How to Use the AJCC Cancer Staging Manual, 7th ed.

FCDS ANNUAL CONFERENCE
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Steven Peace, CTR

History, Purpose and Background Purchase and Ordering Information AJCC Staging Manual Organization General Chapter Outline and Contents Identifying Specific Neoplasms Included by Chapter Neoplasms Not Included in the AJCC Manual Locating the Correct Chapter for a Case Using AJCC TNM Staging Forms Other Helpful Information Questions

History, Purpose and Background

3

- ▶ The AJCC Cancer Staging Manual and Handbook, prepared by the American Joint Committee on Cancer, are used by physicians, cancer registries, and other allied health care professionals throughout the world to facilitate the uniform description and reporting of cancer staging for most neoplastic diseases.
- Proper classification and staging is essential for physicians to assign proper treatment, evaluate results of management and clinical trials, and to serve as the standard for local, regional and international reporting on cancer incidence and outcomes.
- As knowledge of cancer biology expands, cancer staging must incorporate these advances. This is why the non-anatomic prognostic factors were added in 2010.
- The Seventh Edition of the AJCC Cancer Staging Manual brings together all the currently available information on staging of cancer at various anatomic sites and incorporates newly acquired knowledge on the etiology and pathology of cancer...supplemented by selected molecular markers

History, Purpose and Background

Edition	Publication Year	Effective Dates
1	1977	1978-1983
2	1983	1984-1988
3	1988	1989-1992
4	1992	1993-1997
5	1997	1998-2002
6	2002	2003-2009
7	2009	2010-

Purchase and Ordering Information

5



http://www.springer.com/us/book/9780387884400

- AJCC Cancer Staging Manual – 7th edition, 2010
- COST: \$64.95
- ISBN: 978-0-387-88440-0
- Required Florida Mandate
 - FCDS will not purchase
 - Facility may purchase
 - Individual may purchase
- Also Required to Purchase 8th Edition in 2016-2017
- https://cancerstaging.org
- http://springer.com
- 1-800-SPRINGER

AJCC Staging Manual Organization

- ▶ Part I Chapter 1 Purposes and Principles of Cancer Staging
- ▶ Part I Chapter 2 Cancer Survival Analysis
- ▶ Parts II -- XII are organized by Body System (digestive/GYN/GU/etc.)
- ▶ Each Body System (Part) includes 1 or more Site Chapters
- ▶ 57 Site Chapters Organized by Primary Site and/or Histologic Type
 - ▶ Chapters are grouped by Body System (digestive, urinary, etc.)
 - ▶ Chapters are organized by Disease Site (Primary Site)
 - ▶ Plus a few Histology-Based Chapters (melanoma, Merkel cell, etc.)
- Alphabetical Index
- CD-ROM with Printable Staging Forms

Chapter Outline and Contents

7

Staging at a Glance	Summary of anatomic stage/prognostic grouping	
Changes in Staging	Table summarizing changes in staging from the 6 th edition	
Introduction	Overview of factors affecting staging and outcome	
Anatomic Considerations	Primary TumorRegional lymph nodesMetastatic sites	
Rules for Classification	o Clinical o Pathologic	
Prognostic Features	Identification and discussion of non-anatomic prognostic factors	
Definitions of TNM	T: Primary tumor N: Regional lymph nodes M: Distant metastasis	
Anatomic Stage Prognostic Groups		
Prognostic Factors (SSFs)	Required for staging Clinically significant	
Grade		
Histopathologic Type		
Bibliography		
Staging Form		
A ICC Cancer Staging Manual 7th ad Chanter 1 Table 1 10 p.14		

AJCC Cancer Staging Manual, 7th ed. – Chapter 1, Table 1.10, p.14

Chapter Outline and Contents

۵

ANATOMY

Primary Site. The retina is composed of neurons and glial cells. The precursors of the neuronal elements give rise to retinoblastoma, whereas the glial cells give rise to astrocytomas, which are benign and extremely rare in the retina. The retina is limited internally by a membrane that separates it from the vitreous cavity. Externally, it is limited by the retinal pigment epithelium (RPE) and Bruch's membrane, which separate it from the choroid and act as natural barriers to extension of retinal tumors into the choroid. The continuation of the retina with the optic nerve allows direct extension of retinoblastomas into the optic nerve and then to the subarachnoid space. Because the retina has no lymphatics, spread of retinal tumors is either by direct extension into adjacent structures or by distant metastasis through hematogenous routes.

Regional Lymph Nodes. Because there are no intraocular lymphatics, this category of staging applies only to anterior

extrascleral extension. The regional lymph nodes are preauricular (parotid), submandibular, and cervical.

Local Extension. Local extension anteriorly can result in soft tissue involvement of the face or a mass protruding from between the lids. Posterior extension results in retinoblastoma extending into the orbit, paranasal sinuses, and/or brain.

Metastatic Sites. Retinoblastoma can metastasize through hematogenous routes to various sites, most notably the bone marrow, skull, long bones, and brain.

RULES FOR CLASSIFICATION

Choroidal Invasion. The presence and the extent (focal vs. massive) of choroidal invasion by tumor should be stated. Differentiation should be made between true choroidal invasion and artifactual invasion due to seeding of fresh tumor

AJCC Cancer Staging Manual, 7th ed. – Chapter 52, Retinoblastoma, p.561

Chapter Outline and Contents

Clinical Staging. All suspected cases of retinoblastoma should have a neural imaging scan. If it is possible to obtain only one imaging study, computerized tomography (CT) is recommended because detection of calcium in the eye on CT confirms the clinical suspicion of retinoblastoma. The request should include cuts through the pineal region of the brain. Magnetic resonance imaging is particularly useful if extension into either the extraocular space or the optic nerve is suspected or if there is a concern about the possible presence of a primitive neuroectodermal tumor (PNET) in the pineal region (trilateral retinoblastoma).

A staging examination under anesthesia should include ocular ultrasound and retinal drawings of each eye, with each identifiable tumor measured and numbered. Digital images of the retina may be very helpful. In bilateral cases, each eye must be classified separately. Tumor size or the distance from the tumor to the disc or fovea is recorded in millimeters. These millimeter distances are measured by ultrasound, estimated by comparison with a normalized optic disc (1.5 mm), or deduced from the fact that the field of a 28-diopter condensing lens has a retinal diameter of 13 mm.

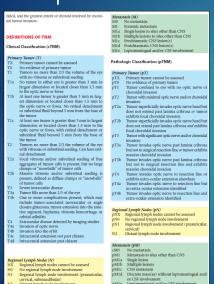
Pathologic Staging. If one eye is enucleated, pathologic staging of that eye provides information supplemental to the clinical staging. First, the pathology should provide histologic verification of the disease. All clinical and pathologic data from the resected specimen are to be used.

Processing the Enucleated Retinoblastoma Globe. In certain situations fresh tumor material may be needed from the enucleated globe for research purposes or genetic testing. In these cases the globe should be moved to a sterile area in the Operating Room away from the operative field. After collecting the specimen, the surgeon should change his/her gloves before reentering the operative field.

Processing With Tumor Sampling. To collect the tumor specimen, the optic nerve should be removed before opening the globe to prevent the optic nerve from accidentally becoming contaminated with artifactual clumps of tumor cells (so-called floaters). The surgeon should first ink the surgical margin of

AJCC Cancer Staging Manual, 7th ed. – Chapter 52, Retinoblastoma, p.562

Chapter Outline and Contents



ANATOMIC STAGE/PROGNOSTIC GROUPS No stage grouping applies PROGNOSTIC FACTORS (SITE-SPECIFIC FACTORS) ded for Collection) Clinically Extension evaluated at enucleation significant RB gene mutation Positive family history of retinoblastoma Primary globe-sparing treatment failure Greatest linear extent of choroid involved by choroidal tumor invasion

HISTOLOGIC GRADE (G)

Grade is reported in registry systems by the grade value. A two-grade, three-grade, or four-grade system may be used. If a grading system is not specified, generally the following

- Grade cannot be assessed Well differentiated
- Moderately differentiated

Poorly differentiated Undifferentiated

HISTOPATHOLOGIC TYPE

This classification applies only to retinoblastoma

Chantada G, Doz F, Antoneli CB, Grundy R, Clare Stannard FF,

Dunkel IJ, et al. A proposal for an international retinoblas-toma staging system. Pediatr Blood Cancer. 2006;47:801–5. Chantada GL, Doz F, Orjuela M, Qaddoumi I, Sitorus RS, Kepak T, Furmanchia, A, Castellanos M, Sharma T, Chewez-Barrios F, Rodriguez-Galindo Con behalf of the International Bertinera Control of the International Bertined Control of C T, Furmanchuk A, Castellanos M, Sharma T, Chevez-B

AJCC Cancer Staging Manual, 7th ed. – Chapter 52, Retinoblastoma, p.563-564

Identifying Neoplasms by Chapter

- Verify Primary Site against list of ICD-O-3 Topography Codes
 - First Page of Each Chapter includes a list of ICD-O-3 Site Codes
- Verify Histopathologic Type against list of ICD-O-3 Histology Codes
 - ▶ First Page of Many Chapters includes a list of ICD-O-3 Histology Codes
 - When there is not a list of Histology Codes go to end of chapter and review the section entitled "Histopathologic Type" to confirm histology
- If cannot verify site and/or histology then go to the Alphabetical Index at the back of the manual to find site/histology combination
- ▶ If there is not a corresponding AJCC Staging Chapter then "N/A"

Identifying Neoplasms by Chapter

At-A-Glance SUMMARY OF CHANGES Clinical Classification The definitions of T1–T4 were modified · The definitions for M1 were modified Pathologic Classification Minor modifications were made to the definitions for pT2-pT4 Definition of choroidal invasion, focal versus massive The definitions for pM1 were modified A description of proper processing of the enucleated retinoblaston examination was added ICD-O-3 TOPOGRAPHY ANATOMIC STAGE/PROGNOSTIC GROUPS No stage grouping applies C69.2 Retina ICD-O-3 HISTOLOGY CODE RANGES 9510-9514

ANATOMIC STAGE/PROGNOSTIC GROUPS

PROGNOSTIC FACTORS (SITE-SPECIFIC FACTOR

Required for staging

Clinically Extension evaluated at enucleation significant RB gene mutation
Positive family history of retinoblastoma
Primary globe-sparing treatment failure
Greatest linear extent of choroid involved by

choroidal tumor invasion

HISTOLOGIC GRADE (G)

Grade is reported in registry systems by the grade value. A two-grade, three-grade, or four-grade system may be used. If a grading system is not specified, generally the following

- Grade cannot be assessed Well differentiated
- Moderately differentiated

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Cohen MD, Buggieski EM, Hallioglu M, Faught P, Siddiqui AR. Visual presentation of the staging of pediatric solid tumors. Radiographics. 1996;16:523–45.
Dagher R, Helman L, Rhabdomyosarcoma: an overview. Oncolorist. 1999;4:34–44.

Liggner K, Heimän L, Knaboomyosatcoma: an overview. Oncongust. 1999;423–44.
Ellsworth RM. The practical management of retinoblastoma. Trans Am Ophthalmol Soc. 1999;67:462–594.
Fleming ID. Stuging of pediatric cancers problems in the development of an antonal system. Semin Surg Ornol. 1992;89:49–7.
Warrier RP, Regueira O, Wilms' tumor. Pediatr Nephrol. 1992;6: 358–64.

AJCC Cancer Staging Manual, 7th ed. – Chapter 52, Retinoblastoma, p.561 and p.564

Neoplasms Not in the AJCC Manual

-13

- Not all types of cancer are AJCC-stage able.
- Use the Primary Site Codes listed at the beginning of each chapter in the AJCC Cancer Staging Manual. Use the List of Histopathologic Types in each chapter are toward the end of each chapter and are used as a quide to indicate the cancer types which can be AJCC-staged using that staging scheme.
- Histologic Types listed as inclusions (or not listed because they are exclusions) for each individual chapter should NOT be AJCC-staged using that chapter.
- Note: Some chapters are specifically limited to certain cancer types only with a certain anatomic site (such as skin melanomas). Some chapters are specifically limited to certain histologic types 9590-9729 regardless of primary site. This site and/or histology limitation does not limit coding for the primary site here.

Neoplasms Not in the AJCC Manual

- ▶ Pediatric cancers are not included in the AJCC Cancer Staging Manual with only a few exceptions. See below for exceptions.
- ▶ These cancers would ordinarily be considered un-stage able in this system.
- ▶ <u>However</u>, if a physician has staged a pediatric case using TNM (clinically or pathologically), then this staging may be coded and unknown codes should be used for any unspecified fields.
- ▶ Exceptions: Musculoskeletal Sites (sarcoma), Lymphoid Neoplasms, Retinoblastoma, and Other Neoplasms of Primary Site and/or Histology where a relevant chapter that would include pediatric cases exists.

Neoplasms Not in the AJCC Manual

15

- ▶ When the primary site is not clear, not specified or unknown.
- ▶ AJCC staging of the cancer should be based on "reasonable clinical certainty" of a primary site identification. You cannot assign TNM to C80.9 or C76.* cases.
- When there is not "reasonable clinical certainty" indicating one primary site, then the AJCC staging should be "not applicable" (as for an unknown primary site).
- ▶ When a case is assigned a Primary Site Code of "body system, NOS" that would also include sub-sites such as "colon, NOS" versus "sigmoid colon" the case cannot be staged due to lack of specificity of tumor origin or degree of cancer spread from that NOS primary site at diagnosis, including regional lymph nodes.
- **Exception:** Histology-based chapters such as "Lymphoid Neoplasms"

Refer Directly to the AJCC Manual

- The Collaborative Stage Data Collection System has spoiled all of us because the API used by everybody for all CS cases uses the primary site and histology you entered in the abstract to make sure you are using the correct CS Schema. The API uses site/histology to automatically pull up the correct CS Schema including Notes, and all the registrar has to do is find the code that best reflects the extension, nodes, mets at diagnosis and the associated SSFs. The algorithm determines if the AJCC data can be populated not you.
- Registrars will have to focus more on what is and just as important what is not included in each AJCC Chapter rather than what pops open with your abstractor field menus to ensure you assign TNM and AJCC Stage Group correctly. EDITS will not yet catch errors.
- The Chapters are treated as though they are comprehensive for cancers of a particular site and/or histology without exception. But, there are histology exceptions for each chapter. These are now treated as inclusion rather than exclusion criteria.
- ▶ So, YOU MUST KNOW THAT YOU ARE USING THE RIGHT CHAPTER the software won't check to make sure you are using the correct chapter schema like CS did. Learning Curve...

Refer Directly to the AJCC Manual

- Once you have sized up the case and read through all of the imaging studies, diagnostic biopsy (any type), resection including lymph nodes if done, neo-adjuvant therapy status, operative report, consultations, etc. Be sure to include and annotate in text the physician stage if provided as a component of your assessment.
- PLEASE DO NOT JUST TAKE THE PHYSICIAN STAGE WITHOUT ASSESSING THE CORRECTNESS. You might have additional information in the medical record that was not available or not included in the physician and/or pathologist assignment of TNM or AJCC Stage Group.
- Use the Definitions of TNM Section in the Chapter to assign the most appropriate T, N, and M values using the AJCC Staging Manual Instructions and Rules for assignment. Remember the Downstaging Rule when assigning. And, note that for some cancers or specific cases you may not be able to assign a value as precisely as you did in CS Ext or CS LN.
- Make sure you include any prognostic factors (anatomic or non-anatomic) that are required for determining the correct Anatomic Stage/Prognostic Groups - most are SSFs may also include; age, histologic type, grade of tumor, as well as other non-anatomic SSFs.

Assigning AJCC TNM - N/A Cases

CoC FORDS Values - Blank, X, 88, 99

- T, N, and M data fields
 - Values allowed by FORDS
 - Further explanations from AJCC
 - Blank indicates

 - No information in medical record
 Do not know if any assessment was performed
 Criteria not met for this stage classification so each category (T,N,M) is blank
 - X indicates not assessed
 - T cannot be assessed
 - · N cannot be assessed
 - Does not apply to M, if patient was examined it can be assigned
 Criteria met for this stage classification so each category is valid
 - 88 indicates not applicable, not defined by AJCC



Code 88 = Not Applicable

- Unknown Primary Site
- Pediatric Neoplasm
- III-Defined Primary Site
- Histology Excluded

AJCC Registrar Curriculum – Explaining Blanks and X, Ambiguous Terminology and Support for AJCC Staging

Assigning Stage Group - N/A Cases

CoC FORDS Values – Blank, X, 88, 99

- Stage group data fields
 - Values allowed by FORDS
 - Further explanations from AJCC
 - Blank indicates
 - No information in medical record or
 - Criteria not met for pathologic staging
 CoC does not allow blank for clinical staging

 - 99 indicates unknown, not defined by AJCC
 99 indicates T or N are unknown, and stage cannot be assigned
 99 indicates T, N, or M are not specific enough to assign stage
 Example: T2 assigned when T2a or T2b needed to assign stage
 CoC mandates non-blank for clinical stage group, use 99
 Do not use 99 if pathologic staging criteria not met, use blank
- 88 indicates not applicable, not defined by AJCC

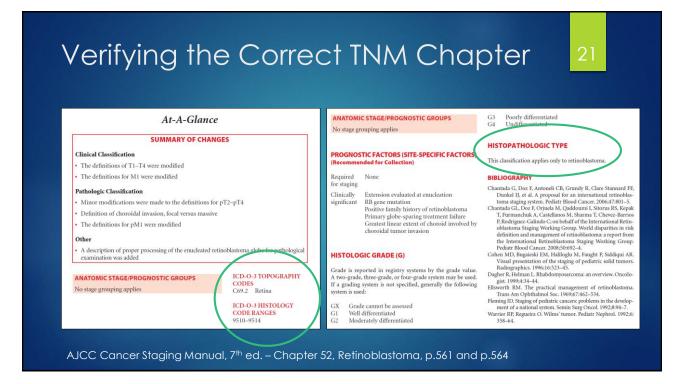
Code 88 = Not Applicable

- Unknown Primary Site
- Pediatric Neoplasm
- III-Defined Primary Site
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AJCC Registrar Curriculum – Explaining Blanks and X, Ambiguous Terminology and Support for AJCC Staging

Locating the Correct TNM Chapter

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Read the Chapter Introduction, Anatomy and Rules Before You Start

- ▶ These 3 sections are too often overlooked or skimmed. This is where most of your questions will be answered...not in the coding section.
- The Rules for Classification instruction you as to which diagnostic and staging tests, imaging, biopsy, sentinel or resected nodes, etc. can and should be used when assigning clinical or pathologic TNM.
- Sometimes the Cancer Staging Form and/or the AJCC Chapter includes anatomic drawings to help clarify local/regional anatomy.
- Always review the Prognostic Features as this will help you identify which laboratory tests, symptoms, or other factors are important for staging.

HELP – The Number of Primaries is NOT the Same - MPH Rules vs. AJCC

23

- ▶ What do you do when the MPH Rules tell you the case is one primary and the AJCC criteria tells you the case is two primaries?
- ▶ Why are they different and who is correct?
- What about "recurrences" versus "new primary"?
- ▶ Will this be "fixed" before the AJCC Cancer Staging Manual, 8th ed.
- ▶ Will there be new MPH Rules or updates to MPH Rules before 8th ed.

Practice TNM Staging by Chapter

24

- ▶ Read the COMPLETE AJCC Chapter THEN work 5-10 cases
- DO NOT START WITH BREAST OR OTHER COMPLEX CHAPTER
- ▶ Please take your time read, learn, practice
- ▶ 5-10 Colon Cases
- 5-10 Lung Cases
- ▶ 5-10 Breast Cases
- ► 5-10 Bladder Cases
- ▶ 5-10 GYN Cases
- ▶ 5-10 Melanoma Cases
- ▶ Then Other Sites of Interest

There is no glory in practice, but without practice, there is no glory...

—Unknown

Refer Directly to the AJCC Manual

25

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