Endometrium

Protocol applies to all carcinomas of the endometrium.

Protocol revision date: January 2004
Based on AJCC/UICC TNM, 6th edition
and FIGO 2001 Annual Report

Procedures
• Cytology (No Accompanying Checklist)
• Biopsy
• Curettage
• Hysterectomy

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Surgical Pathology Cancer Case Summary (Checklist)

Protocol revision date: January 2004
Applies to invasive carcinomas only
Based on AJCC/UICC TNM, 6th edition
and FIGO 2001 Annual Report

*ENDOMETRIUM: Biopsy
(Note: Use of checklist for biopsy specimens is optional)

*Patient name:
*Surgical pathology number:

Note: Check 1 response unless otherwise indicated.

*MACROSCOPIC

*Specimen Type
*___ Biopsy
*___ Curettage
*___ Other (specify): ___________________________
*___ Not specified

*MICROSCOPIC

*Histologic Type
*___ Endometrioid adenocarcinoma, not otherwise characterized
*___ Endometrioid adenocarcinoma, secretory (variant)
*___ Endometrioid adenocarcinoma, ciliated cell (variant)
*___ Endometrioid adenocarcinoma, with squamous metaplasia
*___ Adenosquamous carcinoma
*___ Serous adenocarcinoma
*___ Clear cell adenocarcinoma
*___ Mucinous adenocarcinoma
*___ Squamous cell carcinoma
*___ Mixed carcinoma (specify types and percentages): __________________________
*___ Undifferentiated carcinoma
*___ Other (specify): __________________________
*___ Carcinoma, type cannot be determined

* Data elements with asterisks are not required for accreditation purposes for the Commission on Cancer. These elements may be clinically important, but are not yet validated or regularly used in patient management. Alternatively, the necessary data may not be available to the pathologist at the time of pathologic assessment of this specimen.
**Histologic Grade (if applicable)**
(Grading system below applies primarily to endometrioid carcinoma)
*___ Not applicable
*___ GX: Cannot be assessed
*___ G1: 5% or less nonsquamous solid growth
*___ G2: 6% to 50% nonsquamous solid growth
*___ G3: More than 50% nonsquamous solid growth
*___ Other (specify): ___________________________

**Additional Pathologic Findings (check all that apply)**
*___ None identified
*___ Hyperplasia
    *___ Simple
    *___ Complex (adenomatous)
*___ Atypical hyperplasia
    *___ Simple
    *___ Complex (adenomatous)
*___ Other (specify): ___________________________

**Comment(s)**

* Data elements with asterisks are not required for accreditation purposes for the Commission on Cancer. These elements may be clinically important, but are not yet validated or regularly used in patient management. Alternatively, the necessary data may not be available to the pathologist at the time of pathologic assessment of this specimen.
Surgical Pathology Cancer Case Summary (Checklist)

Protocol revision date: January 2004
Applies to invasive carcinoma only
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and FIGO 2001 Annual Report

ENDOMETRIUM: Hysterectomy, With or Without Other Organs or Tissues

Patient name: 
Surgical pathology number: 

Note: Check 1 response unless otherwise indicated.

MACROSCOPIC

Specimen Type
___ Hysterectomy
___ Radical hysterectomy (includes parametria)
___ Pelvic exenteration
___ Other (specify): ____________________________
___ Not specified

*Tumor Site
*Specify location(s), if known: _____________________________
*___ Not specified

Tumor Size
Greatest dimension: ___ cm
*Additional dimensions: ___ x ___ cm
___ Cannot be determined (see Comment)

Other Organs Present (check all that apply)
___ None
___ Right ovary
___ Left ovary
___ Right fallopian tube
___ Left fallopian tube
___ Urinary bladder
___ Vagina
___ Rectum
___ Other(s) (specify): ____________________________

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CAP Approved Gynecologic - Endometrium

MICROSCOPIC

Histologic Type

___ Endometrioid adenocarcinoma, not otherwise characterized
___ Endometrioid adenocarcinoma, secretory (variant)
___ Endometrioid adenocarcinoma, ciliated cell (variant)
___ Endometrioid adenocarcinoma, with squamous metaplasia
___ Adenosquamous carcinoma
___ Serous adenocarcinoma
___ Clear cell adenocarcinoma
___ Mucinous adenocarcinoma
___ Squamous cell carcinoma
___ Mixed carcinoma (specify types and percentages): ______________________
___ Undifferentiated carcinoma
___ Other (specify): ____________________________
___ Carcinoma, type cannot be determined

Histologic Grade (if applicable)
(Grading system below applies primarily to endometrioid carcinoma)

___ Not applicable
___ GX: Cannot be assessed
___ G1: 5% or less nonsquamous solid growth
___ G2: 6% to 50% nonsquamous solid growth
___ G3: More than 50% nonsquamous solid growth
___ Other (specify): ____________________________

Myometrial Invasion

___ No invasion
___ Invasion present
   Specify depth of invasion: ___ mm
   Specify myometrial thickness: ___ mm

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### Pathologic Staging (pTNM [FIGO])

**Primary Tumor (pT)**
- ___ pTX [-]: Primary tumor cannot be assessed
- ___ pT0 [-]: No evidence of primary tumor
- ___ pTis [0]: Carcinoma in situ
- pT1 [I]: Tumor confined to corpus uteri
  - ___ pT1a [IA]: Tumor limited to endometrium
  - ___ pT1b [IB]: Tumor invades less than one-half of the myometrium
  - ___ pT1c [IC]: Tumor invades one-half or more of the myometrium
- pT2 [II]: Tumor invades cervix, but does not extend beyond uterus
  - ___ pT2a [IIA]: Endocervical glandular involvement only
  - ___ pT2b [IIB]: Cervical stromal invasion
- pT3 [III]: Local and/or regional spread as specified in T3a, T3b, N1, and FIGO IIIA, IIIB, and IIIC
  - ___ pT3a [IIIA]: Tumor involves serosa, parametria, and/or adnexa (direct extension or metastasis)
  - ___ pT3a [IIIA]: Tumor involves serosa, parametria, and/or adnexa (direct extension or metastasis) and/or cancer cells in ascites or peritoneal washings
  - ___ pT3b [IIIB]: Involvement of vagina (direct extension or metastasis), rectal or bladder wall (without mucosal involvement), or pelvic wall(s) (frozen pelvis)
  - ___ pT4 [IVA]: Tumor invades bladder mucosa and/or bowel mucosa

**Regional Lymph Nodes (pN)**
- ___ pNX: Cannot be assessed
- ___ pN0: No regional lymph node metastasis
- ___ pN1 [IIIC]: Regional lymph node metastasis

Specify: Number examined: ___
Number involved: ___

**Distant Metastasis (pM)**
- ___ pMX: Cannot be assessed
- ___ pM1 [IVB]: Distant metastasis
  *Specify site(s), if known: ______________________________

**Margins**
- ___ Cannot be assessed
- ___ Uninvolved by invasive carcinoma
  *Distance of invasive carcinoma from closest margin: ___ mm
  *Specify margin: ______________________________________
- ___ Involved by invasive carcinoma
  Specify margin(s): _____________________________________

**Venous/Lymphatic (Large/Small Vessel) Invasion (V/L)**
- ___ Absent
- ___ Present
  * Data elements with asterisks are not required for accreditation purposes for the Commission on Cancer. These elements may be clinically important, but are not yet validated or regularly used in patient management. Alternatively, the necessary data may not be available to the pathologist at the time of pathologic assessment of this specimen.
Data elements with asterisks are not required for accreditation purposes for the Commission on Cancer. These elements may be clinically important, but are not yet validated or regularly used in patient management. Alternatively, the necessary data may not be available to the pathologist at the time of pathologic assessment of this specimen.
*Additional Pathologic Findings (check all that apply)
*___ None identified
*___ Hyperplasia
    *___ Simple
    *___ Complex (adenomatous)
*___ Atypical hyperplasia
    *___ Simple
    *___ Complex (adenomatous)
*___ Other (specify): ___________________________

*Comment(s)
Background Documentation

Protocol revision date: January 2004

I. Cytologic Material
   A. Clinical Information
      1. Patient identification
         a. Name
         b. Identification number
         c. Age (birth date)
      2. Responsible physician(s)
      3. Date of procedure
      4. Other clinical information
         a. Relevant history
            (1) previous diagnosis, procedure, or treatment (Note A)
            (2) menstrual history, including date of last normal period
            (3) previous/current pregnancy history
            (4) exogenous hormones, including type and duration
         b. Relevant findings (eg, intraoperative, hysteroscopic, radiologic, laboratory)
         c. Clinical diagnosis
         d. Procedure
            (1) cervical smear (see Cervix protocol for Bethesda 2001 terminology)
            (2) vaginal pool aspiration
            (3) endocervical or direct endometrial sampling (specify technique)
            (4) peritoneal washing
            (5) fine-needle aspiration (specify and describe site)
            (6) scraping of diaphragmatic or peritoneal surface (specify if gross lesion present)
   B. Macroscopic Examination
      1. Specimen
         a. Unfixed/fixed (specify fixative)
         b. Number of slides received, if appropriate
         c. Quantity and appearance of fluid specimens, if appropriate
         d. Other (eg, cytologic preparation from tissue)
         e. Results of intraprocedural consultation
      2. Material submitted for microscopic evaluation (eg, smear, cytocentrifuge, touch or filter preparation, cell block)
      3. Special studies (specify) (eg, cytochemistry, immunocytochemistry, DNA analysis [specify type], morphometry, cytogenetic analysis)
   C. Microscopic Evaluation
      1. Adequacy of specimen (if unsatisfactory for evaluation, specify reason) (Note B)
      2. Tumor, if present
         a. Histologic type of tumor, if possible (Note C)
         b. Other characteristics (eg, degree of differentiation)
      3. Additional pathologic findings, if present
      4. Results/status of special studies (specify)
      5. Comments
         a. Correlation with intraprocedural consultation, as appropriate
         b. Correlation with other specimens, as appropriate
c. Correlation with clinical information, as appropriate

II. Biopsy and Curettage
A. Clinical Information
1. Patient identification
   a. Name
   b. Identification number
   c. Age (birth date)
2. Responsible physician(s)
3. Date of procedure
4. Other clinical information
   a. Relevant history
      (1) previous diagnosis, procedure, or treatment (Note A)
      (2) menstrual history, including date of last normal period
      (3) previous/current pregnancy history
      (4) exogenous hormones, including type and duration
   b. Relevant findings (eg, intraoperative, hysteroscopic, radiologic, laboratory)
   c. Clinical diagnosis
   d. Procedure (eg, biopsy, fractional curettage, polypectomy)
   e. Site of specimen (eg, endometrium, endocervix)
B. Macroscopic Examination
1. Specimen
   a. Unfixed/fixed (specify fixative)
   b. Size (if multiple pieces, aggregate dimensions or size range of pieces; distinguish tissue from blood, if possible)
   c. Results of intraoperative consultation
2. Tumor, if discernible (eg, consistency or necrosis)
   a. Dimensions
   b. Other descriptive features
3. Tissue submitted for microscopic evaluation (Note D)
4. Special studies (specify) (eg, estrogen/progesterone receptors, immunohistochemistry, flow cytometry, morphometry, cytogenetic analysis)
C. Microscopic Examination
1. Adequacy of specimen (if inadequate for evaluation, specify reason) (Note E)
2. Tumor
   a. Histologic type(s) (Note C)
   b. Histologic grade (Note F)
   c. Extent (proportion of specimen involved; or dimensions, if small and measurable)
3. Additional pathologic findings, if present
   a. Hyperplasia (specify type) (Note C)
   b. Metaplasia(s) (specify type[s])
   c. Others(s)
4. Results/status of special studies (specify)
5. Comments
   a. Correlation with intraoperative consultation, as appropriate
   b. Correlation with other specimens, as appropriate
   c. Correlation with clinical information, as appropriate
III. Hysterectomy

A. Clinical Information

1. Patient identification
   a. Name
   b. Identification number
   c. Age (birth date)

2. Responsible physician(s)

3. Date of procedure

4. Other clinical information
   a. Relevant history
      (1) previous diagnosis, procedure, or treatment (Note A)
      (2) menstrual history, including date of last normal period
      (3) previous/current pregnancy history
      (4) exogenous hormones, including type and duration
   b. Relevant findings (eg, intraoperative, hysteroscopic, radiologic, laboratory)
   c. Clinical diagnosis
   d. Procedure (eg, hysterectomy with bilateral salpingo-oophorectomy and pelvic lymph node sampling)

B. Macroscopic Examination

1. Specimen
   a. Organ(s)/tissue(s) included
   b. Unfixed/fixed (specify fixative)
   c. Number of pieces
   d. Dimensions (3)
   e. Orientation, if indicated by surgeon
   f. Results of intraoperative consultation

2. Uterine tumor
   a. Location (eg, fundus, cornu, isthmus)
   b. Dimensions (3)
   c. Descriptive characteristics (eg, exophytic, necrosis)
   d. Distance from margins
   e. Estimated extent of invasion (Note G)

3. Uninvolved uterus
   a. Dimensions
   b. Appearance of the following
      (1) endometrium
      (2) myometrium, including thickness
      (3) serosa
      (4) cervix
   c. Additional pathologic findings, if present

4. Fallopian tube(s)
   a. Tumor, if present
      (1) dimensions
      (2) location and relation to uterine tumor
   b. Resection margins, as appropriate
   c. Other pathologic findings, if present

5. Ovary(ies)
   a. Tumor, if present (see Ovary protocol)
      (1) dimensions
(2) location and relation to uterine tumor
b. Resection margins, as appropriate
c. Other pathologic findings, if present

6. Regional lymph nodes
a. Location, if specified by surgeon
b. Number at each location
c. Descriptive features of grossly involved nodes at each location

7. Other organs and tissues, including biopsy specimens with location specified by surgeon
a. Descriptive features
b. Tumor, if present
   (1) dimensions
   (2) location and relation to uterine tumor
c. Resection margins, as appropriate
d. Other pathologic findings

8. Tissues submitted for microscopic evaluation
a. Carcinoma, including section(s) to demonstrate the following
   (1) deepest invasion of myometrium (see Figure 1)

   ![Figure 1](image)

   Figure 1. Sample section to demonstrate junction of tumor with adjacent benign endomyometrium and depth of myometrial invasion. If too large, the section may be submitted in 2 parts as indicated by the dotted line.

   (2) distance from serosa (if thickness of myometrium or depth of tumor is not known, extent may be specified as distance in millimeters from the serosa)
   (3) most inferior level of involvement
   (4) interface with adjacent uninvolved endometrium and myometrium
b. Uninvolved endomyometrium
c. Cervix, including endocervical and exocervical portions
d. Resection margin, as appropriate  
   (1) cervical or vaginal  
   (2) parametrial  
   (3) other(s) 

e. Additional uterine lesions, if present 

f. Lymph nodes (at least 1 section of each) 

g. Staging biopsy specimens (1 section of each) 

h. Omentum (several sections if grossly negative; otherwise representative sampling) 

i. Frozen tissue fragment(s) (unless saved for special studies) 

j. Other organs and tissues  
   (1) tumor present, include sections adequate to demonstrate the following  
      i. histologic type and grade of tumor  
      ii. relation to uterine tumor and resection margins, if appropriate  
   (2) tumor absent  
      i. routine sections  
      ii. sections through previous site of tumor, if discernible  
   (3) other pathologic lesions, as appropriate 

9. Special studies (specify) (eg, DNA ploidy, hormone receptors, oncogene evaluation) 

C. Microscopic Examination 

1. Uterus  
   a. Tumor  
      (1) histologic type (Note C)  
      (2) histologic grade (Note F)  
      (3) extent of invasion (Note G)  
      (4) venous/lymphatic vessel invasion  
   b. Additional pathologic findings, if present  
      (1) hyperplasia and/or endometrial intraepithelial carcinoma (EIC)  
         (particularly associated with serous carcinomas) (Note C)  
      (2) adenomyosis, with or without tumor (extension of tumor into adenomyosis is not considered true myometrial invasion, but is reported separately)  
   c. Margins  
      (1) cervical or vaginal  
      (2) parametrial  
      (3) other(s) 

2. Regional lymph nodes  
   a. Number at each site (Note G)  
   b. Number involved by tumor at each site  
   c. Additional findings (eg, glandular inclusions) 

3. Other organs and tissues, including staging biopsy specimens (specify)  
   a. Tumor, if present (Note G)  
      (1) histologic type, if different from main tumor  
      (2) histologic grade, if different from main tumor  
      (3) consistent with the following  
         i. direct extension  
         ii. metastasis  
         iii. separate primary tumor
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(4) site
(5) extent
(6) relation to resection margins
b. Additional pathologic findings, if present
c. Results/status of special studies (specify)

4. Comments
   a. Correlation with intraoperative consultation, as appropriate
   b. Correlation with other specimens, as appropriate
   c. Correlation with clinical information, as appropriate

Explanatory Notes

A. Previous Diagnoses
   Slides of previous pertinent specimens should be made available to the pathologist if their review is deemed essential by the surgeon or pathologist for optimal interpretation of the present specimen.

B. Adequacy of Cytology Sample for Microscopic Evaluation
   If a cytologic sample is procured by a transvaginal procedure other than direct endometrial sampling, the absence of endometrial cells does not signify specimen inadequacy.

C. Histologic Type
   The World Health Organization (WHO) Histologic Classification of Endometrial Carcinoma and Hyperplasia\(^1\) is shown as follows.

Carcinoma
   - Endometrioid carcinoma
   - Adenocarcinoma
     - Secretory (variant)
     - Ciliated cell (variant)
   - Adenocarcinoma with squamous differentiation
     (Adenocarcinoma with squamous metaplasia or morules [so-called “Adenoacanthoma”])
   - Adenosquamous carcinoma (both glandular and squamous components are malignant)
   - Serous adenocarcinoma
   - Clear cell adenocarcinoma
   - Mucinous adenocarcinoma
   - Squamous cell carcinoma
   - Mixed carcinoma\(^9\)
   - Undifferentiated carcinoma

Hyperplasia
   - Simple
   - Complex (adenomatous)

Atypical Hyperplasia
   - Simple
   - Complex (adenomatous)
A carcinoma (other than adenocarcinoma with squamous differentiation) in which 1 or more additional types of tumor account for at least 10% of the entire tumor. The diagnosis is optimally made on examination of a hysterectomy specimen, but if only a smaller specimen is available, any amount of a second tumor category suffices for the diagnosis. When a carcinoma is classified as “mixed,” the major and minor types and their relative proportions should be specified.

Criteria Defining Stromal Invasion:
(1) Irregular infiltration of glands associated with an altered fibroblastic stroma (desmoplastic response), or
(2) Confluent glandular pattern (cribriform growth), or
(3) Extensive papillary growth pattern (at least 4.2 mm in diameter).

Endometrial Intraepithelial Neoplasia
In part arising from poor agreement in the diagnosis of atypical hyperplasia of the endometrium under WHO criteria, new diagnostic terminology, “Endometrial Intraepithelial Neoplasia” or EIN, has been proposed. EIN describes a clonal expansion of pre-malignant endometrial glands with endometrioid features, but without invasion. Since clonality determination of endometrial proliferations is not routinely performed in most laboratories, light microscopic guidelines are proposed and are 4-fold. The lesion must: (1) display architecturally crowded glands whose Volume Percentage Stroma (VPS) is less than 55%; (2) measure at least 1 to 2 mm in diameter; (3) display altered/demarcated cytology from the background endometrial glands; and (4) not be part of a benign mimic with focal glandular crowding (such as a polyp). It remains to be seen whether the concept of EIN will be adopted into the vernacular of pathology practice, as ideally, such precise assessments of gland-stroma alteration would require morphometric analysis, which is not routinely available in most laboratories.

D. Tissue Submitted for Microscopic Evaluation
All biopsy or curettage tissue is generally submitted, often in an embedding bag. The blood may be removed before submission either with a clean forceps or by gentle washing in saline solution.

E. Adequacy of Biopsy/Curettage Material
It should be noted that adequacy varies both with the procedure (eg, more tissue is expected from a curettage than an outpatient biopsy) and with the diagnosis (eg, atrophic endometrium generally yields scanty specimens, even at curettage). If the tissue obtained is not representative of functioning endometrium (eg, endocervix, lower uterine segment, or surface endometrium only), this fact should be specified.

F. Histologic Grading
The glandular component of all endometrioid carcinomas is graded as follows.

Grade X Cannot be assessed
Grade 1 5% or less nonsquamous solid growth pattern
Grade 2 6% to 50% nonsquamous solid growth pattern
Grade 3 More than 50% nonsquamous solid growth pattern
Notable nuclear atypia inappropriately severe for the architectural grade of the tumor raises the grade of otherwise grade 1 tumors by 1 level.

**Comment:** Serous, clear cell, and undifferentiated carcinomas are generally considered to be high-grade and need not be graded. No universally accepted criteria exist for grading of mucinous adenocarcinomas, but if graded by the same criteria listed above for endometrioid adenocarcinomas, they are almost all grade 1. The squamous component of endometrioid adenocarcinoma with squamous differentiation generally is not graded.

**G. TNM and FIGO Staging of Endometrial Carcinoma**

The TNM staging system for endometrial cancer endorsed by the American Joint Committee on Cancer (AJCC) and the International Union Against Cancer (UICC), and the parallel system formulated by the International Federation of Gynecology and Obstetrics (FIGO) are recommended, as shown below.

By 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 unfeasible) 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.

**Primary Tumor (T)**

<table>
<thead>
<tr>
<th>TNM Category</th>
<th>FIGO Stage</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX</td>
<td>(--)</td>
<td>Primary tumor cannot be assessed</td>
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<tr>
<td>T0</td>
<td>(--)</td>
<td>No evidence of primary tumor</td>
</tr>
<tr>
<td>Tis</td>
<td>0</td>
<td>Carcinoma in situ</td>
</tr>
<tr>
<td>T1</td>
<td>I</td>
<td>Tumor confined to corpus uteri</td>
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<tr>
<td>T2</td>
<td>II</td>
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<td>IIB</td>
<td>Cervical stromal invasion</td>
</tr>
<tr>
<td>T3</td>
<td>III</td>
<td>Local and/or regional spread as specified in T3a, T3b, N1, and in FIGO IIIA, IIIB and IIIC</td>
</tr>
</tbody>
</table>
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T3a IIIA Tumor involves serosa, parametria, and/or adnexa (direct extension or metastasis) and/or cancer cells in ascites or peritoneal washings

T3b IIIB Involvement of vagina (direct extension or metastasis), rectal or bladder wall (without mucosal involvement), or pelvic wall(s) (frozen pelvis)

(N1) IIIC Regional lymph node metastasis to the pelvic and/or para-aortic lymph nodes

T4# IVA Tumor invades bladder mucosa# and/or bowel mucosa#

(M1) IVB Distant metastasis##

# Presence of bullous edema is not sufficient evidence to classify a tumor as T4.

## Excludes metastasis to vagina, pelvic serosa, or adnexa; includes metastasis to intra-abdominal lymph nodes other than para-aortic and/or inguinal lymph nodes.

Regional Lymph Nodes (N)#: TNM Staging System

NX Regional lymph nodes cannot be assessed

N0 No regional lymph node metastasis

N1 Regional lymph node metastasis

# Regional lymph nodes include the pelvic, hypogastric (obturator), common iliac, external iliac, internal iliac, parametrial, sacral, and para-aortic lymph nodes.

Distant Metastasis (M): TNM Staging System

MX Distant metastasis cannot be assessed

M0 No distant metastasis

M1 Distant metastasis

TNM Stage Groupings

<table>
<thead>
<tr>
<th>Stage</th>
<th>Tis</th>
<th>N0</th>
<th>M0</th>
</tr>
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<tbody>
<tr>
<td>Stage IA</td>
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<td>Any N</td>
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</tr>
<tr>
<td>Stage IVB</td>
<td>Any T</td>
<td>Any N</td>
<td>M1</td>
</tr>
</tbody>
</table>

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 following initial multimodality therapy (i.e., neoadjuvant chemotherapy, radiation therapy, or both chemotherapy and radiation 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 prior to multimodality therapy (i.e., before initiation of neoadjuvant therapy).

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

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

**Additional Descriptors**

**Residual Tumor (R)**
Tumor remaining in a patient after therapy with curative intent (e.g., surgical resection for cure) is categorized by a system known as R classification, shown below.

RX Presence of residual tumor cannot be assessed  
R0 No residual tumor  
R1 Microscopic residual tumor  
R2 Macroscopic residual tumor

For the surgeon, the R classification may be useful to indicate the known or assumed status of the completeness of a surgical excision. For the pathologist, the R classification is relevant to the status of the margins of a surgical resection specimen. That is, tumor involving the resection margin on pathologic examination may be assumed to correspond to residual tumor in the patient and may be classified as macroscopic or microscopic according to the findings at the specimen margin(s).

**Vessel Invasion**
By AJCC/UICC convention, vessel invasion (lymphatic or venous) does not affect the T category indicating local extent of tumor unless specifically included in the definition of a T category. In all other cases, lymphatic and venous invasion by tumor are coded separately as follows.

**Lymphatic Vessel Invasion (L)**
LX Lymphatic vessel invasion cannot be assessed  
L0 No lymphatic vessel invasion  
L1 Lymphatic vessel invasion

**Venous Invasion (V)**
VX Venous invasion cannot be assessed  
V0 No venous invasion  
V1 Microscopic venous invasion  
V2 Macroscopic venous invasion
Regional Lymph Nodes (pN0): Isolated Tumor Cells

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 further data are available, they should be coded as “N1” with a comment noting how the cells were identified.

References