AJCC 8th Edition Staging

Introduction & Descriptors

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

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

CDC

Learning Objectives

- Demonstrate purpose and approach to AJCC staging

- Examine format and expansion of Chapter 1

- Outline use of stage descriptors and guidelines
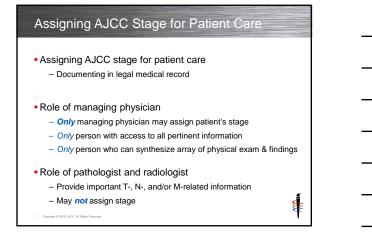
- Dissect 8th edition staging 1-page guide

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Learning Assessments

- Testing effect or retrieval practice
  - Testing yourself on idea or concept to help you remember it

- Many experts have agreed for centuries
  - Act of retrieving info over and over, makes it retrievable when needed
  - Aristotle: exercise in repeatedly recalling strengthens memory

- Why retrieval/quizzing slows forgetting, helps remembering
  - Memory is dynamic (keeps changing), retrieval helps it change
  - Test often for better results

- Quizzes
  - Pretest as part of registration
  - Quiz during lecture
  - Posttest emailed weeks later to assess retention
  - Also assesses clarity of instruction and instructor

Introduction

Purpose of AJCC Stage

- Stage is for patient care
  - Defines prognosis
  - Critical for appropriate treatment

- Stage serves as basis for
  - Clinical trial inclusion, exclusion, and stratification
  - Evaluate results of treatment
  - Facilitate exchange and comparison of info between **registries**
  - Clinical and translational cancer research

- Cohesive approach to staging provides method for
  - Clearly conveying clinical experience to others
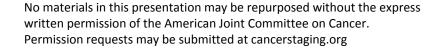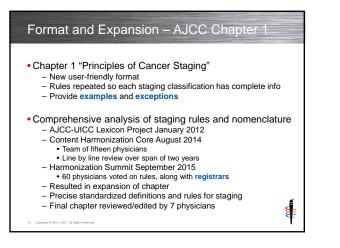 - Without ambiguity
  - At national and international levels

Assigning AJCC Stage for Patient Care

- Assigning AJCC stage for patient care
  - Documenting in legal medical record

- Role of managing physician
  - *Only* managing physician may assign patient's stage
  - *Only* person with access to all pertinent information
  - *Only* person who can synthesize array of physical exam & findings

- Role of pathologist and radiologist
  - Provide important T-, N-, and/or M-related information
  - May *not* assign stage

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Assigning AJCC Stage in Registry

- Assigning AJCC stage for registry purposes
  - Recording stage in abstract database
  - *MAY NOT* document in legal medical record

- Role of cancer registrar
  - Documenting physician assigned stage in abstract database
  - Assigning AJCC stage in abstract database
    - When managing physician documented stage is not available
    - When only partial stage info available from physicians
  - Ensure all appropriate stage classifications in abstract
    - Clinical if cancer known prior to treatment
    - Either pathological *or* posttherapy based on qualifying treatment

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Registry Specific AJCC Rules

- Cancer registry documentation and data
  - Specific **registry guidelines** throughout chapter 1
  - Document what is found
  - Do *not* adjust, interpret, change
  - Critical for researchers to have this **unaltered data**

- Rationale
  - Registry data affects future patient care
  - Altered data could negatively impact patient care

- Note to registrars on AJCC staging
  - Do not complete data items when info unclear or unavailable
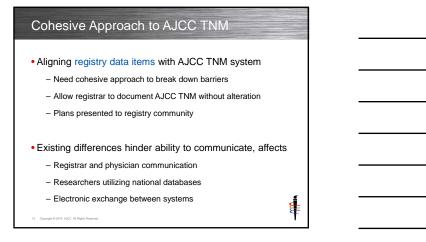 - Never prioritize completeness over accuracy

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Format and Expansion – AJCC Chapter 1

- Chapter 1 "Principles of Cancer Staging"
  - New user-friendly format
  - Rules repeated so each staging classification has complete info
  - Provide **examples** and **exceptions**

- Comprehensive analysis of staging rules and nomenclature
  - AJCC-UICC Lexicon Project January 2012
  - Content Harmonization Core August 2014
    - Team of fifteen physicians
    - Line by line review over span of two years
  - Harmonization Summit September 2015
    - 60 physicians voted on rules, along with **registrars**
  - Resulted in expansion of chapter
  - Precise standardized definitions and rules for staging
  - Final chapter reviewed/edited by 7 physicians

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AJCC Terminology

- Stage
  - Used **only** for aggregate information resulting from T, N, and M
  - Never individual categories (no T stage)

- Classifications – time point in patient's care continuum
  - Time frame (staging window)
  - Criteria

- Categories
  - T, N, M
  - Prognostic factors required for stage group

- AJCC Prognostic Stage Groups
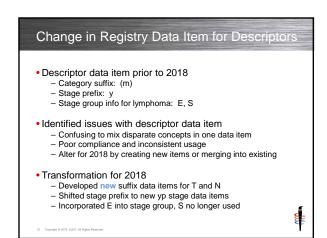 - Stage groups or stage
  - Aggregate information

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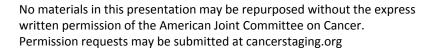
Aligning Registry Data Items with AJCC

Cohesive Approach to AJCC TNM

- Aligning registry data items with AJCC TNM system
  - Need cohesive approach to break down barriers
  - Allow registrar to document AJCC TNM without alteration
  - Plans presented to registry community

- Existing differences hinder ability to communicate, affects
  - Registrar and physician communication
  - Researchers utilizing national databases
  - Electronic exchange between systems

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Registry Data Alignment with AJCC

- Facilitates communication with physicians & researchers
  - Use same language as AJCC
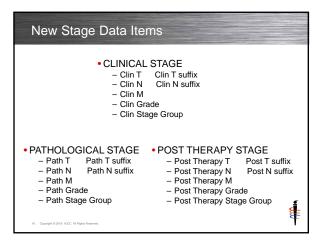 - No more registry shorthand and storage codes
  - Examples from registrar questions & physicians
    - c2 c2a c0
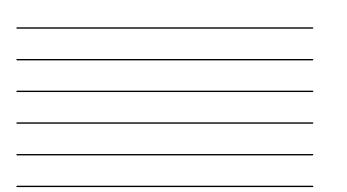   - Tc2 Nc2a Mc0
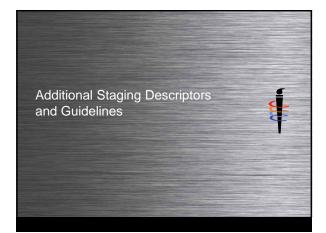   - cTc2 cNc2a cMc0

- All new AJCC 8th stage data items
  - Clinical
  - Pathological
  - Posttherapy

- Use format specified in AJCC manual, up to 15 characters
  - ypTis(DCIS)
  - pN0(mol+)
  - cM1b(0)
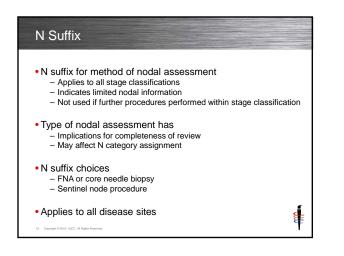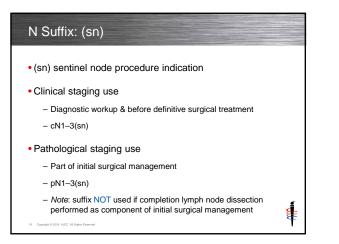 - 3C (only exception, do not use Roman numerals for group)

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Change in Registry Data Item for Descriptors

- Descriptor data item prior to 2018
  - Category suffix: (m)
  - Stage prefix: y
  - Stage group info for lymphoma: E, S

- Identified issues with descriptor data item
  - Confusing to mix disparate concepts in one data item
  - Poor compliance and inconsistent usage
  - Alter for 2018 by creating new items or merging into existing

- Transformation for 2018
  - Developed **new** suffix data items for T and N
  - Shifted stage prefix to new yp stage data items
  - Incorporated E into stage group, S no longer used

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New Stage Data Items

- CLINICAL STAGE
  - Clin T   Clin T suffix
  - Clin N   Clin N suffix
  - Clin M
  - Clin Grade
  - Clin Stage Group

- PATHOLOGICAL STAGE
  - Path T   Path T suffix
  - Path N   Path N suffix
  - Path M
  - Path Grade
  - Path Stage Group

- POST THERAPY STAGE
  - Post Therapy T   Post T suffix
  - Post Therapy N   Post N suffix
  - Post Therapy M
  - Post Therapy Grade
  - Post Therapy Stage Group

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Additional Staging Descriptors and Guidelines

N Suffix

- N suffix for method of nodal assessment
  - Applies to all stage classifications
  - Indicates limited nodal information
  - Not used if further procedures performed within stage classification

- Type of nodal assessment has
  - Implications for completeness of review
  - May affect N category assignment

- N suffix choices
  - FNA or core needle biopsy
  - Sentinel node procedure

- Applies to all disease sites

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N Suffix: (sn)

- (sn) sentinel node procedure indication

- Clinical staging use
  - Diagnostic workup & before definitive surgical treatment
  - cN1–3(sn)

- Pathological staging use
  - Part of initial surgical management
  - pN1–3(sn)
  - *Note*: suffix NOT used if completion lymph node dissection performed as component of initial surgical management

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N Suffix: (f)

- (f) FNA or core needle biopsy of node indication

- Clinical staging use
  - Diagnostic workup before treatment
  - cN1–3(f)

- Pathological staging use
  - Part of primary site surgical resection
  - pN1–3(f)
  - *Note*: suffix NOT used if subsequent completion lymph node dissection as component of initial surgical management

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New Registry Data Item for N Suffix

- N suffix – 3 new data items
  - cN suffix
  - pN suffix
  - ypN suffix

- N suffix coding

code	label	description
sn	(sn)	Sentinel node procedure without resection of nodal basin
f	(f)	FNA or core needle biopsy without resection of nodal basin
blank	blank	No suffix needed or appropriate; not recorded

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New Registry Data Item for T Suffix

- T suffix – 3 new data items
  - cT suffix
  - pT suffix
  - ypT suffix

- T suffix coding

code	label	description
m	(m)	Multiple synchronous tumors OR For thyroid differentiated and anaplastic only, Multifocal tumor
s	(s)	For thyroid differentiated and anaplastic only, Solitary tumor
blank	blank	No information available; not recorded

Guidelines – Unknown Primary Site

- No primary tumor evidence, **BUT** anatomic site suspected

- Not used if origin cannot be determined, no site information

- cT0
  - Primary tumor not identified on
    - Physical exam
    - Imaging
    - Endoscopy
    - Other diagnostic procedures

- pT0
  - No evidence of primary tumor identified
    - After surgical resection of suspected primary tumor, and
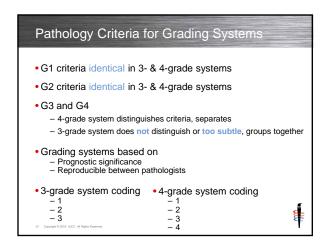   - Never identified on biopsy

Grade in AJCC 8E

- Recommended grading system specified in each chapter
  - Grading system to be used by pathologist and
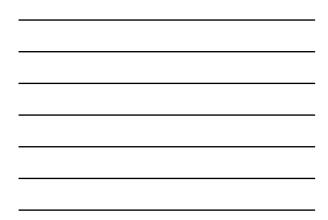 - Documented in cancer registry

- Cancer registry
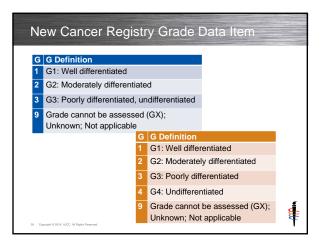 - **Must** record grade as specified in disease site chapter
  - According to rules **only** in chapter 1 and disease site chapter
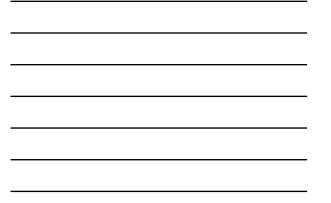 - Do **NOT** use registry rules for *new (AJCC) grade data item*

Grade Issues and Solution

- **New** grade data items for each stage classification
  - Incorporates both AJCC and standard registry coding
    - **Prioritizes AJCC** specified grade
      - Provides standard registry grade when AJCC not applicable
  - Grade tables specific for each disease site
  - Grade system based on prognostic significance

- Grade coding rules developed with surveillance partners
  - Approved by AJCC and pathologists
  - Medically accurate
  - Follows AJCC 8th edition Chapter 1

- Rationale for new grade data items
  - Grade data unusable in many sites by AJCC experts
  - Inconsistent grading systems used
  - Data coding rules conflicted with physician guidance

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Comparison of Pathology Grading Systems

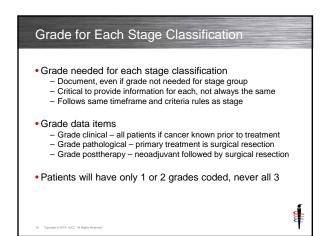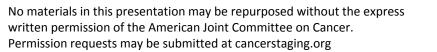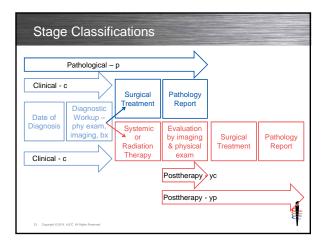| 3-Grade System	4-Grade System
GX: Cannot be assessed	GX: Cannot be assessed
G1: Well differentiated	G1: Well differentiated
G2: Moderately differentiated	G2: Moderately differentiated
G3: Poorly differentiated, Undifferentiated	G3: Poorly differentiated
	G4: Undifferentiated

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Pathology Criteria for Grading Systems

- G1 criteria identical in 3- & 4-grade systems

- G2 criteria identical in 3- & 4-grade systems

- G3 and G4
  - 4-grade system distinguishes criteria, separates
  - 3-grade system does **not** distinguish or **too subtle**, groups together

- Grading systems based on
  - Prognostic significance
  - Reproducible between pathologists

- 3-grade system coding   • 4-grade system coding
  - 1   - 1
  - 2   - 2
  - 3   - 3
                              - 4

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New Cancer Registry Grade Data Item

G	G Definition
1	G1: Well differentiated
2	G2: Moderately differentiated
3	G3: Poorly differentiated, undifferentiated
9	Grade cannot be assessed (GX); Unknown; Not applicable

G	G Definition
1	G1: Well differentiated
2	G2: Moderately differentiated
3	G3: Poorly differentiated
4	G4: Undifferentiated
9	Grade cannot be assessed (GX); Unknown; Not applicable

Breast Grade

G	G Definition
1	G1: Low combined histologic grade (favorable), SBR score of 3–5 points
2	G2: Intermediate combined histologic grade (moderately favorable); SBR score of 6–7 points
3	G3: High combined histologic grade (unfavorable); SBR score of 8–9 points
L	Nuclear Grade I (Low) (in situ only)
M	Nuclear Grade II (interMediate) (in situ only)
H	Nuclear Grade III (High) (in situ only)
A	Well differentiated
B	Moderately differentiated
C	Poorly differentiated
D	Undifferentiated, anaplastic
9	Grade cannot be assessed (GX); Unknown; Not applicable

Grade for Each Stage Classification

- Grade needed for each stage classification
  - Document, even if grade not needed for stage group
  - Critical to provide information for each, not always the same
  - Follows same timeframe and criteria rules as stage

- Grade data items
  - Grade clinical – all patients if cancer known prior to treatment
  - Grade pathological – primary treatment is surgical resection
  - Grade posttherapy – neoadjuvant followed by surgical resection

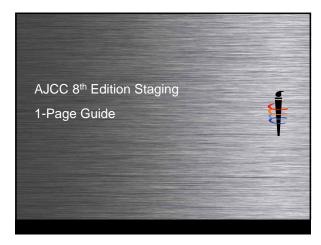- Patients will have only 1 or 2 grades coded, never all 3

LVI: Lymphovascular Invasion

- LVI further refined for 8th edition
  - Critical to know each component in some disease sites
  - Chapter will specify use of LVI **vs.** L, V, both L & V

Component of LVI coding	Description
0	LVI not present (absent)/not identified
1	LVI present/identified, NOS
2	Lymphatic and small vessel invasion only (L)
3	Venous (large vessel) invasion only (V)
4	BOTH lymphatic and small vessel AND venous (large vessel) invasion
9	Presence of LVI unknown/indeterminate

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Timing is Everything

Stage Classifications

Pathological – p

Clinical - c

Surgical Treatment → Pathology Report

Date of Diagnosis → Diagnostic Workup – phy exam, imaging, bx

Systemic or Radiation Therapy → Evaluation by imaging & physical exam → Surgical Treatment → Pathology Report

Clinical - c

Posttherapy - yc

Posttherapy - yp

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AJCC 8th Edition Staging

1-Page Guide
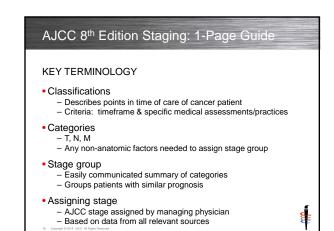

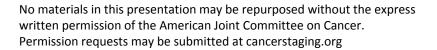**AJCC 8th Edition Staging: 1-Page Guide**

AJCC 8th Edition Staging

- Rules and associated rationale for Eighth Edition AJCC

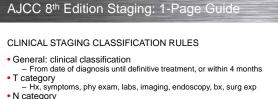- General rules described in AJCC Chapter 1

- Refer to relevant disease site chapters
    - Specific allowable disease site differences
    - Stage differences necessary for appropriate medical care of patient

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AJCC 8th Edition Staging: 1-Page Guide

KEY TERMINOLOGY

- Classifications
    - Describes points in time of care of cancer patient
    - Criteria: timeframe & specific medical assessments/practices
- Categories
    - T, N, M
    - Any non-anatomic factors needed to assign stage group
- Stage group
    - Easily communicated summary of categories
    - Groups patients with similar prognosis
- Assigning stage
    - AJCC stage assigned by managing physician
    - Based on data from all relevant sources

AJCC 8th Edition Staging: 1-Page Guide

CLINICAL STAGING CLASSIFICATION RULES

- **General: clinical classification**
  - From date of diagnosis until definitive treatment, or within 4 months
- **T category**
  - Hx, symptoms, phy exam, labs, imaging, endoscopy, bx, surg exp
- **N category**
  - Phy exam, imaging, FNA/core needle bx, excisional bx, sentinel node bx
- **M category**
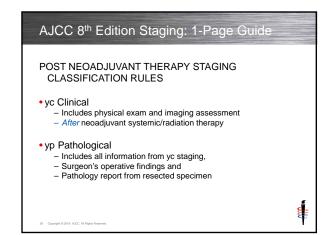 - Clinical history, physical exam, imaging, FNA/biopsy

- **Rationale**
  - Diagnostic bx of primary/nodes/distant mets = clinical classification
  - Path report on biopsy is *not* pathological staging
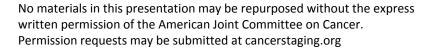 - cN even if based on lymph node bx
  - Clinical M category is
    - cM if based on history, physical exam and imaging
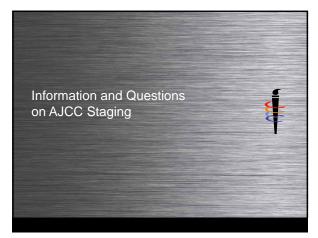   - pM1 if based on biopsy proven involvement

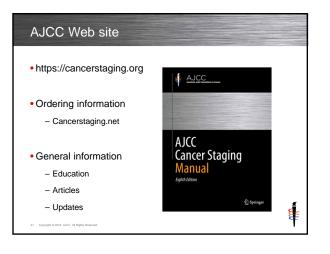## AJCC 8th Edition Staging: 1-Page Guide
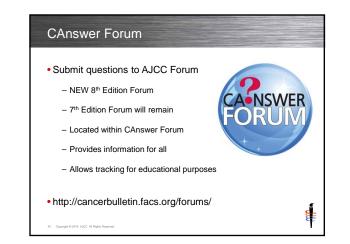
PATHOLOGICAL STAGING CLASSIFICATION RULES

- **General: pathological classification**
  - Clinical stage, op findings, path report resected specimen
- **T category**
  - Must meet definitive surgical treatment specified in chapter
- **N category**
  - Microscopic assessment of 1 node required, include imaging & dx bx
- **M category**
  - History, physical exam, imaging, FNA/biopsy, resection

- **Rationale**
  - Include all findings even if not microscopically proven
  - Pathological staging based on synthesis of all info
    - Not solely on resected specimen pathology report
    - Pathologist cannot assign final stage
  - Pathological M category is
    - cM if based on physical exam and imaging
    - pM1 if based on bx proven involvement, "pM0" NOT a valid category

AJCC 8th Edition Staging: 1-Page Guide

POST NEOADJUVANT THERAPY STAGING
   CLASSIFICATION RULES

- **yc Clinical**
  - Includes physical exam and imaging assessment
  - *After* neoadjuvant systemic/radiation therapy

- **yp Pathological**
  - Includes all information from yc staging,
  - Surgeon's operative findings and
  - Pathology report from resected specimen

Information and Questions on AJCC Staging

AJCC Web site

- https://cancerstaging.org

- Ordering information
  - Cancerstaging.net

- General information
  - Education
  - Articles
  - Updates

AJCC
Cancer Staging
Manual
Eighth Edition

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CAnswer Forum

- Submit questions to AJCC Forum

  - NEW 8th Edition Forum

  - 7th Edition Forum will remain

  - Located within CAnswer Forum

  - Provides information for all

  - Allows tracking for educational purposes

- http://cancerbulletin.facs.org/forums/

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Quiz

Summary

Summary

- Identify purpose and cohesive approach to AJCC staging

- Navigate new format and expansion of Chapter 1

- Comprehend use of stage descriptors and guidelines

- Identify key information of 8th edition staging 1-page guide

Eighth Edition Webinar Schedule

Webinar Topic	Date	Time
Introduction & Descriptors	Thursday, May 31, 2018	1 pm – 2 pm CDT
Minor Rule Changes	Tuesday, May 15, 2018	1 pm – 2 pm CDT
Major Rule Changes	Tuesday, March 20, 2018	1 pm – 2 pm CDT
CAnswer Forum & Staging Questions	Tuesday, April 17, 2018	1 pm – 2 pm CDT
Head and Neck Staging	Wednesday, July 25, 2018	1 pm – 2 pm CDT
Breast Staging	Tuesday, September 11, 2018	1 pm – 2 pm CDT

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Thank you

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First Author, Chapter 1: Principles of Cancer Staging

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