

# Genitourinary

FCDS 2011 Educational Webcast Series  
December 15, 2011



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## Presentation Outline

- Overview including Anatomy and General Information
  - Kidney Parenchyma
  - Kidney Renal Pelvis
  - Bladder
  - Prostate
- Multiple Primary and Histology Coding Rules Refresher
- Collaborative Stage Data Collection System (CSv02.03.02)
- 2011 FCDS Required CS Site Specific Factors (SSF)
- Treatment Guidelines by Stage
- Documentation

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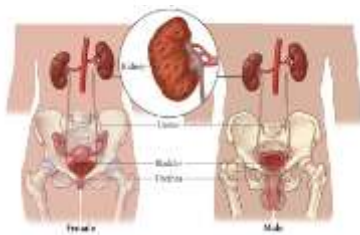
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## Genitourinary System



Source: <http://medicaltrue.com/urinary-tract>

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# Kidney Parenchyma



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## United States 2011 Incidence / Mortality

**New Cancer Cases**

- 1,596,670 all site
- 60,920 kidney & renal pelvis cancer cases

**Cancer Deaths**

- 571,950 all sites
- 13,120 kidney & renal pelvis cancer case

Source: American Cancer Society Cancer Facts and Figures 2011

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## Risk Factors / Screening

**Risk Factors**

- Cigarette Smoking
- First-degree relative
- Misusing certain pain medicines, including over-the-counter pain medicines for a long time



**No Screening Tests**

- Cases often identified incidentally in w/u for other issue
- Ultrasound
- CT Scan

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## Tumor Markers/Lab Tests

- Elevated LDH levels
- Hypercalcemia
- Anemia
- Thrombocytosis
- Elevated ESR or CRP



Source: AJCC 7th Edition

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### Kidney Equivalency Terms, Definitions, Tables and Illustrations -Cancer- (Embryonic lymphomas and leukemias - ND500 - 9999 and Kaposi sarcoma ND140)



Source: 2007 Multiple Primary and Histology Coding Rules

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### Anatomy of the Kidney and Ureter



1. Parenchyma
2. Cortex
3. Medulla
4. Perirenal fat
5. Capsule
6. Ureter
7. Pelvis of kidney
8. Renal vessels
9. Hilum
10. Calyx

<http://training.seer.cancer.gov/kidney/anatomy/>

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## Anatomy Kidney

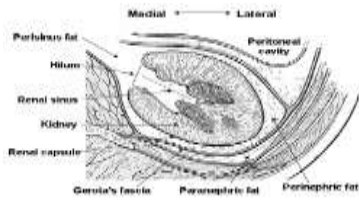


Figure I-2-13. Structures Adjacent to Kidney  
Adapted from: Medi-Clip: Grant's Atlas Images I, Thorax and Abdomen. Williams and Wilkins, 1998.

Source: Collaborative Stage Data Collection System, Part I, Section 2

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## Histology

### Specific Renal Cell Carcinoma Types

- 8255 Adenocarcinoma with mixed subtypes\*\*
- 8260 Papillary (Chromophil)\*
- 8310 Clear Cell
- 8316 Cyst associated, cystic
- 8317 Chromophobe\*
- 8318 Sarcomatoid (Spindle cell)
- 8319 Collecting duct type (Bellini duct)
- 8320 Granular cell
- 8510 Medullary carcinoma, NOS; medullary adenocarcinoma
- 8959 Malignant cystic nephroma; malignant multilocular cystic nephroma
  
- 8312 Renal cell carcinoma is a **GROUP** term for glandular (adeno) carcinoma of the kidney

\* Note: Chromophil and chromophobe are different histologies

\*\* Note: A mixture of two or more of the specific renal cell carcinoma types listed in this table.

Source: 2007 Multiple Primary & Histology Coding Rules

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## 2007 Multiple Primary Rules

### Kidney

#### Formats

- Flowchart Format
- Matrix Format
- Text Format



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# Multiple Primary and Histology Coding Rules

January 01, 2007

National Cancer Institute  
Surveillance Epidemiology and End Results Program  
Bethesda, MD

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## Kidney: Equivocal Terms, Definitions, Tables and Hierarchies C449 (Embryonic lymphomas and leukemias - M9590 - 999 and Kaposi sarcoma M9149)

### INTRODUCTION

**Renal cell carcinoma (RCC)** is a group term for glandular (solid) neoplasms of the kidney. Approximately 95% of all neoplasms of the kidney are renal cell and specific renal cell types.

**Transitional cell carcinoma** rarely arises in the kidney parenchyma (C449). Transitional cell carcinoma found in the upper urinary system usually arises in the renal pelvis (C579). Only code transitional cell carcinoma to kidney in the rare instance when pathologic confirms the tumor originated in the parenchyma of the kidney.

### Equivocal or Equal Terms:

- Metastatic and metastatic
- Renal cell carcinoma (RCC) and hypernephroma (obsolete term)
- Tumor, mass, lesion, and neoplasm

### Definition:

**Adenocarcinoma with mixed subtypes (R25):** A mixture of two or more of the specific renal cell carcinoma types listed in Table 1.

**Carcinoma of the collecting ducts of Bellini/collecting duct carcinoma (R19)** is a malignant epithelial tumor. There is confusion about the relationship between medullary carcinoma and collecting duct carcinoma, some advocate that there is a relationship, all are not convinced. Genetic studies are ongoing. We will code medullary carcinoma originating in the kidney to S514 as we can differentiate between the medullary and the collecting duct carcinoma.

**Chromophobe RCC (M57)** is a rare form of kidney cancer. Chromophobe is a renal carcinoma characterized by large pale cells, prominent membranes.

**Clear cell RCC (R10)** is the most common type of RCC. Clear cell is composed of clear or vacuolated cytoplasm. Clear cell is histologically diverse, with solid alveolar and acinar patterns the most common.

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## Unknown if Single or Multiple Tumor

- Rule M1
  - When it is not possible to determine if there is a single tumor or multiple tumors, opt for a single tumor and abstract as a single primary.\*
  - Note: Use this rule only after all information sources have been exhausted.

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### Single Tumor

- Rule M2
  - A single tumor is always a single primary.
  - Note: The tumor may overlap onto or extend into adjacent/contiguous site or subsite.

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### Multiple Tumors

- Rule M3
  - Wilms' tumors are a single primary.
- Rule M4
  - Tumors in sites with ICD-O-3 topography codes that are different at the second (Cxxx) and/or third characters (Cxxx) are multiple primaries.

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Etcetera through rules...

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## Collaborative Stage v02.03.02

Kidney Parenchyma  
C64.9

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**Collaborative Stage Data Collection System**

**Collaborative Stage Version 2**

**TERM 7 Schema List (v.02.03)**

**Version v.02.03**

**KidneyParenchyma**

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**KidneyParenchyma**

**Kidney (Renal Parenchyma)**

**004.0**

C04.0

10 Kidney Scar

11 Kidney Scar at Site

12 Kidney Scar - Distal

13 Kidney Scar - Proximal

14 Kidney Scar - Central

15 Kidney Scar - Distal

16 Kidney Scar - Proximal

17 Kidney Scar - Central

18 Kidney Scar - Distal

19 Kidney Scar - Proximal

20 Kidney Scar - Central

21 Kidney Scar - Distal

22 Kidney Scar - Proximal

23 Kidney Scar - Central

24 Kidney Scar - Distal

25 Kidney Scar - Proximal

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91 Kidney Scar - Proximal

92 Kidney Scar - Central

93 Kidney Scar - Distal

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95 Kidney Scar - Central

96 Kidney Scar - Distal

97 Kidney Scar - Proximal

98 Kidney Scar - Central

99 Kidney Scar - Distal

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**CS Tumor Size**

Code	Description
000	Not Described (Blank)
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007	Not Described (Blank)
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099	Not Described (Blank)
100	Not Described (Blank)

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### CS Extension

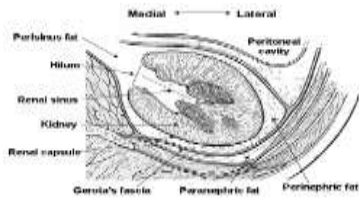


Figure I-2-13. Structures Adjacent to Kidney  
Adapted from: Medi-Clip: Grant's Atlas Images I, Thorax and Abdomen, Williams and Wilkins, 1998.

Source: Collaborative Stage Data Collection System, Part I, Section 2

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### CS Extension

- > Note 2: Gerota's fascia
- > Note 3: Invasion beyond the capsule
- > Note 4: "In situ of renal parenchyma"
- > Note 5: Use of code 300
- > Note 6: T1 and T2 tumors with tumor size
- > Note 7: Direct extension to other structures

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### CS Extension

Code	Description	1	2	3	4	5	6	7	8	9
600	Localized to kidney									
601	Renal vein involvement									
602	Renal vein involvement									
603	Renal vein involvement									
604	Renal vein involvement									
605	Renal vein involvement									
606	Renal vein involvement									
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616	Renal vein involvement									
617	Renal vein involvement									
618	Renal vein involvement									
619	Renal vein involvement									
620	Renal vein involvement									

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## CS Extension

Code	Description	TNM 7	FIGO	UPT	ICD-O
300	Only renal mass, unknown	Tx	Tx	Nx	Mx
310	Renal mass confined to kidney (T1a)	T1a	T1a	Nx	Mx
320	Extension of renal capsule (T1b)	T1b	T1b	Nx	Mx
330	Extension of renal capsule (T1c)	T1c	T1c	Nx	Mx
340	Extension of renal capsule (T2a)	T2a	T2a	Nx	Mx
350	Extension of renal capsule (T2b)	T2b	T2b	Nx	Mx
360	Extension of renal capsule (T2c)	T2c	T2c	Nx	Mx

Stated as T1a Code 310

Stated as T1b Code 320

Stated as T1c Code 330

Stated as T2a Code 340

Stated as T2b Code 350

Stated as T2c Code 360

25 ^ For CS Extension codes 100-360 ONLY, the T category for AJCC 7 is assigned based on the value of CS Tumor Size, as shown in the Extension Size AJCC 7 Table for this site.

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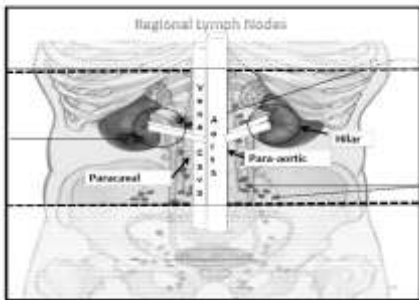
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## CS Lymph Nodes



Source: NAACCR Webinar Series - Kidney

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## CS Mets at Dx

- Code 00: No distant mets
- Code 10: Distant lymph nodes
- Code 20: Extension to contralateral kidney
- Code 40: Non contiguous ipsilateral adrenal
- Code 50: OBSOLETE code
- Code 55: (40 or 20) + 10
- Code 60: Distant metastasis, NOS
- Code 99: Unknown

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### CS Site-Specific Factors (CoC Required)

SSF1: Invasion Beyond Capsule

SSF2: Vein Involvement

SSF3: Ipsilateral Adrenal Gland Involvement

SSF4: Sarcomatoid Features

SSF5: Histologic Tumor Necrosis ← Not Required

SSF6: Fuhrman Nuclear Grade

SSF7: Size of Metastasis in Lymph Nodes ← Not Required

SSF8: Extranodal Extension

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### CS Site-Specific Factors FCDS

None Required by FCDS



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### Kidney Cancer Treatment



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### Neoadjuvant Clinical Trial to Evaluate the Efficacy of Bevacizumab for Renal Cell Carcinoma

This study is ongoing, but not recruiting participants.

First Posted on June 8, 2009. Last Updated on December 1, 2010. [History of Changes](#)

Sponsor:	M.D. Anderson Cancer Center
Collaborator:	Genentech
Information provided by (Responsible Party):	M.D. Anderson Cancer Center
ClinicalTrials.gov Identifier:	NCT00113217

31 <http://www.clinicaltrials.gov/ct2/show/NCT00113217?cond=renal+cancer&rank=17>  
Neoadjuvant Clinical Trial to Evaluate the Efficacy of Bevacizumab for Renal Cell Carcinoma

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## Kidney Cancer Principles of Surgery

- Nephron-sparing surgery (partial nephrectomy) is appropriate in selected patients. For example:
  - Small unilateral tumors (T1a) and selected patients T1b.
  - Unifocal cystic, renal insufficiency, bilateral renal masses, hereditary renal cell cancer.
- Open, laparoscopic, or robotic surgical techniques may be used to perform radical and partial nephrectomies.
- Regional lymph node dissection is optional but is recommended for patients with adenopathy on preoperative imaging or palpable/visible adenopathy at time of surgery.
- Adrenal gland resection may be considered if adrenal is uninvolved and tumor is not high risk on the basis of size and location.
- Basal films may be required for extensive inferior vena cava involvement.
- Observation or ablative techniques (eg, cryosurgery or radiofrequency ablation):
  - Can be considered for patients with clinical stage T1 renal lesions who are not surgical candidates.
  - Biopsy of small lesions may be considered to obtain or confirm a diagnosis of malignancy and guide surveillance, cryosurgery, and radiofrequency ablation strategies.
  - Rigorous comparison with surgical resection (ie, radical or partial nephrectomy by open or laparoscopic techniques) has not been done.
  - Thermal ablation techniques are associated with a higher local recurrence rate than conventional surgery.<sup>13</sup>
- Generally, patients who would be candidates for cytoreductive nephrectomy prior to systemic therapy have:
  - Excellent performance status (ECOG PS 0-1)
  - No brain metastases

32 Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-A

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## Kidney Cancer Primary Treatment Stage I-III



33 Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-1

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### Kidney Cancer Primary Treatment Stage IV



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Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-2

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### Kidney First-Line Therapy Stage IV or Relapse Unresectable



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Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-4

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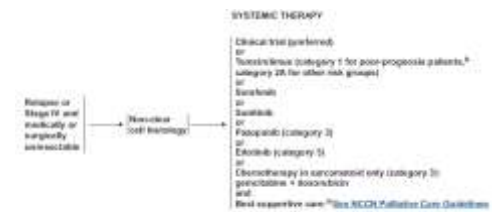
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### Kidney First-Line Therapy Stage IV or Relapse Unresectable



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Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-4

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## Renal Pelvis, Ureter, Bladder



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## Field Effect Theory

The field effect theory suggests that the urothelium has undergone a widespread change, perhaps in response to a carcinogen, making it more sensitive to malignant transformations. As a result, multiple tumors arise more easily.

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## Implantation Theory

The implantation theory suggests that tumor cells in one location lose their attachments and float in the urine until they attach (implant) on another site. Transitional cell tumors commonly spread in a head-to-toe direction, for example from the renal pelvis to the ureter.

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## United States 2011 Incidence / Mortality

### New Cancer Cases

- 1,596,670 all site
- 69,250 bladder

### Cancer Deaths

- 571,950 all sites
- 14,990 bladder

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Source: American Cancer Society Cancer Facts and Figures 2011

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## Risk Factors

- Increasing age
- Being white
- Being a man
- Smoking
- Exposure to certain chemicals
- Previous cancer treatment
- Chronic bladder inflammation
- Personal or family history of cancer

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## Symptoms and Screening

### Signs & Symptoms

- Blood in urine (hematuria)
- Frequent urination
- Painful urination
- Urinary tract infection
- Abdominal pain
- Back pain

### Screening Tests

- There is no standard or routine screening test for bladder cancer

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## Prognostic Factors

- ❖ Tumor Location
- ❖ Histologic Type
- ❖ Size and Number of Tumors
- ❖ Depth of Invasion into Bladder Wall
- ❖ Stage of Disease
- ❖ Tumor Grade or Degree of Differentiation

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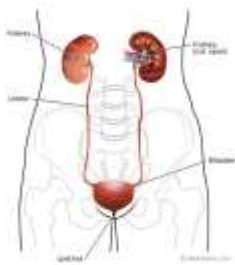
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## Anatomy



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Source: <http://www.medicinenet.com>

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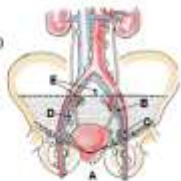
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## Anatomy

### Lymph Nodes – Ureter, Bladder

Bladder and Distal Ureter  
Perivesical (A)  
Iliac, internal (hypogastric) (B)  
Obturator (C)  
Iliac, external (D)  
Sacral (E), presacral  
Pelvic, NOS (all nodes within shadowed area)

Also for ureter:  
Periureteral  
Iliac, common



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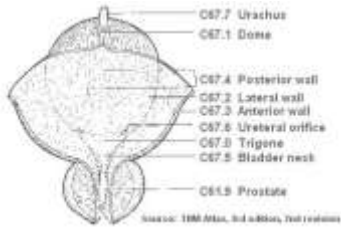
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## Anatomy



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## Anatomy



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## Histology

- ❖ Urothelial or Transitional Cell Carcinoma
- ❖ Squamous Cell Carcinoma
- ❖ Adenocarcinoma
- ❖ Carcinosarcoma

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## Histology

### Urothelial/Transitional Cell Tumors Code

With squamous differentiation	8120
With glandular differentiation	
With trophoblastic differentiation	
Nested	
Microcystic	
Transitional cell, NOS	
Papillary carcinoma	8130
Papillary transitional cell	
Micropapillary	8131
Lymphoepithelioma-like	8082
Plasmacytoid	
Sarcomatoid	8122
Giant cell	8031
Undifferentiated	8020

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Source: Multiple Primary & Histology Coding Rules - Table 1 - Urothelial Tumors. Note: Excludes pure squamous carcinoma, glandular (adeno) carcinoma, or other bladder tumor histologies. Source: Multiple Primary & Histology Coding Rules: NCI - SEER

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## Grade

- Grade is a prognostic factor for bladder cancer
  - ❖ High grade tumors have a worse prognosis
  - ❖ Low grade noninvasive tumors in young patients have a better prognosis

Note: If the term low grade (LG) or high grade(HG) is indicated for a urothelial primary, assume it is a WHO/ISUP grade

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## Two-Grade System Conversion Table

Code	Terminology	Histologic Grade
2	Low grade	1 / 2
4	High grade	2 / 2

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Sources: FORDS Page 11, SECTION ONE: Case Eligibility and Overview of Coding Principles; Coding Two-Grade Systems

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# Multiple Primary Rules Histology Coding Rules

Renal Pelvis  
Ureter  
Bladder



**Formats**

- Flowchart Format
- Matrix Format
- Text Format

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# Multiple Primary and Histology Coding Rules

January 01, 2007

National Cancer Institute  
Surveillance Epidemiology and End Results Program  
Bethesda, MD

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**Renal Pelvis, Ureter, Bladder, and Other Urogenital Epithelial Tumors, Benign and Malignant**  
C69.0-C69.9, C67.0-C67.9, C57.0-C57.9

**Renal Pelvis, Ureter, Bladder, and Other Urogenital**  
The renal pelvis, ureter, bladder and proximal portion of the urethra are lined by transitional epithelium, also known as urothelium. Tumors of this urothelium are more often papillary compared to other sites. Two combinations have been proposed to replace the parentheses ( ), a "third suffix" and ( ) codes with implementation.

The ICD-O edit library suggests that the urothelium has undergone a multiphase change, perhaps to represent a metaplastic, making it more sensitive to malignant transformation. As a result, multiple tumors arise from each site.

This implementation favors suggestions that renal cells in fact function like stem epithelium, and that (3) the sites could they attach (implant) on another site. Transitional cell tumors commonly spread as a localized disease, for example from the renal pelvis to the ureter. Subsequent metastases are more likely to suggest both of these theories, but neither has been proven to be the case for all tumors. Similarly, the subsequent presence of bladder cancer can be a result of direct spread of urothelial cells within the urothelium, direct metastasis, or due to squamous or field effect. The notes regarding histology and number of primaries are an attempt to encourage these observations so that location data are consistent and reproducible.

**Bladder**  
In the United States, transitional cell carcinoma accounts for more than 90% of all bladder cancers. Squamous cell carcinoma makes up 1.0%, and adenocarcinoma makes up about 1.0%. Pure squamous cell carcinoma of the bladder has a poor prognosis. See histology coding rules ICD-O and ICD-10 for coding instructions.

**Epithelium in Urogenital Tumors**

- Flat transitional cell, flat urothelium
- In situ transitional cell carcinoma, in situ urothelial carcinoma
- Papillary, non-invasive, papillary
- Papillary and transitional
- Transitional and transitional epithelium
- Non-invasive and in situ
- Papillary transitional cell carcinoma, papillary urothelial carcinoma

**References:**

**Companion Sites:**

- Renal pelvis
- Ureter
- Bladder
- Urothelial epithelium

**Field effect:** Biological changes in normal or clinically normal tissue that predispose a person to cancer

Source: ICD-O and ICD-10. Revised November 1, 2007.

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**Uterus: Tumor and Definition:**

**Round Piths, Cervix, Bladder, and Other Uterine Epithelial Tumor, Definition, Table and Illustrations**  
 C855, C860, C878-C879, C880-C889  
 (Embryonic development and histology: 80790-8089 and Kaposi-sarcoma: 8131-40)

The tumor (bladder) originates from the ICC. A low tumor is a low papillary bladder tumor that lies flat against the bladder tissue. The tumor usually has a poor prognosis. In contrast, the ICC (also called carcinoma in situ, or CIS) grows to the level of cells above the level of the bladder and appears as flat lesions on the inside surface of the bladder. Flat, atypical ICC can include the deeper layers of the bladder, particularly the muscle layer.

Item 1: The tumor and lesion are at the level of invasion. This distinction also uses the tumor's depth as being carcinoma in situ (CIS) or carcinoma in situ.

Item 2: The tumor could be called an in situ carcinoma (if the term "in situ carcinoma" is used to describe the location), or even that the tumor has spread to other organs.

In situ: A tumor confined to epithelium (metaplastic) with no penetration below the basement membrane.

Site: Bladder (Cervix); Within the lumen of a tubular or hollow structure. Uterine tumors may spread immediately to adjacent nearby organs.

Invasive: Within the normal body.

Invasive: A tumor that penetrates beyond the basement membrane.

High grade: The tumor with the greatest cytologic (morphological) atypia (an-fatal and life-threatening definition).

**Bladder:**  
 • The wall of the bladder is made of transitional epithelium.  
 • Mucosa  
 • Lamina propria (more pathologic epithelium than to submucosa)  
 • Muscularis (inner layer and always present, may not be continuous)  
 • Submucosa  
 • Transitional layer (epithelium proper, detrusor muscle)  
 • Urinary sphincter

**High grade, and severe:**  
 • The wall of the round piths and other flat flat to greater thickness are:  
 • High grade  
 • High grade carcinoma tissue, submucosa  
 • Muscularis  
 • Adenoma, carcinoma (if papillary flat)

**High-grade, multifocal, and polymorphic are often used as synonyms.** The tumor has multiple centers. The area are not contiguous.

**Non-invasive tumor:** A tumor confined to epithelium (metaplastic) with no penetration below the basement membrane.

Revised December 1, 2007

**Round Piths, Cervix, Bladder, and Other Uterine Epithelial Tumor, Definition, Table and Illustrations**  
 C809, C848, C879-C879, C880-C889  
 (Embryonic development and histology: 80790, 8089 and Kaposi-sarcoma: 8131-40)

**Papillary tumor:** A papillary bladder tumor is a tumor growth that is attached to the wall by a stalk.

**Papillary and Flat Carcinoma:** Cerebral carcinoma may be called flat or papillary. The term papillary and flat describe the presence or absence of the tumor, not a specific histologic type. They are transitional cell carcinoma, although there are behavioral differences between the two.

**Prostate Cancer:** Adenocarcinoma of the prostate is usually an extension of adenocarcinoma of the prostate. Transitional cell carcinoma in the prostate is very rare, but is an extension from the bladder or may be primary in the prostate itself.

**In situ or metastatic:** In situ means within the immediate vicinity of the primary tumor.

**Transitional cell carcinoma:** usually begins on the round piths, not on the bladder. The tumor cells are different from round cell carcinoma.

**Transitional epithelium:** A highly specialized epithelium that has a normal appearance with large cube-shaped cells in the relaxed state that becomes and tends to flatten and flat cells as the epithelium is stretched or distended.

**Uterine tumor:** Tumors found by transitional epithelium also known as sarcoma.

**Workbooks:** The transitional epithelium lining the wall of the bladder, cervix, and round piths, extend to the basement membrane.

**Uterus: Tumor and Definition:** \_\_\_\_\_

**Multiple Primary Rules**

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**Rule M6**

➤ Bladder tumors with any combination of the following histologies are a single primary:

- ❖ Papillary carcinoma (8050)
- ❖ Transitional cell carcinoma (8120-8124)
- ❖ Papillary transitional cell carcinoma (8130-8131)

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## Multiple Primary Rules

### One Per Lifetime

- Each patient may only have one invasive urothelial bladder cancer per lifetime.
  - ❖ Once a patient has an invasive urothelial bladder cancer, subsequent non-invasive or invasive urothelial bladder cancer is considered the same primary.
- Each patient can only have one non-invasive urothelial bladder cancer per lifetime.
  - ❖ Must occur prior to the invasive urothelial bladder cancer

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## Collaborative Stage v02.03.02

Bladder  
C67.0 – 67.9

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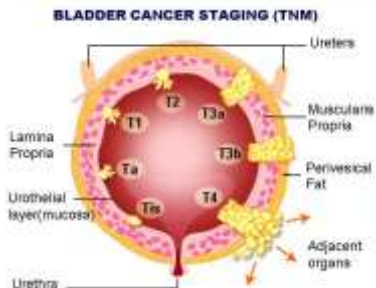
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## Bladder Cancer Staging



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Source: <http://www.emoryhealthcare.org/urology/oncology/bladder-cancer>

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## Regional Lymph Nodes for Bladder

**Bladder**

- Perivesical (A)
- Iliac, internal (hypogastric) (B)
- Obturator (C)
- Iliac, external (D)
- Sacral (E), presacral
- Pelvic, NOS (all nodes within shadowed area)
- Iliac, common (F)

**NAACCR**

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**COLLABORATIVE STAGE DATA COLLECTION SYSTEM**

**Collaborative Stage Version 2**

**Bladder**

**Version v.02.03**

ICD-O-3 Code	ICD-O-3 Description	ICD-O-3 Code	ICD-O-3 Description	ICD-O-3 Code	ICD-O-3 Description
C57.0	Bladder, unspecified	C57.0	Bladder, unspecified	C57.0	Bladder, unspecified
C57.1	Bladder, transitional cell carcinoma	C57.1	Bladder, transitional cell carcinoma	C57.1	Bladder, transitional cell carcinoma
C57.2	Bladder, squamous cell carcinoma	C57.2	Bladder, squamous cell carcinoma	C57.2	Bladder, squamous cell carcinoma
C57.3	Bladder, adenocarcinoma	C57.3	Bladder, adenocarcinoma	C57.3	Bladder, adenocarcinoma
C57.4	Bladder, neuroendocrine carcinoma	C57.4	Bladder, neuroendocrine carcinoma	C57.4	Bladder, neuroendocrine carcinoma
C57.5	Bladder, sarcoma	C57.5	Bladder, sarcoma	C57.5	Bladder, sarcoma
C57.6	Bladder, carcinoma, NOS	C57.6	Bladder, carcinoma, NOS	C57.6	Bladder, carcinoma, NOS
C57.7	Bladder, carcinoma in situ	C57.7	Bladder, carcinoma in situ	C57.7	Bladder, carcinoma in situ
C57.8	Bladder, benign neoplasm	C57.8	Bladder, benign neoplasm	C57.8	Bladder, benign neoplasm
C57.9	Bladder, non-neoplastic lesion	C57.9	Bladder, non-neoplastic lesion	C57.9	Bladder, non-neoplastic lesion

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(Bladder Stage: 767) - Revised 11/2010

### Bladder

**Bladder**

**ICD-O-3**

- C57.0 Unspecified bladder
- C57.1 Transitional cell carcinoma
- C57.2 Squamous cell carcinoma
- C57.3 Adenocarcinoma
- C57.4 Neuroendocrine carcinoma
- C57.5 Sarcoma
- C57.6 Carcinoma, NOS
- C57.7 Carcinoma in situ
- C57.8 Benign neoplasm
- C57.9 Non-neoplastic lesion

C57.0	Bladder, unspecified	C57.0	Bladder, unspecified	C57.0	Bladder, unspecified
C57.1	Bladder, transitional cell carcinoma	C57.1	Bladder, transitional cell carcinoma	C57.1	Bladder, transitional cell carcinoma
C57.2	Bladder, squamous cell carcinoma	C57.2	Bladder, squamous cell carcinoma	C57.2	Bladder, squamous cell carcinoma
C57.3	Bladder, adenocarcinoma	C57.3	Bladder, adenocarcinoma	C57.3	Bladder, adenocarcinoma
C57.4	Bladder, neuroendocrine carcinoma	C57.4	Bladder, neuroendocrine carcinoma	C57.4	Bladder, neuroendocrine carcinoma
C57.5	Bladder, sarcoma	C57.5	Bladder, sarcoma	C57.5	Bladder, sarcoma
C57.6	Bladder, carcinoma, NOS	C57.6	Bladder, carcinoma, NOS	C57.6	Bladder, carcinoma, NOS
C57.7	Bladder, carcinoma in situ	C57.7	Bladder, carcinoma in situ	C57.7	Bladder, carcinoma in situ
C57.8	Bladder, benign neoplasm	C57.8	Bladder, benign neoplasm	C57.8	Bladder, benign neoplasm
C57.9	Bladder, non-neoplastic lesion	C57.9	Bladder, non-neoplastic lesion	C57.9	Bladder, non-neoplastic lesion

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## Bladder CS Tumor Size

Continuation Page #1 of 1 Bladder Tumors (L) (Cont.)

**Module**

**CS Tumor Size**

Code	Description
000	Unspecified tumor
001	CS, non papillary tumor of unspecified histology
002	CS carcinoma
003	Unspecified tumor (CS, non papillary) of bladder
004	Unspecified "In situ" carcinoma
005	Transitional "In situ" carcinoma (T 0.1 or T 0.2) of bladder (C 50.1)
006	Unspecified "In situ" carcinoma (T 0.1 or T 0.2) of bladder (C 50.2)
007	Unspecified "In situ" carcinoma (T 0.1 or T 0.2) of bladder (C 50.3)
008	Unspecified "In situ" carcinoma (T 0.1 or T 0.2) of bladder (C 50.4)
009	Unspecified "In situ" carcinoma (T 0.1 or T 0.2) of bladder (C 50.5)
000	Unspecified tumor of bladder (CS, non papillary)

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## Bladder CS Extension Notes

- Noninvasive papillary carcinomas
  - Listing of definite statements
  - Listing of inferred descriptions
  - Extended Note 3 for in situ
  - Extended Note 3 for locally invasive
- Expanded notes for coding extension
  - Several notes moved around
  - Notes rewritten to clarify instructions

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## Bladder: CS Extension Notes

**CS Extension**

- Note 1: Distinguishing noninvasive and invasive bladder cancer. The two histologic types of bladder cancer are the flat (in situ) variety and the papillary type. The flat variety is rarely in situ in the absence of flat (papillary) bladder cancer. Papillary tumors that have not penetrated the basement membrane are called noninvasive.
- Note 2: Noninvasive papillary transitional cell carcinoma. Pathologists use three different descriptive terms for noninvasive papillary transitional cell carcinoma. Frequently, the pathologic report does not contain a definite statement of noninvasive bladder carcinoma and the inferred transitional morphology description is: **Definite statements of noninvasive papillary transitional cell carcinoma (code 00) include:**
  - Noninvasive
  - No evidence of invasion
  - No ulcerations below papilla
  - No central necrosis
  - No ulcerations and/or microsatellite foci
  - Negative lamina propria and urothelial muscle
  - Negative muscle and subepithelial connective tissue
  - No invasive behavior component.
- Inferred descriptions of noninvasive papillary transitional cell carcinoma (code 00) include:
  - No penetration of lamina propria and/or invasion of subepithelial connective tissue
  - No statement of invasive microscopic description present
  - Crater-like / Ulcer resulted in depth depth of invasion
  - No invasion of bladder wall
  - No invasion of lamina propria
  - Height deeper foci
  - No invasive, deep papillary nests, carcinoma in situ, papillary adenocarcinoma
  - Crater resulted by transitional cell
  - No mass infiltration
  - No evidence of invasion (in papillary variety)
  - Connective muscle coat also shows T1 tumor is not described as papillary

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## Bladder: CS Extension - Notes

- Note 3: Nomenclature for flat transitional subcarcinoma. Careful attention must be given to the use of the term "confined to mucosa" for flat bladder carcinomas. Historically, carcinomas described as "confined to mucosa" were coded as localized. However, pathologists use this designation to communicate as well. Pathologists also vary in their use of the terms "invasion of mucosa, grade 1" and "invasion of mucosa, grade 2" to distinguish between noninvasive and invasive carcinoma. In order to accurately code tumors described as "confined to mucosa", abstractors should determine if the tumor is confined to the epithelium. If not, its carcinoma (code 900).
- If the tumor has penetrated the basement membrane to reach the lamina propria, then it is invasive (code 155). The lamina propria and submucosa tend to merge when there is no muscularis mucosae, so these terms may be used interchangeably, along with chronic and subepithelial connective tissue.
- If the distinction between involvement of the epithelium and across papilla cannot be made, then the tumor should be coded as "confined to mucosa, ICD-9 code 155.
- Statements implying confined to mucosa, ICD-9 flat transitional subcarcinoma include:  
 Confined to mucosal surface  
 Limited to mucosa, no invasion of laminae propria and muscularis  
 No infiltration/invasion of laminae propria and muscularis  
 Superficial, ICD-9
- Note 4: In cases of multifocal transitional Tis and Tis tumors, use code 156 or 150 (representative of T15 or C10)
- Note 5: Use code 252 if the only description of extension is through the laminae propria of bladder wall, and there is no other statement as to whether or not the cancer has extended further. If there is documentation that tumor has breached the wall, including invasion into fat or beyond, use code 470 or higher.
- Note 6: An associated in situ component of tumor extending into the prostatic ducts, prostatic glands, or ureter without invasion is designated as staging (classification). Use the code that best describes depth of bladder wall invasion.
- Note 7: Exact invasion of the distal ureter is classified by the depth of greatest invasion in the bladder or ureter for AJCC staging. Use codes 165, 215, 235, and 245 for adenocarcinoma bladder directly into distal ureter. The distal ureter is defined as below the vesicovesical, either the patent form.
- Note 8: Extension from bladder into subepithelial tissue of penile urethra should be coded 168 and not code 600.
- Note 9: If CS Extension code is 10-100, Behavior ICD-O-3 must be coded as 2. If CS Extension code is 100, Behavior ICD-O-3 must be coded as 2 or 3. If CS Extension code is 155 or greater, Behavior ICD-O-3 must be coded as 3.

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## Bladder CS Extension

Code	Description	ICD-9 Code	ICD-10 Code	ICD-9 Code	ICD-10 Code
150	Papillary flat transitional carcinoma, confined to mucosa, papillary non-infiltrating (Use Note 3) Invasive (Use note 3) or also extension (extension) (Use Note 3)	150	C10.0	150	C10.0
155	Papillary transitional carcinoma, with microinvasion of laminae propria (Use Note 3)	155	C10.1	155	C10.1
160	Invasive flat transitional carcinoma, confined to the lamina propria (Use Note 3) Invasive (Use note 3) or also extension (extension) (Use Note 3)	160	C10.2	160	C10.2
165	Transitional carcinoma, ICD-9 (Use Note 3)	165	C10.3	165	C10.3
170	ADENOCARCINOMA OF THE BLADDER URETER (Use Note 3) Invasive into subepithelial connective tissue of the urethra, including the penile urethra (Use Note 3)	170	C10.4	170	C10.4
175	Adenocarcinoma of the bladder, invasive (Use Note 3)	175	C10.5	175	C10.5
180	Adenocarcinoma of the bladder, in situ (Use Note 3)	180	C10.6	180	C10.6
185	Squamous cell carcinoma of the bladder, invasive (Use Note 3)	185	C10.7	185	C10.7
190	Squamous cell carcinoma of the bladder, in situ (Use Note 3)	190	C10.8	190	C10.8
250	Multiple transitional carcinomas (Use Note 3)	250	C10.9	250	C10.9

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## Bladder CS Lymph Nodes

- CS Lymph Node
  - N1: single positive node
  - N2: multiple positive nodes
  - N3: common iliac node involvement
- Common Iliac Nodes
  - Coded in CS Lymph nodes for 7<sup>th</sup> edition
    - Previously coded in CS Mets at Dx

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## Bladder Site-Specific Factors

- SSF1: WHO/ISUP Grade
- SSF2: Size of Metastasis in Lymph Node
- SSF3: Extranodal Extension

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## CS Site-Specific Factor 2 Size of Metastases in Lymph Nodes

- Survival impacted by size of lymph nodes
- Applicable for clinical or pathologic
  - Pathologic takes priority
- Source documents:
  - Clinical (imaging, physical exam)
  - Pathologic (pathology report)
- Collected for: Bladder, Kidney Parenchyma

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## Urothelial Cancer Treatment



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National Comprehensive Cancer Network  
**NCCN Guidelines Version 1.2012  
 Bladder Cancer**

NCCN Guidelines  
 Bladder Cancer  
 V1.2012

### Principles of Surgical Management

**Transurethral Resection for Papillary Noninvasive Tumors (Tisly non-invasive (in situ))**

- Adequate resection with muscle in specimen
- Early repeat TURBT within six weeks if
  - Incomplete initial resection
  - No muscle in resected specimen for high grade disease
  - Large or multifocal nodules
  - Any T1 lesions

**Transurethral Resection for Papillary or Nodular Carcinoma in Situ**

- Multiple selective or other random biopsies
- Additional biopsy adjacent to papillary tumor
- Consider prostate or urethral biopsy

**Transurethral Resection for Invasive or Invasive Papillary Tumors (Tisly muscle-invasive)**

- Perform muscle layer assessment
- Repeat TURBT if
  - Not muscle in specimen for high grade disease
  - Any T1 lesions
  - First resection does not allow adequate staging/stratification of risk for treatment selection
  - Incomplete resection and considering re-invasive bladder preservation therapy

**Segmental or Partial Cystectomy**

- Reserved for solitary lesion in location amenable to segmental resection with adequate margins
- No carcinoma in situ
- Bilateral pelvic lymphadenectomy should be performed and include at a minimum common, internal and external iliac, and obturator nodes.

**Radical Cystectomy**

- Bilateral pelvic lymphadenectomy should be performed and include at a minimum common, internal and external iliac, and obturator nodes.

BL-A

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National Comprehensive Cancer Network  
**NCCN Guidelines Version 1.2012  
 Bladder Cancer**

NCCN Guidelines  
 Bladder Cancer  
 V1.2012

### Approximate Probability of Recurrence and Progression

Pathology	Approximate Probability of Recurrence in 5 years	Approximate Probability of Progression to Muscle Invasion
Ta, low grade	50%	Minimal
Ta, high grade	60%	Moderate
T1, low grade (rare)	50%	Moderate
T1, high grade	50-70%	Moderate-High
Tis	50%-90%	High

BL-C

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National Comprehensive Cancer Network  
**NCCN Guidelines Version 1.2012  
 Bladder Cancer**

NCCN Guidelines  
 Bladder Cancer  
 V1.2012

### Principles of Intravesical Treatment

**Indications:** Based on probability of recurrence and progression to muscle invasive disease, such as size, number, and grade.

**Indications Intravesical Chemotherapy**

- Initiated within 24 hrs after resection
- Use after TUR lowers recurrence rate in Ta low grade tumors
- Treatment should not be given if extensive TURBT or if suspected bladder perforation

**Indications Intravesical Chemotherapy**

- Initiated 1-4 wks after resection
- Maximum of 2 inductions without complete response
- Maintenance therapy is optional

**Indications Intravesical Immunotherapy**

- Initiated 1-4 wks after resection
- Withhold if traumatic catheterization, bacteriuria, persistent gross hematuria, persistent severe local, or systemic symptoms
- Maximum of 2 inductions without complete response
- Some data suggest benefit of maintenance therapy
- Dose reduction is encouraged if substantial local symptoms during maintenance therapy

BL-F

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## Overview

- Most common male cancer
- 2nd leading cause of cancer related death in men in the U.S.
- African-American men 2.5 x higher mortality rate than Caucasian men.
- Estimated new cases: 240,890; deaths: 33,720
- Risk Factors:
  - Age
  - Race/Ethnicity-
  - Family history
  - Genetics
  - Diet



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## Age-Adjusted Cancer Death Rates, Males by Site, US 1930-2007



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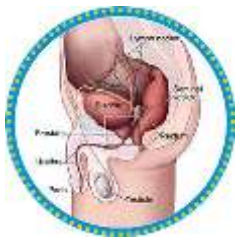
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## Anatomy



- The prostate is a gland found **ONLY** in men
- It is located in front of the rectum and under the bladder
- The size of a healthy prostate gland is about the size of a walnut

Source: <http://www.abbottdiagnostics.com>  
U.S. National Cancer Institute

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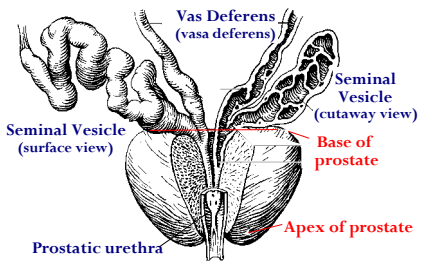
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### Anatomy



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Source: SEER Training Website, www.training.seer.cancer.gov

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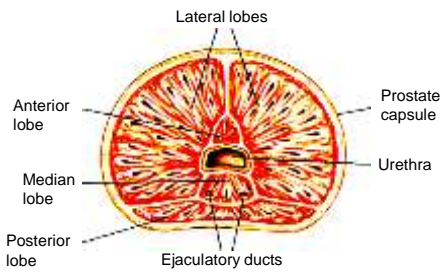
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### Anatomy



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Source: SEER Training Website, www.training.seer.cancer.gov

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### Diagnostic Procedures

- PSA testing
- DRE
- TRUS
- Biopsy
- CT, MRI, Bone Scan
- Evaluation for Metastases



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## Histology

- 99% Adenocarcinoma
  - Per MP/H, code acinar to 8140
- 1% Other
  - Sarcoma, small cell, other
- PIN—Do NOT abstract\*
  - 30% men will go on to develop CaP
  - Close follow-up recommended for 2 years
  - \* except reportable by agreement



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## Prognostic Factors

- **Clinical predictors**
  - PSA – Prostate-specific antigen
  - Gleason score
  - Tumor stage
- **Pathologic factors**
  - Number/percentage of positive biopsies
  - Surgical margin status

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## Multiple Primary and Histology Coding Rules

January 01, 2007

National Cancer Institute  
 Surveillance Epidemiology and End Results Program  
 Bethesda, MD

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### MPH Rules

- Only **ONE** Prostate Cancer DX per patient lifetime
- Dx of Acinar Carcinoma, Code to 8140 (Adenocarcinoma)



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### Prostate: Clinical Assessment

#### Clinically Apparent vs Inapparent



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### Clinical Stage: Why Important??

- The CS is logically divided into 4 major categories: T1, T2, T3 and T4 stages.
- Clinical Stages T1a and T1b
  - Incidentally detected during a TURP
- Clinical stages T1c and T2
  - PSA test positive – detects earlier stage
- Clinical Stage T3
  - DRE detects palpable disease sufficient to indicate that the tumor has penetrated through the prostate capsule

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### Clinical Stage: Why Important??

- Clinical Stage T4
  - Indicates local invasion of a structure adjacent to the prostate other than the seminal vesicle(s).
    - T4a indicates a DRE exam with tumor invading the bladder neck, external sphincter or rectum.
    - T4b indicates clinical findings of invasion into the levator muscles or a tumor that is fixed to the pelvis.

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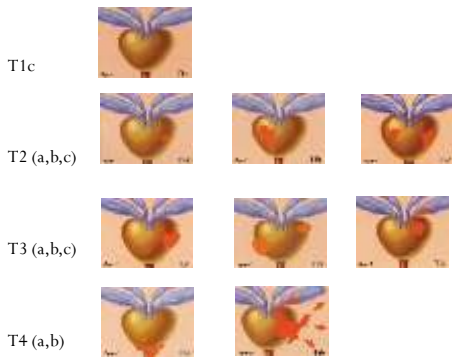
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### Clinical Stage Illustrations



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### Prostate - CS v02.03.02



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### Prostate: CS Data Collection

The image shows a screenshot of a data collection form with various fields and checkboxes for recording prostate cancer data.

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### CS Site-Specific Factor 1

Prostatic Specific Antigen (PSA) Lab Value

Code	Description
000	PSA Lab Value - Total PSA
001	PSA Lab Value - Free PSA
002	PSA Lab Value - Free PSA %
003	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
004	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
005	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
006	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
007	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
008	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
009	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value
010	PSA Lab Value - Prostate Specific Antigen (PSA) Lab Value

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### CS Site-Specific Factor 3

CS Extension - Pathologic Extension

Code	Description
000	CS Extension - Pathologic Extension
001	CS Extension - Pathologic Extension
002	CS Extension - Pathologic Extension
003	CS Extension - Pathologic Extension
004	CS Extension - Pathologic Extension
005	CS Extension - Pathologic Extension
006	CS Extension - Pathologic Extension
007	CS Extension - Pathologic Extension
008	CS Extension - Pathologic Extension
009	CS Extension - Pathologic Extension
010	CS Extension - Pathologic Extension

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### CS Site-Specific Factor 8

Gleason's Score on Needle Core Biopsy/Transurethral Resection of Prostate

Code	Description
000/00	Gleason's score
000	No applicable information not collected for this case (if the information required by code specified later, use of code 000 may result in an edit error)
000	No needle core biopsy/TUR performed
000	Information not identifiable Not documented in patient record

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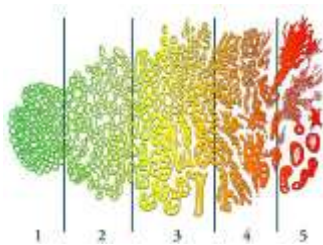
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### Gleason Pattern(s) and Score



<http://www.stjohnsprovidence.org>

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### Grade Conversion

Code	Gleason's Score	Terminology	Histologic Grade
1	2, 3, 4	Well differentiated	I
2	5, 6	Moderately differentiated	II
3	7, 8, 9, 10	Poorly differentiated	III

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### CS Site-Specific Factor 10

Gleason's Score on Prostatectomy/Autopsy

Date	Description
08/20/08	Gleason's Score Gleason Score 7 (3+4)
08/20/08	Pathologist checked for the case if the information was not on the chart and/or case (if required in great detail)
08/20/08	The pathologist is not available
08/20/08	The Gleason's Score is not available on the prostatectomy specimen (if available)

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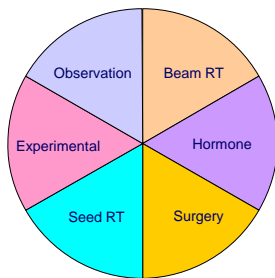
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### Treatment Options



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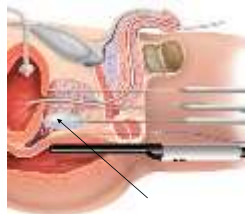
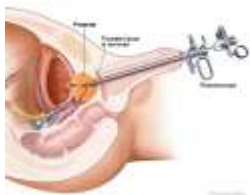
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### Surgery

#### TURP

Codes 19 OR 21-26



#### CRYOSURGERY

Codes 14 OR 24

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## Prostatectomy

- Perineal, retropubic, suprapubic—depends on patient's anatomy and surgical history
  - Nerve-sparing
  - Robotic
  - Codes 30 – 80
- Laparoscopic radical prostatectomy constitutes less than 1% of all prostatectomies performed in the US.



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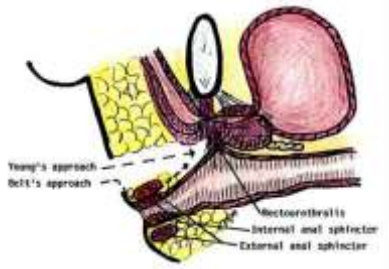
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## Radical Perineal Prostatectomy



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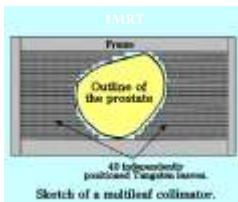
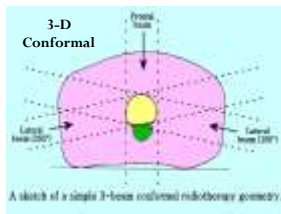
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## Beam Radiation



Images reproduced by permission of L.J.S. Bradbury - [www.prostate-cancer-radiotherapy.org.uk](http://www.prostate-cancer-radiotherapy.org.uk)

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## Brachytherapy (HDR)



Used with permission from Dr. Mark Scholz and www.PCRJ.org

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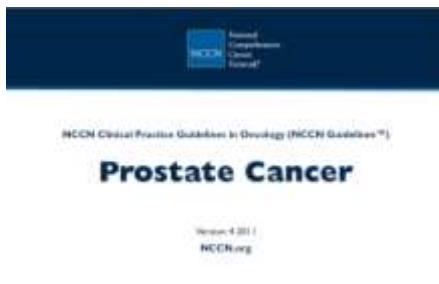
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## NCCN Guidelines



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## Initial Therapy By Stage

- **Stage I (occult)**
  - Observation without immediate treatment. If the patient is younger (age 50-60), immediate treatment may be considered.
  - External beam radiation therapy following transurethral resection
  - Radical prostatectomy with pelvic lymphadenectomy
  - Interstitial radioisotopes
- **Stage II (palpable prostate tumor at diagnosis)**
  - Radical prostatectomy with pelvic lymphadenectomy
  - External beam radiation therapy following transurethral resection
  - Interstitial radioisotopes (under clinical evaluation)

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### Initial Therapy By Stage

- **Stage III (extracapsular extension)**
  - External beam radiation therapy following transurethral resection (for cure)
  - Radical prostatectomy with pelvic lymphadenectomy in selected patients (for cure)
  - Orchiectomy for symptomatic patients
  - Transurethral resection (for palliation)
  - Hormone therapy (Leuprolide or estrogens)
  - Interstitial radioisotopes (under clinical evaluation)
- **Stage IV (regional lymph node involvement, distant metastases)**
  - Orchiectomy
  - Hormone therapy - single agents or combinations
  - Systemic chemotherapy (under clinical evaluation)

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### Questions



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### Happy Holidays



NEXT WEBCAST: January 19, 2012 - Brain and CNS Tumors

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