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

AJCC TNM Staging System: Past, Present and Future Staging Issues

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Learning Objectives

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- Solve common questions from the past and present
- Dissect new stage data items and future staging changes
- Demonstrate staging issues through examples and analogies

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Common Questions

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Blank vs. X – AJCC Chapter 1 X Definition

Unknown Designation: X

The X designation is used if information on a specific T or N category is unknown; such cases usually cannot be assigned a stage. Therefore, TX and NX should be used only if absolutely necessary. Of note, there is no MX category.

If uncertainty exists regarding how to assign a category, subcategory, or stage group, the lower of the **two possible** categories, subcategories, or groups is assigned for

- T, N, or M
- prognostic stage group/stage group

Stage groups are for patient care and prognosis based on data. Physicians may need to make treatment decisions if staging information is uncertain or unclear.

Note: Unknown or missing information for T, N, M or stage group is never assigned the lower category, subcategory, or group.

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Blank vs. X – The Issue

- Correct use of blank or X
  - Causing data analysis issues, misinterpretation

TX	Primary tumor cannot be assessed	NX	Regional lymph nodes cannot be assessed

- Blank makes more sense
  - Why registrar reluctance to use blank?
  - Potential harm coming from X
  - Need to refine and reinforce instructions for clear data
  - Making a difference to physicians using the data

Guiding principle
- Always tell patient's story from physician's perspective

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Blank vs. X – Using X

X

- Risks
  - Is registrar confident that physician did ***not*** know
  - May ***not*** accurately represent physician information
  - May lead to misinterpretation of data if physician knew
  - No advantage of using X instead of blank

- Benefits
  - Clearly conveys physician did ***not*** know – if that is accurate

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Blank vs. X – Using Blank

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Blank

- Risks
  - None, no information is lost
- Benefits
  - Registrar not penalized for blanks
  - Using blank instead of X ***does not lose any information***
  - No advantage to using X instead of blank
  - Better to err on the side of caution
  - Best if not sure the physician does not know

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Blank vs. X – Conclusion

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- Physician data interpretation of X
  - Physician did *not* perform exam or imaging
  - Physician ordered tests but results were *not* clear
  - Examples from physician data questions about appropriate workup
    - Breast cTX cM1: phy concerned breast exams or imaging not performed
    - Melanoma cNX: phy concerned no nodal area clinical exam or imaging
    - Rectum cTX: phy concerned no imaging assessment
- Physician data interpretation of blank
  - Registrar did not have access to information

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Blank vs. X – Conclusion

- Registrars
  - Assign X
    - Physicians are clear they do not know
    - Physicians have not or could not assess primary tumor or nodes
    - Physicians have assessed but results did not provide any information
  - Assign blank
    - Registrar does not have info, but physician might
    - Physician using uncertainty rule with main categories (e.g. T3/T4)

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Grade

- Grade for **patient**, not specimen
  - Since it affects patient's prognosis and treatment
  - Must code grade for **patient** to indicate true outcomes
  - Individual specimens may not represent patient's grade
  - Worst grade may have been removed in earlier biopsies
  - Does not mean worst grade is still not affecting the patient
  - Code highest grade from ***any*** specimen during appropriate timeframe
- This philosophy makes it easy to choose correct grade
  - Grade clinical – primary tumor biopsy or procedure for workup
  - Grade post therapy clinical – primary tumor biopsy after neoadjuvant
  - Grade pathological – ***any*** from diagnosis through treatment
  - Grade post therapy pathological – ***any*** from after neoadjuvant

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Grade

- Grade Clinical (based on AJCC "c")
  - Based on diagnostic workup **prior** to definitive treatment
  - Treatment includes surgical resection or neoadjuvant therapy
- Grade Pathological (based on AJCC "p")
  - Based on patient receiving definitive surgical resection treatment
  - Documents highest grade from diagnosis through surgical treatment
  - Must reflect highest grade for patient on **any** specimen during this time
- Grade Post Therapy Clinical (based on AJCC "yc")
  - Based on patient receiving neoadjuvant therapy, **prior** to surgical resection
  - Documents grade if primary tumor biopsy or sampling **after** neoadjuvant
- Grade Post Therapy Pathological (based on AJCC "yp")
  - Based on patient receiving surgical resection after neoadjuvant therapy
  - Documents highest grade from evaluations **after** neoadjuvant
  - Must reflect highest grade for patient on **any** specimen during this time
  - Includes assessments from biopsies and surgical resection

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CLL/SLL

- Chronic lymphocytic leukemia/small lymphocytic lymphoma
  - Staged with two different systems – Lugano and Rai
- AJCC stage group data item ***only*** used for Lugano stage
  - Lugano replaced previous Ann Arbor stage
  - Stage group I through IV
- SSDI data items ***only*** used for Rai stage
  - Rai stage NOT documented in AJCC stage group, reserved for Lugano
  - Documented in AJCC Registry Data Collection Variables #5 a through e
    - Lymphocytosis, adenopathy, organomegaly, anemia, thrombocytopenia
  - Rai stage group is 0 – IV, important not to confuse with Lugano
  - Rai stage group not currently documented

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Pathological Classification

- Based on surgical treatment, not just surgical procedure
- STORE surgery codes and their AJCC staging
  - Surgical procedure – clinical staging
  - Surgical treatment – pathological staging
- Determining surgical treatment
  - Review AJCC pathological staging treatment requirements
  - Review NCCN or other national treatment guidelines
  - Some AJCC sites give range of surgeries depending on extent

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Incidental Findings – Stage Classification

- Incidental findings at surgery
  - Staging based on whether surgical treatment for cancer
- Surgical treatment
  - All surgical procedures are not surgical treatment
  - Most resections for benign lesions not same as resections for cancer
  - Check guidelines to understand what is surgical treatment
- Surgery is
  - Not definitive treatment – clinical staging
  - Definitive treatment – pathological staging

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Incidental Findings – Stage Classification

- Examples
  - Breast
    - Benign lesion resection – clinical stage
      - Lacking appropriate intentional margins needed for cancer treatment
    - Re-excision for cancer treatment – pathological stage
  - Appendix
    - Small lesion – appendectomy is treatment, pathological stage
    - Large lesion – hemicolectomy needed for treatment, pathological stage
      - Incidental finding at appendectomy, clinical stage
  - Colon polyp
    - Complete resection – polypectomy is treatment, pathological stage
    - Incomplete resection – colectomy is treatment, pathological stage
      - Polypectomy used for clinical stage

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New Stage Items & Current Issues

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Bridge Therapy is Not Neoadjuvant

- Bridge therapy
  - Provided when outside factors (pandemic) do not allow standard therapy
  - Given to "bridge" gap between diagnosis and ability to provide standard expected therapy
  - Not proven as standard treatment
- Beyond everyone's control
  - Provide some type of meaningful treatment
  - Help patients until outside factors change
  - Not a few days or patient's choice
- Not considered neoadjuvant

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Neoadjuvant Therapy for Posttherapy Staging

- Neoadjuvant therapy for posttherapy yc and yp staging should meet national treatment guidelines
- Systemic therapy (chemo/hormone/immunotherapy) must
  - Be provided by dosage and time frame
  - Meeting standard national treatment guidelines
  - To be considered course of treatment
- Drug guidelines have been proven to have ***treatment*** effect on patients when followed

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Not All Meds Meet Neoadjuvant Criteria

- A few med doses isn't treatment
  - AJCC physician experts state *no treatment effect* on tumor
  - NCCN guidelines establish treatment regimen
  - Do **not** assign posttherapy staging
- Analogy
  - 10 day antibiotic course, comprised of 3 pills per day
  - Take 1 pill on first day and never take any more
  - Equivalent to tamoxifen for 7 days, when full course is ~180 days
  - 7 day pre-op tamoxifen is **not** given for treatment
  - Won't act like treatment any more than 1 antibiotic pill when 30 needed to finish course and kill infection

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Changing Drugs Doesn't Stop Neoadjuvant

- Changing chemo drug class
  - Does **not** stop neoadjuvant treatment plan
  - Must assign AJCC posttherapy stage
- Analogy
  - Penicillin antibiotic for infection
  - Allergic reaction, or no change, or even gets worse
  - Penicillin antibiotic family is beta-lactams, many meds in family
  - Physician tries different drug family
    - Penicillin doesn't work, don't try other drugs in penicillin family
    - 4 classes of antibiotics, physician picks one of other families

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No Pandemic Exceptions

- Few months is ***not*** neoadjuvant even in pandemic
- If cases were actually planned neoadjuvant therapy
  - Would finish entire course systemic therapy
  - Would not take to surgery early, as soon as pandemic allowed
- Do not confuse bridge therapy cases with true neoadjuvant
- AJCC: stage as pathological (p)

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Posttherapy Clinical yc Staging

- CoC collecting yc staging started in 2021
- Why is yc stage necessary?
  - Shows patient treatment plan initially included surgery
  - Treatment plan changed due to "good" or "poor" response
  - Shows **exact** level of response compared to clinical stage
- Examples showing level of response

No Response		
cT3	cN1	cM0
ycT4	ycN1	cM0

Exceptional Response		
cT3	cN1	cM0
ycT0	ycN0	cM0

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Lack of Response is Not Progression

- No response to neoadjuvant is *not* considered progression
- If patient does *not* respond to neoadjuvant therapy
  - Tumor cells continue to divide and grow
  - As they had been since day cancer cells started
  - Causes tumor to expand and invade additional tissue and nodes
- Assign posttherapy stage indicating further involvement
  - cT3, now posttherapy clinical ycT4
  - cN0, now posttherapy clinical ycN2

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Neoadjuvant Therapy Stage – Article & Webinar

- Article
  - *Current and Future Cancer Staging After Neoadjuvant Treatment for Solid Tumors*
  - Published in CA: A Cancer Journal for Clinicians, online 11/6/20
  - Discuss at Ca Conference (tumor board) or Ca Committee
  - http://doi.org/10.3322/caac.21640
- Webinar
  - *AJCC yc Stage Classification – When and How to Use*
  - Available on AJCC website, Cancer Registrar Education
  - Website links to learning.facs.org for on demand access

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Cervix Version 9 – Major Changes

- **All** imaging modalities allowed for staging, including
  - CT
  - MRI
  - PET or PET/CT or PET/MRI
  - US - recommended worldwide
  - Roentgenography of lungs and skeleton – recommended worldwide
- Imaging allowed for all staging classifications
  - Clinical
  - Pathological
  - Posttherapy Clinical and Posttherapy Pathological
- Differentiate between HPV-associated and HPV-independent
  - HPV-independent ca generally has poorer prognosis
  - AJCC Version 9 histology list includes all of these histologies, registrars get in 2022
  - p16 IHC overexpression is good surrogate of HPV-associated tumor
  - p16 will be data item for registrars to collect in 2022

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Cervix Version 9 – Article & Webinar

- Article
  - *The New (Version 9) AJCC TNM Staging for Cervical Cancer*
  - Published in CA: A Cancer Journal for Clinicians, online 3/30/21
  - Discuss at Ca Conference (tumor board) or Ca Committee
  - http://doi.org/10.3322/caac.21663
- Webinar
  - *AJCC Cervix Uteri Version 9 Cancer Staging System*
  - Available on AJCC website, Cancer Registrar Education
  - Website links to learning.facs.org for on demand access

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Future Plans

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Cervix: Info available in 2022 for 2021+ Cases

- Cervix p16 data item for SSDI ready in 2022
  - Underwent mandatory field testing Nov 1, 2020 - Jan 4, 2021
  - Evaluation of field testing and approvals by NAACCR March 2021
- Cervix histologies ready in 2022
  - WHO Blue Book histologies approved by NAACCR March 2021
  - AJCC Cervix Version 9 histologies available to registrars in 2022
- Cervix sarcomas ready in 2022
  - Move cervix sarcoma staging from soft tissue sarcoma
  - Cervix sarcomas now staged with AJCC Corpus Uteri Sarcoma
    - Use leiomyosarcoma & endometrial stromal sarcoma tables
- Detailed information available in AJCC Cervix Version 9 webinar
- These ***all*** apply to Cervix Version 9, 2021+

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RISS Stage Group

- AJCC Chapter 82 Plasma Cell Myeloma (multiple myeloma)
  - Historically: Durie-Salmon or International Staging System (ISS)
  - Revised International Staging System (RISS) – published just before 8E
- SSDIs collected to avoid confusion if physician used ISS or RISS
  - Serum Beta-2 Microglobulin
  - Serum Albumin
  - High Risk Cytogenetics
  - LDH Level
- RISS
  - Now standard usage by physicians
  - Listed under AJCC Prognostic Stage Groups in chapter 82
- Code RISS stage group in AJCC stage group data item in 2022

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Histology Updates

- New histologies added as eligible for staging
  - Based on new WHO Blue Books for pathologists
  - Books released prior to Nov 2020 added to registry for 2022
- AJCC Topography & Histology documents
  - Complete list as update to AJCC 8th edition manual
  - New complete list for Version 9
  - Both available on AJCC website

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Synoptic Op Reports

- Great benefit to registrars
  - Improved documentation for clinical staging
  - Documentation of other important data items
- Registrar use of information
  - Cautious use of synoptic op report staging
  - Physicians may be documenting high level staging, not all details
- Registrars
  - Must understand these nuances
  - Must assign AJCC staging by the book, not the high level

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Updated Staging Resources

- New AJCC Curriculum for Registrars
  - Updated 7th edition curriculum
  - Encompasses all current staging rules
- Curriculum format
  - Modules: I. Introduction, II. Beginning, III. Intermediate, IV. Advanced
  - Seven lessons in each module
  - Lesson order in modules II - IV
    - ❖Classifications
    - ❖T Category
    - ❖N Category
    - ❖M Category
    - ❖Stage Group
    - ❖Additional resources
    - ❖Quiz
- Available on AJCC Website, Cancer Registrar Education

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Next Disease Sites for Version 9

- Timeline for Version 9 releases
  - Provided to surveillance partners in May
  - Included in Cancer Surveillance DLL for registry software by July
  - Release Disease Site Protocol in fall, digital and print
  - Effective for registrars the following January
- Timeline provides registrars with >8 months notice
- Next *potential* Version 9 in 2023
  - Expert Panels for lower GI, vulva, CNS, and breast
  - **No** definitive release dates at this time

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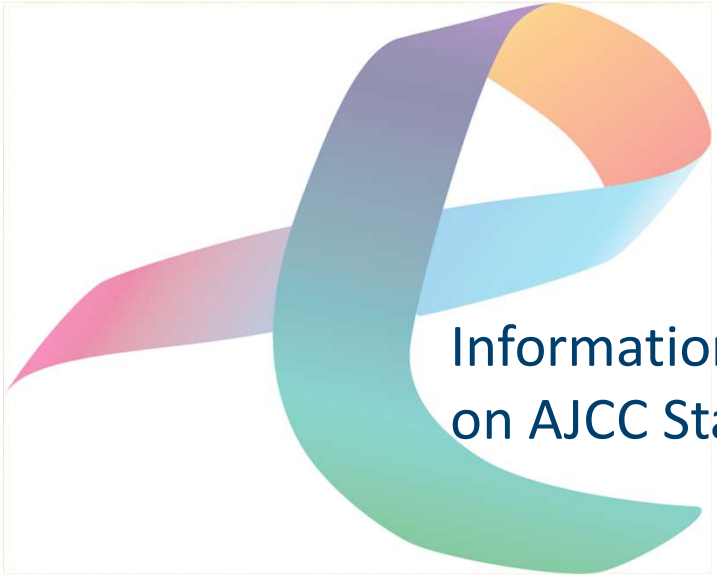

Information and Questions on AJCC Staging

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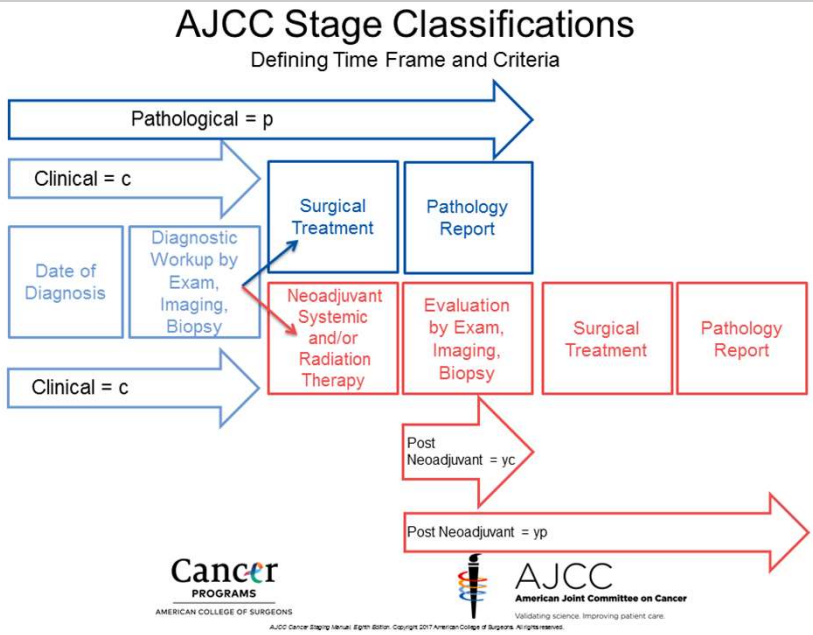
Timing Is Everything



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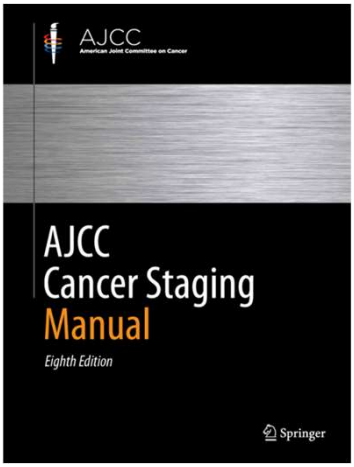
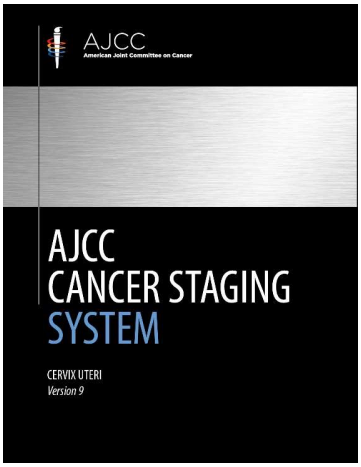
AJCC Web site

- https://cancerstaging.org
- https://www.facs.org/quality-programs/cancer/ajcc
- General information
  - Education
  - Articles
  - Updates
- For Registrars
  - Webinars with free CE hrs
  - Critical Clarifications
  - Staging Moments





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CAnswer Forum

- Submit questions to AJCC Forum
  - Version 9 Forum
  - 8th Edition Forum
  - Located within CAnswer Forum
  - Provides information for all
  - Allows tracking for educational purposes
- http://cancerbulletin.facs.org/forums/

CAnswer FORUM
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Summary

- Guidance to solve common questions from past and present
  - Recurring issue of only using X when it reflects physician point of view
  - Don't hesitate to use T blank or N blank, more accurate option
  - Grade reflects patient's disease, not grade for particular specimen
  - Pathological staging based on treatment, not just any surgical procedure
- Dissect new stage data items and future staging changes
  - Identify neoadjuvant therapy vs. bridge therapy
  - Cervix Version 9 and yc staging – more info in recorded webinars & articles
  - Sneak peek into future plans and updated resources available
- Demonstrated staging issues through examples and analogies

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Thank You

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