Learning Objectives

- Review development of AJCC 8th Edition
- Outline Chapter 1 – Principles of Cancer Staging
- Explain fundamental changes to disease site chapters
- Summarize new and changed disease site chapters
Overview

- AJCC TNM is used worldwide
  - Not just for use in the US
  - International collaboration
  - International databases used to develop staging systems
- AJCC Cancer Staging Manual
  - Supplies T, N, M, and stage groups
  - Provides critical information to understand staging system
    - General information and anatomy
    - Criteria for clinical and pathological classifications
    - Guidance on applying T, N, M category criteria
    - Evidence used for changes
    - Explanations for prognostic factors
    - Grade system for that chapter
    - Comments on histologies

AJCC 8th Edition

- 18 Expert panels
  - 5 continents
  - 22 countries
  - 415 individual contributors
- 7 Cores including Data Collection Core
- Partnerships – collaboration and license AJCC content
  - UICC
  - CAP Protocols
  - NCCN guidelines
  - Other endeavors
Philosophy

- Levels of evidence for key information ensure transparency
- Changes must be based on data
- Data sources
  - NCDB
  - SEER
  - Multi-institutional databases
  - International databases
  - Publications

AJCC Eighth Edition

8th Edition Dedication

Eighth Edition Dedication

The AJCC Cancer Staging Manual, 8th Edition is dedicated to all CANCER REGISTRARS in recognition of their:
- dedication and unique commitment to the recording and maintenance of data that are so vital for the care of the cancer patient;
- professionalism in the collection of factors that are fundamental to sustaining local, state, and national cancer registries;
- dedication to the cataloging of information crucial to cancer research;
- leadership, support, and promotion of the principles of cancer staging;
- AND THEIR POSITIVE IMPACT ON CANCER PATIENT OUTCOMES.
Chapter 1 Staging Rules

- Team of physicians reviewed Chapter 1
  - Extensive line by line review
  - Over a span of two years
- Harmonization Summit September 2015
  - Full day for vetting staging rules
  - Audience response system for voting
  - Approximately 60 physicians in attendance
  - Registrars also participated
- Final chapter reviewed/edited by 7 physicians

Chapter 1 Staging Rules

- Expansion of chapter 1 rules
  - Explains the basics of staging
  - Clarify terminology
  - Describes time frame and criteria for each classification
- A few new rules based on changes in medical practice
- Detailed rules for clinical and pathological classifications
  - Guidance for T, N, and M for both classifications
- Detailed rules for stage groups
- Rules in table format for easy reference
**Terminology**

- Pathological is new classification term for 8th edition
  - Previous editions: pathologic staging
  - 8th edition: changed to pathological staging

- Emphasize T, N, M are categories
  - Example: T category, not T stage
  - Subcategories
    - Ensured each subcategory has a main category in the table

- New term for stage groups
  - 7th edition: anatomic stage/prognostic groups
  - 8th edition: prognostic stage groups

**Chapter 1 - Structure**

- Introduction
  - Role of managing physician in assigning stage

- AJCC TNM staging system
  - Introduction
  - Classifications
  - Categories and subcategories
  - Prognostic stage groups
  - Unknown designation: X

- General staging rules
  - Guiding principles
  - Table format

**Chapter 1 - Structure**

- Stage classifications
  - General information and criteria
  - Table format

- Clinical
  - Timeframe and criteria
  - Detailed rules for T, N, and M

- Pathological
  - Timeframe and criteria
  - Detailed rules for T, N, and M

- Timeframe and criteria only
  - Posttherapy or Post Neoadjuvant Therapy
  - Recurrence or retreatment
  - Autopsy
Chapter 1 - Structure

• AJCC Prognostic stage groups
  – Rules for stage group assignment
  – Table format

• Additional staging descriptors and guidelines
  – N suffixes include
    • Sentinel nodes (sn)
    • FNA or core biopsy (f)
  – Multiple primary tumors (m)
  – Guidance on synchronous and metachronous primaries
  – Unknown primary site T0

Chapter 1 - Structure

• Additional staging descriptors and guidelines
  – Histologic codes for staging
  – Grade
    • General rules
    • Cancer registry documentation
  – LVI
    • Coding structure with new options
  – Residual tumor and surgical margins
    • Guidance and coding instructions
  – Response to neoadjuvant therapy assessment
    • Guidance for pathologists in determining response

Fundamental Changes to Disease Site Chapters
New and Revised Chapters

- New AJCC staging based on
  - Sites or subsites
  - Histologies
- Split current chapters in some sites, based on
  - Anatomic subsites
  - Differences in staging due to histology
- 83 chapters in 8th edition
  - 7th edition had 57
- Chapters updated to keep pace with medical advances

Reorganization of Chapters

- Organization of chapters by body system or function
  - Part I through Part XVIII
- Examples
  - Thyroid moved to endocrine system
  - GIST moved to soft tissue sarcoma
  - Urinary tract is its own section
    - Includes both males and females

New Features

- Levels of Evidence
- Imaging
- Risk Assessment Models
- Recommendations for Clinical Stratification
- Prognostic factors
  - Required for stage grouping
  - Recommended for clinical care
  - Emerging factors (available online only)
## Imaging Section

- Imaging section in each chapter
- Guidance for physicians when ordering tests
- Information for radiologists on reporting results
  - Structured reporting is being promoted
- Aids communication for assigning stage

## Factors and Registry Data Collection

- Most factors similar to 7th edition
- Prognostic factors distinguished by their purpose
  - Prognostic factors required for stage grouping
    - Categories assigned along with TNM
  - Additional factors recommended for clinical care
    - Important for physicians in care of their patients
  - Emerging factors
    - Latest information, will be reevaluated as evidence grows
- Registry data collection variables
  - Recommended by physician experts
  - Guidance for surveillance community

## Histology Code Changes

- WHO Classification of Tumors used for 8th Edition
  - Defined list of histology codes and terms included in chapter
- Histology code
  - Indicates prognostic staging is only for those histologies
  - Does not indicate histology may not occur in that disease site
  - Does not include terms no longer in common usage
Histology Code Changes

- Histology codes
  - No longer range of ICD-O-3 histologies
  - Previously were inclusive of all histologies common in registries

- Discussions ongoing with SEER
  - Regarding MPH rules
  - Guidance provided by AJCC experts
  - Example: colon cancer needs to indicate histology driving the prognosis, not the fact it arose in a polyp

New and Changed Disease Site Chapters

New Paradigms

- Mediating variable affecting the cancer and staging
- Separate stage groups for post neoadjuvant therapy staging
- Based on specific anatomic sites and subsites
- Unknown primaries with nodal involvement
- Inclusion of staging for sites not in previous editions

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New Chapters

• New disease site chapters for staging
• Head and Neck
  – Cervical Lymph Nodes & Unknown Primary
  – HPV-Mediated (p16+) Oropharynx Cancer
  – Cutaneous Squamous Cell Carcinoma of the Head and Neck
• Thorax
  – Thymus
• Endocrine System
  – Parathyroid
  – Adrenal Neuroendocrine Tumors
• Hematologic Malignancies
  – Leukemia

Chapter Changes

• Split chapters resulting in some new staging
• Pancreas
  – Exocrine Pancreas – Hepatobiliary System
  – Neuroendocrine Tumor of Pancreas – Neuroendocrine Tumors
• Neuroendocrine Tumors
  – Neuroendocrine Tumors of the Stomach
  – Neuroendocrine Tumors of the Duodenum and Ampulla of Vater
  – Neuroendocrine Tumors of the Jejunum and Ileum
  – Neuroendocrine Tumors of the Appendix
  – Neuroendocrine Tumors of the Colon and Rectum
  – Neuroendocrine Tumors of the Pancreas

Chapter Changes

• Split chapters or sections resulting in some new staging
• Bone – one chapter, multiple staging sections
  – Appendicular Skeleton/Trunk/Skull/Face
  – Pelvis
  – Spine
• Soft Tissue Sarcoma
  – Introduction to Soft Tissue Sarcoma
  – Soft Tissue Sarcoma of Head and Neck
  – Soft Tissue Sarcoma of Trunk and Extremities
  – Soft Tissue Sarcoma of Abdomen and Thoracic Visceral Organs
  – Soft Tissue Sarcoma of Retroperitoneum
  – Soft Tissue Sarcoma – Unusual Histologies and Sites

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Chapter Changes

- Split chapters – may be in different disease systems
- Head & Neck Pharynx
  - Nasopharynx
  - HPV-Mediated (p16+) Oropharynx
  - Oropharynx (p16-) and Hypopharynx
- Appendix
  - Appendix – Lower Gastrointestinal Tract
  - Neuroendocrine Tumors of Appendix – Neuroendocrine Tumors
- Endocrine System Thyroid
  - Thyroid – Differentiated and Anaplastic
  - Thyroid – Medullary

Chapter Changes

- Merged chapters
  - Ovary, Fallopian Tube, and Primary Peritoneal Carcinoma
- Deleted chapters
  - Cutaneous Squamous Cell Carcinoma and Other Cutaneous Carcinomas

Staging Changes
### Head and Neck

- **Cervical Nodes and Unknown Primary**
  - New criteria for extranodal extension \( \text{ENE} \)
  - Extranodal extension designated as \( \text{ENE}^+ \) or \( \text{ENE}^- \)
  - Occult primary tumors (unknown primary) are T0
  - If EBV-related stage with nasopharynx
  - If HPV-related stage with oropharynx
  - All other cases use this chapter

- **HPV-mediated \( \text{p16}^+ \) Oropharyngeal Cancer**
  - Test utilized is \( \text{p16} \) (cyclin-dependent kinase inhibitor 2A)
  - \( \text{p16}^+ \) staged with this chapter
  - \( \text{p16}^- \) staged with Oropharynx \( \text{p16}^- \) and Hypopharynx chapter

- **Cutaneous Squamous Cell Ca of Head & Neck**
  - Staging system does not change reportability requirements

### Upper Gastrointestinal Tract

- **Esophagus & Esophagogastric Junction**
  - Different stage group tables for clinical, pathological, and pathological
  - Change in tumor location criteria
  - Change in proximal stomach location for EGG tumors

- **Stomach**
  - Different stage group tables for clinical, pathological, and pathological
  - Change in proximal stomach location for EGG tumors

### Lower Gastrointestinal Tract

- **Colon and Rectum**
  - Histology codes do not include polyp origin
  - Histology driving prognosis utilized
  - Discussions with SEER for MPH rules

- **Anus**
  - Lesions overlying perineal body are perianal or vulvar
  - Perianal are staged with this chapter
  - Anatomical illustrations for perianal vs skin
Neuroendocrine Tumors

- Well differentiated is not the grade
  - It is histologic type

- NET may be Grade 1, Grade 2, or Grade 3
  - Most common is G1 and G2
  - Rare well differentiated NET G3 are included

- Grade based on
  - Mitotic count
  - Ki-67 index

Thorax

- Lung
  - New designations to specify type of in situ
  - New size cut points
  - New T1mi
  - Tables with criteria for multiple tumors vs separate tumors
  - Revisions and new M1 subcategories

Bone and Soft Tissue Sarcoma

- Bone
  - T category by type of bone
    - Appendicular skeleton, trunk, skull, facial bones
    - Spine
    - Pelvis
  - Must assign grade according to AJCC grade table

- Soft tissue sarcoma
  - Separate chapters based on site and/or histology
  - GIST chapter in this section
## Skin

- Merkel cell carcinoma
  - Rule changes for cN category
  - Critical to indicate sentinel nodes only
  - Different stage groups for clinical and pathological

- Melanoma
  - New size cut points for T category
  - Mitotic rate no longer used
  - Redesigned stage tables
  - Different stage groups for clinical and pathological

## Breast

- Two breast stage group tables: anatomic & prognostic

- Anatomic stage group
  - Only in global regions where biomarkers tests not routinely available

- Prognostic stage group
  - Used in countries where biomarker tests routinely performed

- Cancer registries must use Prognostic Stage Group table
  - If biomarkers not available, case reported as unstaged
  - T, N, M information assigned, but registry stage group is 99

- Lobular carcinoma *in situ* not staged
  - Does not affect reportability -- ask your standard-setter

## Male Genital Organs

- Prostate
  - Grade Group
    - WHO and International Society of Urologic Pathologists (ISUP)
    - Formalized changes to Gleason scoring
    - Adoption of prognostically important Grade Groups
    - Table in AJCC chapter
  - No pT2 subcategories
Endocrine System

- Thyroid Differentiated and Anaplastic
  - Differentiated
    - New age cut point <56 or ≥56
  - Anaplastic
    - New T categories

Hematologic Malignancies

- Hodgkin and Non-Hodgkin Lymphomas
  - Lugano
    - SLL/CLL now uses Lugano and Rai
- Plasma Cell Myeloma
  - RISS staging
- Leukemia
  - Prognostic factors required for clinical care

Information and Questions on AJCC Staging
Summary

- 8th edition is a significant step forward
- Education planned for physicians and registrars
- Significant disease site changes will be communicated
- AJCC Web site provides roadmap for information
- Congratulations to Cancer Registrars on 8th edition dedication

Thank you

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