

# Protocol for the Examination of Specimens From Patients With Primary Carcinoma of the Vulva

**Version:** Vulva 4.1.0.1

**Protocol Posting Date:** February 2020

**CAP Laboratory Accreditation Program Protocol Required Use Date:** November 2020

Includes pTNM requirements from the 8<sup>th</sup> Edition, AJCC Staging Manual, and 2018 FIGO Cancer Report

**For accreditation purposes, this protocol should be used for the following procedures AND tumor types:**

Procedure	Description
Resection	Includes vulvectomy (with or without removal of other organs and tissues)
Tumor Type	Description
Carcinoma	Includes squamous cell carcinoma, adenocarcinoma and variants, carcinosarcoma, neuroendocrine carcinoma, and mixed epithelial – neuroendocrine tumors

**This protocol is NOT required for accreditation purposes for the following:**

Procedure
Biopsy
Primary resection specimen with no residual cancer (eg, following neoadjuvant therapy)
Cytologic specimens

**The following tumor types should NOT be reported using this protocol:**

Tumor Type
Melanoma (consider the Skin Melanoma protocol)
Lymphoma (consider the Hodgkin or non-Hodgkin Lymphoma protocols)
Sarcoma (consider the Soft Tissue protocol)

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### Accreditation Requirements

This protocol can be utilized for a variety of procedures and tumor types for clinical care purposes. For accreditation purposes, only the definitive primary cancer resection specimen is required to have the core and conditional data elements reported in a synoptic format.

- Core data elements are required in reports to adequately describe appropriate malignancies. For accreditation purposes, essential data elements must be reported in all instances, even if the response is “not applicable” or “cannot be determined.”
- Conditional data elements are only required to be reported if applicable as delineated in the protocol. For instance, the total number of lymph nodes examined must be reported, but only if nodes are present in the specimen.
- Optional data elements are identified with “+” and although not required for CAP accreditation purposes, may be considered for reporting as determined by local practice standards.

The use of this protocol is not required for recurrent tumors or for metastatic tumors that are resected at a different time than the primary tumor. Use of this protocol is also not required for pathology reviews performed at a second institution (ie, secondary consultation, second opinion, or review of outside case at second institution).

### Synoptic Reporting

All core and conditionally required data elements outlined on the surgical case summary from this cancer protocol must be displayed in synoptic report format. Synoptic format is defined as:

- Data element: followed by its answer (response), outline format without the paired "Data element: Response" format is NOT considered synoptic.
- The data element should be represented in the report as it is listed in the case summary. The response for any data element may be modified from those listed in the case summary, including “Cannot be determined” if appropriate.
- Each diagnostic parameter pair (Data element: Response) is listed on a separate line or in a tabular format to achieve visual separation. The following exceptions are allowed to be listed on one line:
  - Anatomic site or specimen, laterality, and procedure
  - Pathologic Stage Classification (pTNM) elements
  - Negative margins, as long as all negative margins are specifically enumerated where applicable
- The synoptic portion of the report can appear in the diagnosis section of the pathology report, at the end of the report or in a separate section, but all Data element: Responses must be listed together in one location

Organizations and pathologists may choose to list the required elements in any order, use additional methods in order to enhance or achieve visual separation, or add optional items within the synoptic report. The report may have required elements in a summary format elsewhere in the report IN ADDITION TO but not as replacement for the synoptic report ie, all required elements must be in the synoptic portion of the report in the format defined above.

## Summary of Changes

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### Version 4.1.0.1

The following data element was modified:

Footnotes

## Surgical Pathology Cancer Case Summary

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Protocol posting date: February 2020

### VULVA:

Select a single response unless otherwise indicated.

#### Procedure (Note A)

- Local excision
- Wide excision
- Partial vulvectomy
- Total vulvectomy
- Radical vulvectomy
- Other (specify): \_\_\_\_\_
- Not specified

#### Tumor Site (select all that apply)

- Right vulva
  - +  Labium majus
  - +  Labium minus
  - +  Bartholin gland
- Left vulva
  - +  Labium majus
  - +  Labium minus
  - +  Bartholin gland
- Clitoris
- Other (specify): \_\_\_\_\_
- Not specified

#### Tumor Size (Note B)

- Greatest dimension (centimeters): \_\_\_\_ cm
- + Additional dimensions (centimeters): \_\_\_\_ x \_\_\_\_ cm
- Cannot be determined (explain): \_\_\_\_\_

#### Tumor Focality

- Unifocal
- Multifocal
- Cannot be determined (explain): \_\_\_\_\_
- Not specified

#### Histologic Type (Notes C and D)

- Squamous cell carcinoma, NOS
- Squamous cell carcinoma, keratinizing
- Squamous cell carcinoma, nonkeratinizing
- Squamous cell carcinoma, basaloid
- Squamous cell carcinoma, verrucous
- Squamous cell carcinoma, warty
- Squamous cell carcinoma, papillary
- Adenocarcinoma, NOS
- Adenocarcinoma, mammary gland type
- Adenocarcinoma, skene gland type
- Adenocarcinoma, sweat gland type
- Adenocarcinoma, intestinal type
- Adenocarcinoma, with associated Paget disease

+ Data elements preceded by this symbol are not required for accreditation purposes. These optional elements may be clinically important but are not yet validated or regularly used in patient management.

- Adenosquamous carcinoma
- Transitional cell carcinoma
- Adenoid cystic carcinoma
- Adenoid basal carcinoma
- Small cell neuroendocrine carcinoma
- Large cell neuroendocrine carcinoma
- Undifferentiated carcinoma
- Other histologic type not listed (specify): \_\_\_\_\_
- Carcinoma, type cannot be determined

**Histologic Grade**

- G1: Well differentiated
- G2: Moderately differentiated
- G3: Poorly differentiated
- G4: Undifferentiated
- Other (specify): \_\_\_\_\_
- GX: Cannot be assessed
- Not applicable

**Depth of Invasion (Note E)**

- Specify depth of invasion (millimeters):  mm
- Cannot be determined (explain): \_\_\_\_\_

**+ Tumor Border (Note F)**

- +  Pushing
- +  Infiltrating

**Other Tissue/ Organ Involvement (select all that apply)**

*Note: Any organ not selected is either not involved or was not submitted.*

- Not applicable
- Not identified
- Vagina, lower one-third
- Vagina, upper two-thirds
- Urethra, lower one-third
- Urethra, upper two-thirds
- Anus
- Bladder mucosa<sup>#</sup>
- Rectal mucosa<sup>#</sup>
- Pelvic bone
- Other organs/tissue (specify): \_\_\_\_\_
- Cannot be determined (explain): \_\_\_\_\_

<sup>#</sup>Mucosal surface of bladder or rectum should be involved by tumor

**Margins<sup>#</sup>**

**Peripheral Margin** (select all that apply)

- Cannot be assessed (explain): \_\_\_\_\_
- Uninvolved by invasive carcinoma
  - + Distance of invasive carcinoma from margin (millimeters):  mm
  - + Specify location: \_\_\_\_\_
- Involved by invasive carcinoma
  - Specify location(s), if possible: \_\_\_\_\_
- Uninvolved by intraepithelial neoplasia
- Involved by high-grade squamous intraepithelial lesion (VIN 2-3)
  - + Specify location(s): \_\_\_\_\_
- Involved by vulvar intraepithelial neoplasia, differentiated (simplex) type (dVIN)

+ Data elements preceded by this symbol are not required for accreditation purposes. These optional elements may be clinically important but are not yet validated or regularly used in patient management.

+ Specify location(s): \_\_\_\_\_  
 \_\_\_ Involved by Paget disease  
 + Specify location(s): \_\_\_\_\_

**Deep Margin** (select all that apply)

\_\_\_ Cannot be assessed (explain): \_\_\_\_\_  
 \_\_\_ Uninvolved by invasive carcinoma  
 + Distance of invasive carcinoma from margin (millimeters): \_\_\_ mm  
 + Specify location: \_\_\_\_\_  
 \_\_\_ Involved by invasive carcinoma  
 Specify location(s), if possible: \_\_\_\_\_  
 \_\_\_ Uninvolved by intraepithelial neoplasia  
 \_\_\_ Involved by high-grade squamous intraepithelial lesion (VIN 2-3)  
 + Specify location(s): \_\_\_\_\_  
 \_\_\_ Involved by vulvar intraepithelial neoplasia, differentiated (simplex) type (dVIN)  
 + Specify location(s): \_\_\_\_\_  
 \_\_\_ Involved by Paget disease  
 + Specify location(s): \_\_\_\_\_

# High-grade squamous intraepithelial lesion (VIN 2-3), dVIN, and/or Paget disease should be reported if present, even if margin is involved by invasive carcinoma.

**Lymphovascular Invasion (Note G)**

\_\_\_ Not identified  
 \_\_\_ Present  
 \_\_\_ Cannot be determined (explain): \_\_\_\_\_

**Regional Lymph Nodes**

Note: Only inguinal and femoral nodes are considered regional lymph nodes. Any other involved nodes should be categorized as metastases (pM1) and be commented on in the distant metastasis section. Presence of isolated tumor cells no greater than 0.2 mm in regional lymph node(s) is considered N0 (i+).

\_\_\_ No lymph nodes submitted or found

Lymph Node Examination (required only if lymph nodes are present in the specimen)

\_\_\_ All lymph nodes negative for tumor cells

\_\_\_ Positive for tumor cells (select all that apply)

**Number of Nodes with Metastasis 5 mm or Greater:** \_\_\_\_\_  
**Number of Nodes with Metastasis Less than 5 mm (excludes isolated tumor cells):** \_\_\_\_\_  
**Number of Nodes with Isolated Tumor Cells (0.2 mm or less) (if applicable):** \_\_\_\_\_  
 Number cannot be determined (explain): \_\_\_\_\_

Note: Reporting the number of lymph nodes with isolated tumor cells is required only in the absence of metastasis greater than 0.2 mm in other lymph nodes.

+ Nodal Site(s) with Tumor Cells (specify): \_\_\_\_\_

**Additional Lymph Node Findings (select all that apply) (required only if applicable) (Note I)**

\_\_\_ None identified  
 \_\_\_ Extranodal extension  
 \_\_\_ Fixed/ulcerated nodes  
 \_\_\_ Other (specify): \_\_\_\_\_  
 \_\_\_ Cannot be determined (explain): \_\_\_\_\_

**Total Number of Lymph Nodes Examined:** \_\_\_\_\_

+ Data elements preceded by this symbol are not required for accreditation purposes. These optional elements may be clinically important but are not yet validated or regularly used in patient management.

\_\_\_ Number cannot be determined (explain): \_\_\_\_\_  
 + Specify Site(s): \_\_\_\_\_

**Number of Sentinel Nodes Examined (if applicable):** \_\_\_\_\_

\_\_\_ Number cannot be determined (explain): \_\_\_\_\_

**Pathologic Stage Classification (pTNM, AJCC 8<sup>th</sup> Edition) (Note H)**

*Note: Reporting of pT, pN, and (when applicable) pM categories is based on information available to the pathologist at the time the report is issued. Only the applicable T, N, or M category is required for reporting; their definitions need not be included in the report. The categories (with modifiers when applicable) can be listed on 1 line or more than 1 line.*

**TNM Descriptors (required only if applicable) (select all that apply)**

\_\_\_ m (multiple primary tumors)  
 \_\_\_ r (recurrent)  
 \_\_\_ y (posttreatment)

**Primary Tumor (pT)**

\_\_\_ pTX: Primary tumor cannot be assessed  
 \_\_\_ pT0: No evidence of primary tumor  
 \_\_\_ pT1: Tumor confined to the vulva and / or perineum<sup>#</sup>  
 \_\_\_ pT1a: Lesions 2 cm or less, confined to the vulva and/or perineum, and with stromal invasion of 1.0 mm or less<sup>##</sup>  
 \_\_\_ pT1b: Lesions more than 2 cm, or any size with stromal invasion more than 1.0 mm, confined to the vulva and/or perineum  
 \_\_\_ pT2: Tumor of any size with extension to adjacent perineal structures (lower/distal third of the urethra, lower/distal third of the vagina, anal involvement)  
 \_\_\_ pT3: Tumor of any size with extension to any of the following: upper/proximal two-thirds of the urethra, upper/proximal two-thirds of the vagina, bladder mucosa, or rectal mucosa,<sup>###</sup> or fixed to pelvic bone

<sup>#</sup> Multifocal lesions should be designated as such. The largest lesion or the lesion with the greatest depth of invasion will be the target lesion identified to address the highest pT stage. Depth of invasion is defined as the measurement of the tumor from the epithelial–stromal junction of the adjacent most superficial dermal papilla to the deepest point of invasion.

<sup>##</sup> Note: The LAST definition of superficial invasive squamous cell carcinoma (SISCCA) conforms to AJCC pT1a/FIGO IA

<sup>###</sup> Mucosal surface of bladder or rectum should be involved

**Regional Lymph Nodes (pN) (select all that apply)**

**+ Modifier**

+ \_\_\_ (sn)  
 + \_\_\_ (sn)(i-)  
 + \_\_\_ (sn)(i+)

**Regional Lymph Nodes Category (pN)**

\_\_\_ pNX: Regional lymph nodes cannot be assessed  
 \_\_\_ pN0: No regional lymph node metastasis  
 \_\_\_ pN0(i+): Isolated tumor cells in regional lymph node(s) no greater than 0.2 mm  
 \_\_\_ pN1: Regional lymph node metastasis with one or two lymph node metastases each less than 5 mm, or one lymph node metastasis  $\geq$  5 mm  
 \_\_\_ pN1a: One or two lymph node metastasis each less than 5 mm<sup>#</sup>  
 \_\_\_ pN1b: One lymph node metastasis  $\geq$  5 mm  
 \_\_\_ pN2: Regional lymph node metastasis with three or more lymph node metastases each less than 5 mm, or two or more lymph node metastases  $\geq$  5 mm, or lymph node(s) with extranodal extension  
 \_\_\_ pN2a: Three or more lymph node metastases each less than 5 mm<sup>#</sup>  
 \_\_\_ pN2b: Two or more lymph node metastases  $\geq$  5 mm  
 \_\_\_ pN2c: Lymph node(s) with extranodal extension  
 \_\_\_ pN3: Fixed or ulcerated regional lymph node metastasis

+ Data elements preceded by this symbol are not required for accreditation purposes. These optional elements may be clinically important but are not yet validated or regularly used in patient management.

# Includes micrometastasis, N1mi and N2mi. The site, size, and laterality of lymph node metastases should be recorded.

**Distant Metastasis (pM) (required only if confirmed pathologically in this case)**

\_\_\_ pM1: Distant metastasis (including pelvic lymph node metastasis)#  
Specify site(s), if known: \_\_\_\_\_

# Internal iliac/hypogastric, external iliac, and common iliac lymph nodes are considered distant metastasis.

**+ FIGO Stage (2018 FIGO Cancer Report)**

- + \_\_\_ I: Tumor confined to the vulva
- + \_\_\_ IA: Lesions ≤2 cm in size, confined to the vulva or perineum and with stromal invasion ≤1.0 mm, no nodal metastasis#
- + \_\_\_ IB: Lesions >2 cm in size or with stromal invasion >1.0 mm, confined to the vulva and/or perineum, with negative nodes
- + \_\_\_ II: Tumor of any size with extension to adjacent perineal structures (lower third of urethra, lower third of vagina, anus) with negative nodes
- + \_\_\_ III: Tumor of any size with or without extension to adjacent perineal structures (lower third of urethra, lower third of vagina, anus) with positive inguinofemoral nodes
- + \_\_\_ IIIA: With 1 lymph node metastasis (≥5 mm)
- + \_\_\_ IIIA: With 1 to 2 lymph node metastasis(es) (<5 mm)
- + \_\_\_ IIIB: With 2 or more lymph node metastases (≥5 mm)
- + \_\_\_ IIIB: With 3 or more lymph node metastases (<5 mm)
- + \_\_\_ IIIC: With positive nodes with extracapsular spread
- + \_\_\_ IV: Tumor invades other regional (upper two-thirds urethra, upper two-thirds vagina), or distant structures
- + \_\_\_ IVA: Tumor invades any of the following: upper urethral and/or vaginal mucosa, bladder mucosa, rectal mucosa, or fixed to pelvic bone, or fixed or ulcerated inguino-femoral lymph nodes
- + \_\_\_ IVB: Any distant metastasis including pelvic lymph nodes

# Note: The LAST definition of superficial invasive squamous cell carcinoma (SISCCA) conforms to AJCC pT1a/FIGO IA.

**+ Additional Pathologic Findings (select all that apply) (Note I)**

- + \_\_\_ None identified
- + \_\_\_ Condyloma accuminatum
- + \_\_\_ High grade squamous intraepithelial lesion (VIN 2-3)
- + \_\_\_ Low grade squamous intraepithelial lesion (VIN 1)
- + \_\_\_ Vulvar intraepithelial neoplasia, differentiated (simplex) type (dVIN)
- + \_\_\_ Lichen sclerosus
- + \_\_\_ Other (specify): \_\_\_\_\_

**+ Comment(s)**

+ Data elements preceded by this symbol are not required for accreditation purposes. These optional elements may be clinically important but are not yet validated or regularly used in patient management.

## Explanatory Notes

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### A. Suggestions for Sampling of Tissue Removed for Diagnosis or Treatment of Vulvar Carcinoma

#### Tumor

Sections taken will vary with procedure, as designated by the surgeon.<sup>1</sup> Sections to include the following should be taken (if appropriate):

- Tumor, representative sections, including site of deepest invasion and interface of tumor with adjacent epithelium
- Resection margins
- Sections of abnormal epithelium or other tissue remote from tumor
- Sections of areas(s) marked by surgeon
- Sections of prior biopsy or resection site of tumor if no tumor present grossly

#### Lymph Nodes

The femoral and inguinal lymph nodes are the sites of regional spread.<sup>1,2</sup> When inguinal-femoral lymphadenectomy is performed, 6 or more lymph nodes will normally be included<sup>1,2</sup>; 1 or more sections of all lymph nodes identified should be taken, depending on presence or absence of gross tumor as well as size of lymph node. In addition, sections to confirm presence or absence of extranodal extension should be taken.

#### Other Organs and Tissues

Other organs and tissues may be submitted with the vulva specimen. Sections to include the following should be taken (if appropriate):

- Sections to demonstrate presence or absence of tumor
- Sections to demonstrate its relation, if present, to vulvar tumor (contiguous or metastatic)
- Sections of other lesions, if present
- Resection margins

If frozen section analysis was performed, those tissue fragment(s) should be submitted.

#### References

1. Rouzier R, Haddad B, Atallah D, Dubois P, Paniel BJ. Surgery for vulvar cancer. *Clin Obstet Gynecol*. 2005;48:869-878.
2. Amin MB, Edge SB, Greene FL, et al, eds. *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017.

### B. Size of Tumor

Assessment of gross size of the tumor is important for staging. The tumor should be accurately measured to determine if its maximum dimension is  $\leq 2$  cm or  $>2$  cm.

### C. Etiology/Pathogenesis

Two pathways have been elucidated in the pathogenesis of invasive vulvar carcinoma.<sup>1-3</sup> The first pathway involves classic vulvar intraepithelial neoplasia (VIN), which is associated with high-risk human papillomavirus (HPV) subtypes (16 > 18) and is histologically similar to dysplasia seen in the cervix. It tends to be multifocal and more common in younger women, with a relatively low risk of progression into an invasive squamous cell carcinoma. It is usually diffusely positive with p16 immunostain (reflecting HPV association). The associated invasive component is often basaloid or warty in morphology. The second pathway is referred to as differentiated or simplex VIN (dVIN). dVIN is not associated with HPV, but instead with vulvar dystrophy such as lichen sclerosus, lichen simplex chronicus, and squamous cell hyperplasia. The morphologic features are more subtle, with atypia noted in the parabasal cells. The associated invasive component is keratinizing and can be associated with p53 mutations. This subtype usually occurs in older women. Of note, overlap does exist between the 2 pathways, with some tumors exhibiting morphologic and/or clinical features of each.



	<b>Keratinizing Squamous Carcinoma</b>	<b>Basaloid Squamous Carcinoma</b>
<b>Prevalence</b>	More common (approximately 80%)	Less common (approximately 20%)
<b>Age</b>	Older females	Younger females
<b>Distribution</b>	Usually unifocal, may be multifocal	Often multifocal
<b>Association with multifocal lower genital tract neoplasia</b>	Rare	Common
<b>Morphology</b>	Keratinizing	Warty
<b>Associated vulvar intraepithelial neoplasia (VIN)</b>	Uncommon: differentiated type	Common: classic type
<b>Association with high risk human papillomavirus (HPV)</b>	No	Yes Type 16>18
<b>Association with vulvar dystrophy</b>	Common	Rare
<b>Immunohistochemistry</b>	p53: Some cases positive p16: Negative or focally positive at stromal interface	p53: Negative p16: Positive

Adapted from McCluggage.<sup>1</sup>

#### References

1. McCluggage WG. Recent developments in vulvovaginal pathology. *Histopathology*. 2009;54:156-173.
2. Hart WR. Vulvar intraepithelial neoplasia: historical aspects and current status. *Int J Gynecol Pathol*. 2001;20:16-30.
3. Chiesa-Vottero A, Dvoretzky PM, and Hart WR. Histopathologic study of thin vulvar squamous carcinomas and associated cutaneous lesions. *Am J Surg Pathol*. 2006;30:310-318.

#### D. Histologic Type

The protocol uses an abbreviated, slightly modified version of the World Health Organization (WHO) classification of histologic types of malignant and premalignant vulvar epithelial tumors.<sup>1-3</sup>

#### References

1. Kurman RJ, Carcangiu ML, Harrington CS, Young RH, eds. *WHO Classification of Tumors of the Female Reproductive Organs*. Geneva, Switzerland: WHO Press; 2014:307. *World Health Organization Classification of Tumors*. 4<sup>th</sup> edition.

#### E. Depth of Invasion

Tumor thickness and depth of invasion are separate measurements. Tumor thickness of a squamous cell carcinoma is measured in millimeters from the surface of the tumor or, if there is surface keratinization, from the bottom of the granular layer, to the deepest point of invasion.<sup>1,2</sup> Tumor thickness is NOT a parameter used in staging.

The depth of invasion of squamous cell carcinoma is defined as the measurement in millimeters from the epithelial-stromal junction of the adjacent, most superficial dermal papilla to the deepest point of invasion.<sup>2,3</sup> This parameter is important for tumor staging, especially for small tumors.

#### References

1. Tavassoli FA, Devilee P, eds. *World Health Organization Classification of Tumours: Pathology and Genetics of Tumours of the Breast and Female Genital Organs*. Lyon, France: IARC Press; 2003.
2. Yoder BJ, Rufforny I, Massoll NA, Wilkinson EJ. Stage 1A vulvar squamous cell carcinoma: an analysis of tumor invasive characteristics and risk. *Am J Surg Pathol*. 2008;32:765-772.

- Amin MB, Edge SB, Greene FL, et al, eds. *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017.

### F. Tumor Growth Pattern

Vulvar squamous cell carcinomas can generally be separated into those tumors that have a predominately infiltrating (finger-like) pattern and those that invade with a broad, pushing front (verrucous carcinoma). In some studies, infiltrating invasion is associated with a higher frequency of regional lymph node metastasis and should be noted in the report.<sup>1</sup>

#### References

- Drew PA, Al-Abadi MA, Orlando CA, Hendricks JB, Kubilis PS, Wilkinson EJ. Prognostic factors in carcinoma of the vulva: a clinicopathologic and DNA flow cytometric study. *Int J Gynecol Pathol*. 1996;15:235-241.

### G. Lymphatic/Blood Vessel Invasion

Vascular space invasion by squamous cell carcinoma has been associated with a poorer prognosis, including a risk factor for regional lymph node metastasis, and should be noted in the report.<sup>1-3</sup>

#### References

- Chan JK, Sugiyama V, Pham H, et al. Margin distance and other clinico-pathologic prognostic factors in vulvar carcinoma: a multivariate analysis. *Gynecol Oncol*. 2007;104:636-641.
- Raspagliesi F, Hanozet F, Ditto A, et al. Clinical and pathologic prognostic factors in squamous cell carcinoma of the vulva. *Gynecol Oncol*. 2006;102:333-337.
- Hauspy J, Beiner M, Harley I, et al. Sentinel lymph node in vulvar cancer. *Cancer*. 2007;110:1015-1022.

### H. Pathologic Stage Classification

The TNM staging system of the American Joint Committee on Cancer (AJCC) and the International Union Against Cancer (UICC) for carcinoma of the vulva is recommended and is shown below.<sup>1,2</sup> Comparison with FIGO staging is also shown.<sup>3</sup>

According to AJCC/UICC convention, the designation “T” refers to a primary tumor that has not been previously treated. The symbol “p” refers to the pathologic classification of the TNM, as opposed to the clinical classification, and is based on gross and microscopic examination. pT entails a resection of the primary tumor or biopsy adequate to evaluate the highest pT category, pN entails removal of nodes adequate to validate lymph node metastasis, and pM implies microscopic examination of distant lesions. Clinical classification (cTNM) is usually carried out by the referring physician before treatment during initial evaluation of the patient or when pathologic classification is not possible.

Pathologic staging is usually performed after surgical resection of the primary tumor. Pathologic staging depends on pathologic documentation of the anatomic extent of disease, whether or not the primary tumor has been completely removed. If a biopsied tumor is not resected for any reason (eg, when technically infeasible) and if the highest T and N categories or the M1 category of the tumor can be confirmed microscopically, the criteria for pathologic classification and staging have been satisfied without total removal of the primary cancer.

#### TNM Descriptors

For identification of special cases of TNM or pTNM classifications, the “m” suffix and “y,” “r,” and “a” prefixes are used. Although they do not affect the stage grouping, they indicate cases needing separate analysis.

The “m” suffix indicates the presence of multiple primary tumors in a single site and is recorded in parentheses: pT(m)NM.

The “y” prefix indicates those cases in which classification is performed during or after initial multimodality therapy. The cTNM or pTNM category is identified by a “y” prefix. The ycTNM or ypTNM categorizes the extent of tumor actually present at the time of that examination. The “y” categorization is not an estimate of tumor before multimodality therapy.

The “r” prefix indicates a recurrent tumor when staged after a disease-free interval and is identified by the “r” prefix: rTNM.

The “a” prefix designates the stage determined at autopsy: aTNM.

### Additional Descriptors

#### T Category Considerations

Lymphovascular invasion (LVI) indicates whether microscopic lymphovascular invasion is identified. LVI includes lymphatic invasion, vascular invasion, or lymphovascular invasion. According to AJCC/UICC convention, LVI does not affect the T category indicating local extent of tumor unless specifically included in the definition of a T category.

#### N Category Considerations

Isolated tumor cells (ITCs) are single cells or small clusters of cells not more than 0.2 mm in greatest dimension. Lymph nodes or distant sites with ITCs found by either histologic examination (eg, immunohistochemical evaluation for cytokeratin) or nonmorphological techniques (eg, flow cytometry, DNA analysis, polymerase chain reaction [PCR] amplification of a specific tumor marker) should be so identified. There is currently no guidance in the literature as to how these patients should be coded; until more data are available, they should be coded as “N0(i+)” with a comment noting how the cells were identified.

#### Sentinel Lymph Nodes

The sentinel lymph node is the first node to receive drainage from a primary tumor. There may be more than 1 sentinel node for some tumors. If a sentinel node contains metastatic tumor, it indicates that other more distant nodes may also contain metastatic disease. If sentinel nodes are negative, other regional nodes are less likely to contain metastasis.<sup>4-6</sup>

#### Extranodal Extension/Nodal Replacement

Both extranodal extension and the size of lymph node metastasis have been shown to reflect prognosis and should be noted in the report.<sup>1,6,7</sup>

## **TNM and FIGO Staging Systems for Vulvar Carcinoma**

### **Primary Tumor (T)**

TNM Categories	FIGO Stages	
TX		Primary tumor cannot be assessed
T0		No evidence of primary tumor
T1a	IA	Lesions 2 cm or less in size, confined to the vulva or perineum and with stromal invasion 1.0 mm or less*#
T1b	IB	Lesions more than 2 cm in size <b>or</b> any size with stromal invasion more than 1.0 mm, confined to the vulva or perineum
T2	II	Tumor of any size with extension to adjacent perineal structures (lower/distal one-third urethra, lower/distal one-third vagina, anal involvement)
T3	IVA	Tumor of any size with extension to any of the following: upper/proximal two-thirds of urethra, upper/proximal two-thirds vagina, bladder mucosa, rectal mucosa, or fixed to pelvic bone

The depth of invasion is defined as the measurement of the tumor from the epithelial-stromal junction of the adjacent most superficial dermal papilla to the deepest point of invasion.

#The LAST definition of superficial invasive squamous cell carcinoma (SISCCA) conforms to AJCC T1a/FIGO 1A

### **Regional Lymph Nodes (N)**

NX	Regional lymph nodes cannot be assessed
N0	No regional lymph node metastasis

N1		1 or 2 regional lymph nodes with the following features
N1a*	IIIA	1 or 2 lymph node metastasis each less than 5 mm
N1b	IIIA	1 lymph node metastasis 5 mm or greater
N2	IIIB	Regional lymph nodes metastasis with the following features
N2a*	IIIB	3 or more lymph node metastases each less than 5 mm
N2b	IIIB	2 or more lymph node metastases 5 mm or greater
N2c	IIIC	Lymph node metastasis with extracapsular spread
N3	IVA	Fixed or ulcerated regional lymph node metastasis

\*Includes micrometastasis, N1ami and N2ami and nodes with ITC.

Only femoral and inguinal lymph nodes are considered regional nodes in vulvar cancers. An effort should be made to describe the site and laterality of lymph node metastases.

#### Distant Metastasis (M)

M0		No distant metastasis
M1	IVB	Distant metastasis [includes tumor involvement of pelvic lymph nodes (such as internal iliac/hypogastric, external iliac, and common iliac nodes)]

#### References

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#### I. Additional Pathologic Findings

Presence of adjacent lesions such as lichen sclerosus has been shown to increase risk of recurrence and development of new primary tumors in patients with vulvar squamous cell carcinoma.<sup>1</sup> Therefore, presence of such a finding is recommended.

#### References

1. Yap JK, Fox R, Leonard S, et al. Adjacent lichen sclerosus predicts local recurrence and second field tumour in women with vulvar squamous cell carcinoma. *Gynecol Oncol*. 2016;142(3):420-426.