (26059775)	3

MRI pelvis without and with IV contrast	Usually appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	8	8	0	0	0	0	0	0	3	6	6

References	Study Quality
32 (20092880)	2
6 (-3165329)	4

FDG-PET/CT skull base to mid-thigh	Usually appropriate	Strong	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	8	8	0	0	0	0	1	0	3	7	4

References	Study Quality
30 (26790773)	3
29 (25477274)	2
46 (23369941)	2
45 (24257566)	2
41 (28751058)	3

CT abdomen and pelvis with IV contrast	May be appropriate	Limited	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	6	6	1	0	0	0	5	6	0	2	1
	References		Study Quality												
	26 (26059775)		3												
MRI pelvis without IV contrast	May be appropriate	Moderate	O 0 mSv	O 0 mSv [ped]	6	6	0	0	0	1	5	2	5	1	1
	References		Study Quality												
	32 (20092880)		2												
	6 (-3165329)		4												
CT abdomen and pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	1	4	3	0	4	1	2	0	0
CT chest abdomen pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢☢ 10-30 mSv		5	5	2	4	2	0	4	1	1	1	0
CT pelvis with IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	1	0	1	1	9	1	0	1	1
CT pelvis without IV contrast	May be appropriate (Disagreement)	Expert Opinion	☢☢☢ 1-10 mSv	☢☢☢☢ 3-10 mSv [ped]	5	5	2	4	2	4	1	0	1	0	1
US-guided fine needle aspiration biopsy groin	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	3	7	2	0	1	0	1	1	0
US duplex Doppler and US-guided fine-needle aspiration biopsy groin	May be appropriate (Disagreement)	Expert Opinion	O 0 mSv	O 0 mSv [ped]	5	5	0	4	0	0	5	3	1	1	1
CT abdomen and pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢☢ 10-30 mSv [ped]	2	2	4	4	5	0	0	1	1	0	0
CT chest abdomen pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv		2	2	4	4	6	0	0	0	0	0	1

CT pelvis without and with IV contrast	Usually not appropriate	Expert Consensus	☢☢☢☢ 10-30 mSv	☢☢☢☢ 3-10 mSv [ped]	2	2	3	9	2	0	0	0	0	1	0
Radiography chest	Usually not appropriate	Limited	☢ <0.1 mSv	☢ <0.03 mSv [ped]	2	2	7	2	3	0	2	0	0	1	0
		References		Study Quality											
		26 (26059775)		3											
US duplex Doppler groin	Usually not appropriate	Expert Consensus	O 0 mSv	O 0 mSv [ped]	2	2	5	7	2	0	0	0	0	1	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.**