


AJCC 7<sup>th</sup> Edition Staging  
Disease Site Webinar  
Prostate

Donna M. Gress, RHIT, CTR



**AJCC**  
American Joint Committee on Cancer  
Validating science. Improving patient care.

The presentation was supported by the Cooperative Agreement Number DP13-1310 from The Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of The Centers for Disease Control and Prevention.

---

---

---

---

---

---

---

---

This webinar is sponsored by

**The Centers for Disease Control and Prevention**

Supported by the Cooperative Agreement Number DP13-1310

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Chronic Disease Prevention and Health Promotion  
National Program of Cancer Registries



---

---

---

---

---


---

---

---

Overview

- Highlights of disease site chapter
- Uniqueness, differences and exceptions based on
  - Anatomy
  - Diagnostic workup
  - Treatment
  - Outcomes
- Cautions and reminders for staging



3 Copyright © 2018 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Learning Objectives

- Recognize differences based on disease site
- Examine criteria for assigning stage
- Analyze effect of uniqueness on staging
- Employ critical thinking in using physician documentation
- Utilize appropriate guidelines to gain knowledge
- Identify resources for AJCC staging



4 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

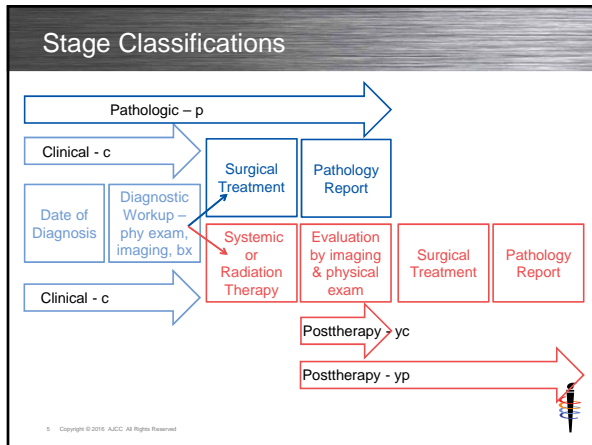
---

---

---

---

---



---

---

---

---

---

---

---

---

### Anatomy Affecting Stage



---

---

---

---

---

---

---

---

### Regional Lymph Nodes

- Regional nodes are those of the true pelvis
  - Sacral
  - Obturator
  - Hypogastric
  - External iliac
  - Pelvis NOS
- Note location
  - **Not** surrounding prostate

Compton, C.C., Byrd, D.R., et al., Editors. AJCC Cancer Staging Atlas, 2nd Edition. New York: Springer, 2012. ©American Joint Committee on Cancer

---

---

---

---

---

---

---

---

### Classification Issues

---

---

---

---

---

---

---

---

### Clinical and Pathologic Staging

- Clinical staging
  - Physical exam and DRE
  - Imaging only in T3, T4, or potential/probability of N1
  - cN0 based on physician judgment and nomograms
  - PSA and Gleason are required categories for assigning stage group
- Pathologic staging
  - Total/radical prostatectomy required
  - General rules apply
    - Microscopic highest T & N may be used
    - Microscopic T3 and highest N under certain circumstances
  - PSA and Gleason are required categories for assigning stage group
- No ypathologic staging
  - **No** neoadjuvant therapy for prostate outside of clinical trials

---

---

---

---

---

---

---

---

Assigning T, N, M, Stage Group



---

---

---

---

---

---


---

---

T Category – Clinical Classification

- Inapparent and apparent
  - DRE is gold standard
  - Imaging may be used based on physician judgment
  - Registrar cannot interpret imaging
- Do **not** assign T2 in absence of a clear statement
  - Inapparent is T1
  - Apparent is T2-T4

11 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

T Category – Clinical Classification

- T category and clinical stage may not be assigned
  - Without physical exam information including DRE
  - From biopsy pathology report alone
    - Unless report contains statements from physical exam
- If physician did not examine prostate, assign TX

12 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---


---

---

---

### T Category

- Incidental finding during prostatectomy
  - **No** clinical stage assigned
  - **Not** cT0
- T2 category – confined to prostate includes
  - Invasion into prostatic apex
  - Invasion into prostatic capsule, but not beyond



13 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### T Category

- Not a true capsule, usually termed extraprostatic extension
  - So called capsule only laterally and posteriorly
  - No capsule for anterior, bladder area, or apex
    - Bladder area is base, top of prostate
    - Apex is at bottom of prostate
- Margin positivity and extraprostatic/extracapsular extension
  - Observations are separate, cannot correlate
  - Cannot infer one from the other
  - No rules can exist to automatically assign T category



14 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---

---

---

---


### T Category

**Primary Tumor (T)**

<b>Clinical</b>	
TX	Primary tumor cannot be assessed
T0	No evidence of primary tumor
T1	Clinically inapparent tumor neither palpable nor visible by imaging
T1a	Tumor incidental histologic finding in 5% or less of tissue resected
T1b	Tumor incidental histologic finding in more than 5% of tissue resected
T1c	Tumor identified by needle biopsy (e.g., because of elevated PSA)
T2	Tumor confined within prostate*
T2a	Tumor involves one-half of one lobe or less
T2b	Tumor involves more than one-half of one lobe but not both lobes
T2c	Tumor involves both lobes
T3	Tumor extends through the prostatic capsule**
T3a	Extracapsular extension (unilateral or bilateral)
T3b	Tumor invades seminal vesicle(s)
T4	Tumor is fixed or invades adjacent structures other than seminal vesicles such as external sphincter, rectum, bladder, levator muscles, and/or pelvic wall (Figure 41.1)

\*Note: Tumor found in one or both lobes by needle biopsy, but not palpable or reliably visible by imaging, is classified as T1c.

\*\*Note: Invasion into the prostatic apex or into (but not beyond) the prostatic capsule is classified not as T3 but as T2.



15 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---

---

---

---

### T Category


**Pathologic (pT)\***

- pT2 Organ confined
- pT2a Unilateral, one-half of one side or less
- pT2b Unilateral, involving more than one-half of side but not both sides
- pT2c Bilateral disease
- pT3 Extraprostatic extension
- pT3a Extraprostatic extension or microscopic invasion of bladder neck\*\*
- pT3b Seminal vesicle invasion
- pT4 Invasion of rectum, levator muscles, and /or pelvic wall

\*Note: There is no pathologic T1 classification.

\*\*Note: Positive surgical margin should be indicated by an R1 descriptor (residual microscopic disease).

16 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

### N Category

- Physician judgment may be used to assign cN0
  - Takes into account T category, PSA, Gleason
  - Nomograms indicate probability of nodal involvement
  - Pelvic CT or MRI only if certain criteria are met
  - NCCN guidelines on staging workup
- If **no** nodes removed with prostatectomy
  - Must assign pNX
  - If not T4 or M1, stage group cannot be assigned

17 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---

---

---

### N Category

**Regional Lymph Nodes (N)**


*Clinical*

- NX Regional lymph nodes were not assessed
- N0 No regional lymph node metastasis
- N1 Metastasis in regional lymph node(s)

*Pathologic*

- pNX Regional nodes not sampled
- pN0 No positive regional nodes
- pN1 Metastases in regional node(s)

18 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---


---

---

---

### M Category

- Important to assign subcategories
  - Even though stage group not affected
  - Critical to have M1a, M1b, M1c data
  - Data may lead to different stage groups in future
- M1c: other sites with/without bone disease
  - If only one site proven microscopically, still assign pM1c
  - Important to indicate there is microscopic evidence



19 Copyright © 2016 AJCC. All Rights Reserved.

---

---

---

---

---

---


---

---

### M Category

<b>Distant Metastasis (M)*</b>	
M0	No distant metastasis
M1	Distant metastasis
M1a	Nonregional lymph node(s)
M1b	Bone(s)
M1c	Other site(s) with or without bone disease

\* Note: When more than one site of metastasis is present, the most advanced category is used. pM1c is most advanced.



20 Copyright © 2016 AJCC. All Rights Reserved.

---

---

---

---

---


---

---

---

### PSA and Gleason

- PSA measured pre-diagnosis
  - Any manipulation of prostate can raise PSA levels
  - Including digital rectal exam and biopsy
- Gleason histologic grade table in 7<sup>th</sup> edition
  - Gleason grading system not changed between 6<sup>th</sup> & 7<sup>th</sup> editions
  - Shows prognostic significance, and prognosis changed
  - Criteria for pathologist to assign Gleason grade did not change
  - Corresponds to cutpoints in stage group
  - <http://cancerbulletin.facs.org/forums/node/1150>



21 Copyright © 2016 AJCC. All Rights Reserved.

---

---

---

---

---

---


---

---

### Gleason

- Gleason score is recommended grading system
  - Accounts for inherent morphologic heterogeneity of prostate ca
  - Primary and secondary patterns assigned
  - Patterns summed for Gleason score
  - Highest Gleason is used
- May be different for clinical and pathologic staging
  - Based on timeframes used for staging
  - Clinical: use biopsy or TURP, only information known at that time
  - Pathologic: all information used, highest of bx/TURP/prostatectomy

22 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

### AJCC Staging Rules

- Standard AJCC staging rules apply if no exceptions noted
- AJCC Curriculum for Registrars
  - Utilize this resource for staging rules
  - Slides available for download
  - Recordings available to watch at any time
- Refer to AJCC website for more information and education

23 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---


---

---

---

---

### Case Scenarios



---

---

---

---

---

---

---


---



### Case #1 – Diagnostic Workup

- History/Chief Complaint
  - 67-year-old male, elevated PSA of 6.1, six months prior was 5.2
- Physical Exam
  - Rectal: firm area involving prostate apex, predominantly on right
- Imaging
  - CT abdomen/pelvis: prostate moderately enlarged, indents bladder base, mild asymmetric soft tissue thickening along left posterolateral margin, several small nodes visualized in pelvis all non-pathologic by radiographic criteria
  - Bone scan: degenerative changes in thoracic spine
- Procedure
  - Transrectal ultrasound with biopsy: large hypoechoic lesion involving peripheral gland from mid portion extending to apex
- Pathology Report
  - Gleason Grade 3+3 prostatic adenocarcinoma in needle biopsy

25 Copyright © 2016 AJCC. All Rights Reserved.



---

---

---

---

---

---


---

---

### Case #1 – Clinical Staging

- History
  - PSA 6.1
- Physical exam
  - Firm area on right
- Imaging
  - Prostate description doesn't play a role in staging
  - No involvement of pelvic nodes
- Procedure
  - TRUS shows lesion in periphery of gland from mid portion to apex
- Pathology report
  - Gleason patterns 3+3, score 6

26 Copyright © 2016 AJCC. All Rights Reserved.



---

---

---

---

---

---


---

---

### Case #1 – Clinical Staging Answer

- cT2a
  - Firm area right prostatic apex
  - Lesion in periphery, mid portion to apex
  - Describes less than half of right lobe
- cN0
  - Nodes not involved on imaging
- cM0
  - No signs or symptoms of mets
- PSA <10
  - 6.1
- Gleason 6
- Stage I

27 Copyright © 2016 AJCC. All Rights Reserved.



---

---

---

---

---

---


---

---

### Case #1 – Treatment

- History/Chief Complaint
  - Admitted for surgery
- Operative Report
  - Radical Prostatectomy with bilateral pelvic lymph node dissection: right side prostate somewhat adherent because tumor was present on biopsies on this side, left side appeared to be no tumor involvement
- Pathology Report
  - Extensive Gleason Grade 3+4 prostatic adenocarcinoma. No evidence of capsular invasion by tumor. Seminal vesicle free of tumor. Margins negative. 0/8 right pelvic nodes, 0/4 left pelvic nodes. Benign right seminal vesicle.

28 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

### Case #1 – Pathologic Staging

- Surgery
  - Patient had surgical resection qualifying for pathologic staging
- Clinical staging information
  - cT2a cN0 cM0 PSA <10 Gleason 6
- Operative report
  - Tumor on right side
  - No tumor on left side
- Pathology report
  - Gleason grade patterns 3+4, score 7
  - No capsular invasion
  - Margins negative does not play a role in staging
  - Seminal vesicles not involved
  - No pelvic nodes involved

29 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

### Case #1 – Pathologic Staging Answer

- pT2a
  - Prostate did not show further involvement than clinical stage info
  - No invasion of capsule or seminal vesicles
- pN0
  - Pelvic nodes negative
- cM0
  - No signs or symptoms of mets
- PSA <20
  - 6.1
- Gleason 7
- Stage IIA

30 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---


---

---

---

### Case #2 – Diagnostic Workup

- History/Chief Complaint
  - 69-year-old male with inability to void
  - Patient is s/p renal transplant as treatment of end-stage nephroarteriosclerosis
- Physical Exam
  - Rectal: normal, urinary retention secondary to BPH
- Procedure
  - Transurethral resection of prostate
- Pathology Report
  - Solitary small focus of well-differentiated, Gleason histologic pattern of 1 and 2, adenocarcinoma of prostate, involving only 1 of 25 fragments of prostate gland



31 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Case #2 – Clinical Staging

- Physical exam
  - Normal DRE
  - Urinary retention due to BPH does not play a role in staging
- Procedure
  - TURP performed to relieve urinary retention
  - No description to play a role in staging
- Pathology report
  - Small focus of tumor
  - Gleason pattern 1+2, score 3
  - Involving 1 of 25 fragments, ~4%



32 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Case #2 – Clinical Staging Answer

- cT1a
  - DRE normal, no cancer suspected
  - Incidental finding in 4% of TURP tissue fragments
- cN0
  - No reason to suspect nodal involvement
- cM0
  - No signs or symptoms of mets
- PSA X
  - Not performed, cancer not suspected
- Gleason 3
- Stage I



33 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---

---


---

---

**Case #2 – Treatment**

- Patient will not have surgical treatment
- Multiple health problems
- Low or very low risk group according to guidelines
- Treatment guidelines according to life expectancy
  - Observation
  - Active surveillance

34 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

**Case #2 – Pathologic Staging**

- No surgical treatment
- Patient does not qualify for pathologic staging

35 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

**Case #2 – Pathologic Staging Answer**

- No T, N, M, or stage group may be assigned
- All categories left blank – does not qualify for staging
- Stage group may be coded as 99 for cancer registries

36 Copyright © 2016 AJCC. All Rights Reserved



---

---

---

---


---

---

---

---

Information and Questions  
on AJCC Staging



---

---

---

---

---


---

---

---

AJCC Web site

- <https://cancerstaging.org>
- Cancer Staging Education **Registrar menu** includes
  - Timing is Everything – stage classification timeframe graphic
  - Presentations
    - Self-study or group lecture materials
      - Registrar's Guide to Chapter 1, AJCC Seventh Edition
      - Explaining Blanks and X, Ambiguous Terminology and Support for Staging
      - AJCC T, N, and M Category Options for Registry Data Items in 2016
    - AJCC Curriculum for Registrars
      - 4 free self-study modules of increasing difficulty on staging rules
        - Each module consists of 7 lessons, including recorded webinar with quizzes



38 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

AJCC Web site

- <https://cancerstaging.org>
- Cancer Staging Education **Physician menu** includes
  - Articles
    - 18 articles on AJCC staging in various medical journals
  - Webinars
    - 14 free webinars on staging rules and some disease sites
- Cancer Staging Education **General menu** includes
  - Staging Moments
    - 15 case-based presentations in cancer conference format to promote accurate staging with answers and rationales



39 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

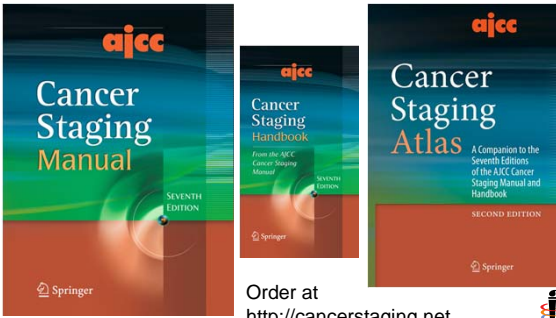
---

---

---

---

AJCC Cancer Staging Manual and Atlas



Order at  
<http://cancerstaging.net>

40 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

CAnswer Forum

- Submit questions to AJCC Forum
  - Located within CAnswer Forum
  - Provides information for all
  - Allows tracking for educational purposes
- <http://cancerbulletin.facs.org/forums/>



41 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---

---

---

---

Summary



42 Copyright © 2016 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Summary

- Recognize differences based on disease site
  - Examine criteria for assigning stage
  - Effect of uniqueness of anatomy, workup, treatment
- Employ critical thinking in using physician documentation
  - Understanding current standard medical practice
  - Interpretation of available information
- Utilize guidelines available to registrars to gain knowledge
- Identify resources for AJCC staging
  - Information and guidance
  - Obtain answers to questions to learn staging
    - Understand rationale to apply to future cases
    - Not just an answer for today's case



43 Copyright © 2018 AJCC. All Rights Reserved.

---

---

---

---

---

---

---

---

### Thank you

Donna M. Gress, RHIT, CTR  
AJCC Technical Specialist



**AJCC**  
American Joint Committee on Cancer  
Validating science. Improving patient care.



633 N. Saint Clair, Chicago, IL 60611-3211  
[cancerstaging.org](http://cancerstaging.org)

No materials in this presentation may be repurposed without the express written permission of the American Joint Committee on Cancer. Permission requests may be submitted at [CancerStaging.net](http://CancerStaging.net)

---

---

---

---

---

---

---

---

This webinar is sponsored by

**The Centers for Disease Control and Prevention**

Supported by the Cooperative Agreement Number DP13-1310

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



National Center for Chronic Disease Prevention and Health Promotion  
National Program of Cancer Registries

---

---

---

---

---

---

---

---