Genitourinary

FCDS 2011 Educational Webcast Series
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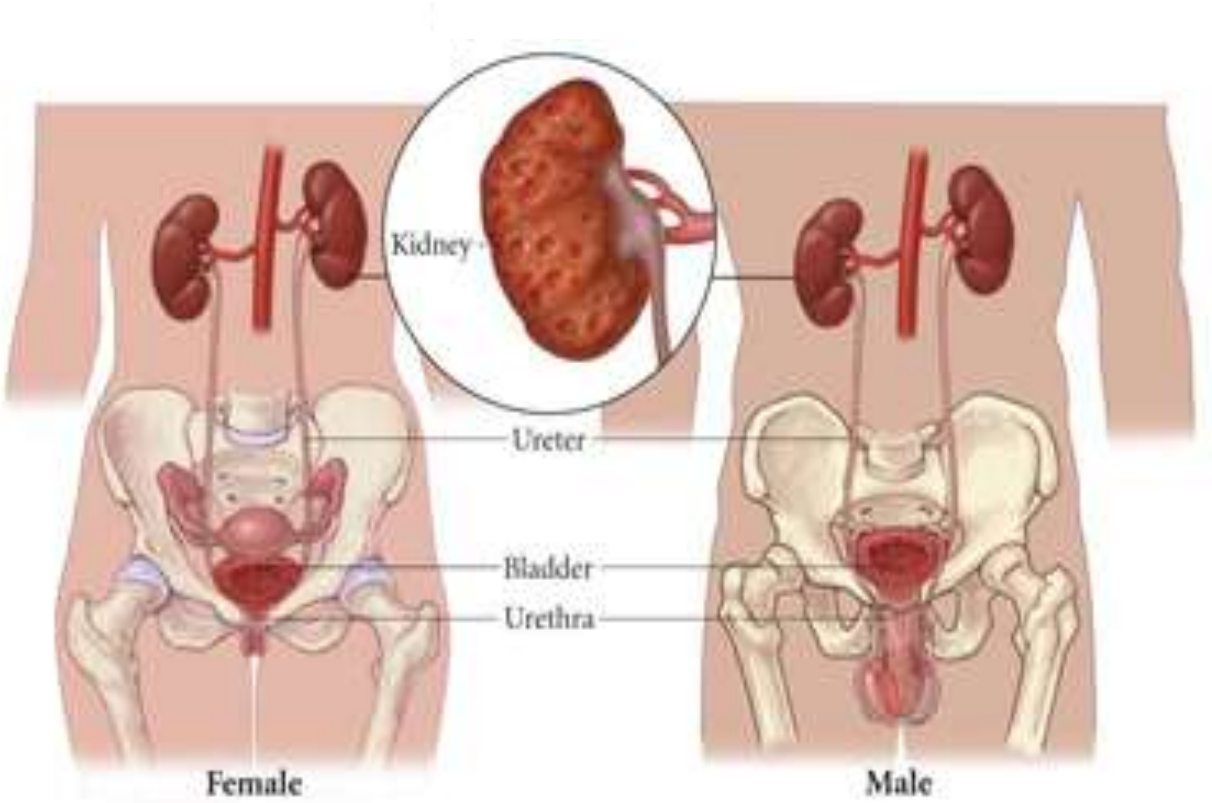
Presentation Outline

- 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

Genitourinary System



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

Kidney Parenchyma

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

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

Tumor Markers/Lab Tests

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

Source: AJCC 7th Edition

Kidney Equivalent Terms, Definitions, Tables and Illustrations
C649
(Excludes lymphoma and leukemia – M9590 – 9989 and Kaposi sarcoma M9140)

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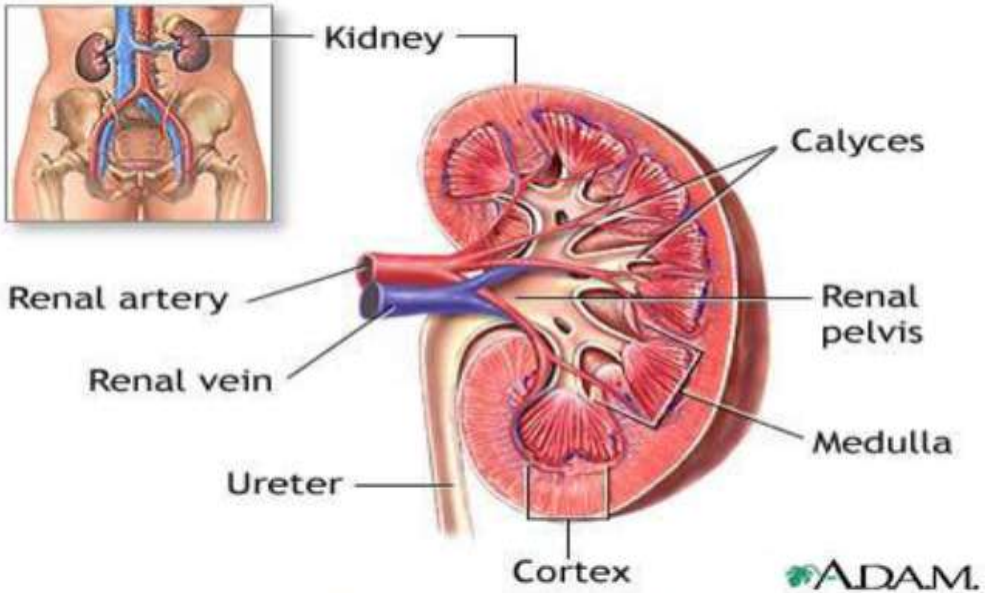
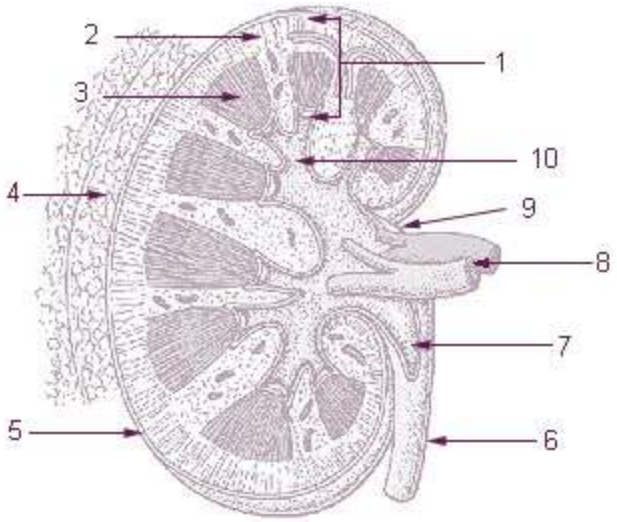
(Excludes lymphoma and leukemia – M9590 – 9989 and Kaposi sarcoma M9140)



Source: 2007 Multiple Primary and Histology Coding Rules

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/

Anatomy Kidney

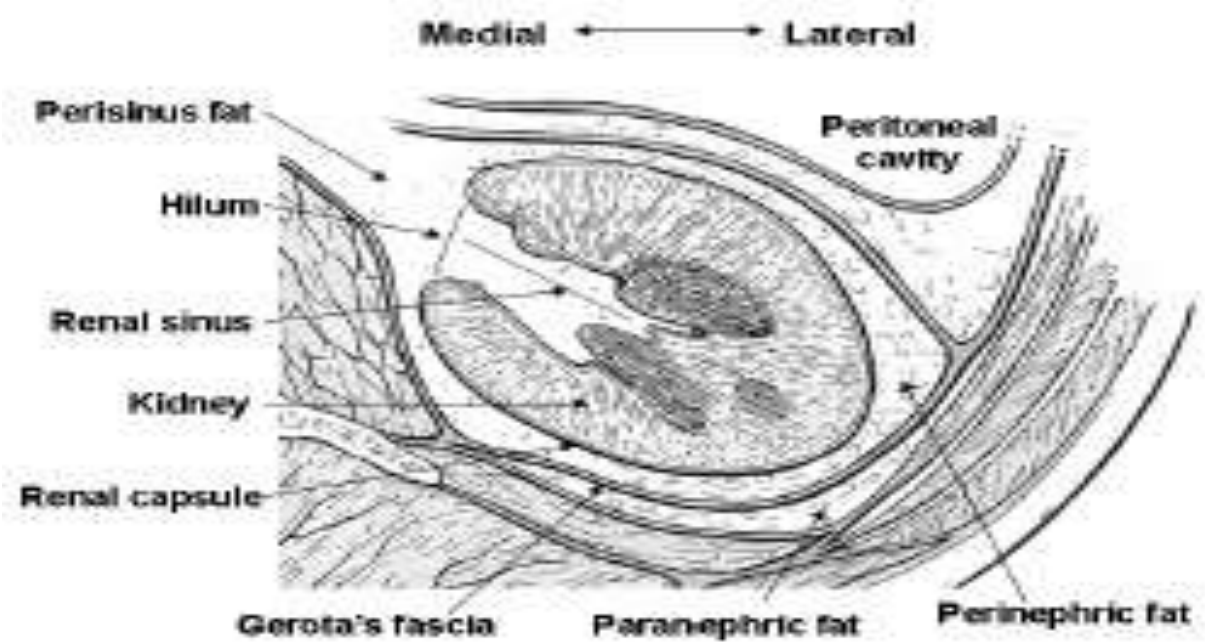


Figure I-2-13. Structures Adjacent to Kidney
Adapted from: Medi-Clip: Grant's Atlas Images I, Thorax and Abdomen. Williams and Wilkins, 1998.

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

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

2007 Multiple Primary Rules

Kidney

Formats

- Flowchart Format
- Matrix Format
- Text Format

Multiple Primary and Histology Coding Rules

January 01, 2007

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

Kidney Equivalent Terms, Definitions, Tables and Illustrations
C649
(Excludes lymphoma and leukemia – M9590 – 9989 and Kaposi sarcoma M9140)

INTRODUCTION

Renal cell carcinoma (8312) is a group term for glandular (adeno) carcinomas of the kidney. Approximately 85% of all malignanc of the kidney are renal cell and specific renal cell types.

Transitional cell carcinoma rarely arises in the kidney parenchyma (C649). Transitional cell carcinoma found in the upper urinary system usually arises in the renal pelvis (C659). Only code transitional cell carcinoma to kidney in the rare instance when pathol confirms the tumor originated in the parenchyma of the kidney.

Equivalent or Equal Terms

- **Multifocal** and **multicentric**
- **Renal cell carcinoma (RCC)** and **hypernephroma (obsolete term)**
- **Tumor, mass, lesion,** and **neoplasm**

Definitions

Adenocarcinoma with mixed subtypes (8255): 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 (8319) is a malignant epithelial tumor. There is contro about the relationship between medullary carcinoma and collecting duct carcinoma; some advocate that there is a relationship, oth are not convinced. Genetic studies are ongoing. We will code medullary carcinoma originating in the kidney to 8510 so we can differentiate between the medullary and the collecting duct carcinoma.

Chromophobe RCC (8317) is a rare form of kidney cancer. Chromophobe is a renal carcinoma characterized by large pale cells prominent membranes.

Clear cell RCC (8310) is the most common type of RCC. Clear cell is composed of clear or eosinophilic cytoplasm. Clear cell is architecturally diverse, with solid alveolar and acinar patterns the most common.

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.*

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.*

Multiple Tumors

- Rule M3
  - Wilm's 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.

Etcetera through rules…

Collaborative Stage v02.03.02

Kidney Parenchyma
C64.9

COLLABORATIVE STAGE DATA COLLECTION SYSTEM

Collaborative Stage Version 2

TNM 7 Schema List (v.02.03)

Version v.02.03

Natural Order • **Alphabetical Order** •

AdnexaUterineOther
AdrenalGland
AmpullaVater
Anus
Appendix
BileDuctsDistal
BileDuctsIntraHepat
BileDuctsPerihilar
BiliaryOther
Bladder
Bone
Brain
Breast
BuccalMucosa
CarcinoidAppendix
Cervix
CNSOther
Colon
Conjunctiva
CorpusAdenosarcoma
CorpusCarcinoma
CorpusSarcoma
CysticDuct
DigestiveOther
EndocrineOther
EpiglottisAnterior
Esophagus
EsophagusGEJunction
EyeOther
FallopianTube
FloorMouth
Gallbladder
GenitalFemaleOther
GenitalMaleOther
GISTAppendix
GISTColon
GISTEsophagus
GISTPeritoneum
GISTRectum
GISTSmallIntestine
GISTStomach
GumLower
GumOther
GumUpper
HeartMediastinum
HemeRetic
Hypopharynx
IllDefinedOther
IntracranialGland
KaposiSarcoma
KidneyParenchyma
KidneyRenalPelvis
LacrimalGland
LacrimalSac
LarynxGlottic
LarynxOther
LarynxSubglottic
LarynxSupraglottic
LipLower
LipOther
LipUpper
Liver
Lung
Lymphoma
LymphomaOcularAdnexa
MelanomaBuccalMucosa
MelanomaChoroid
MelanomaCiliaryBody
MelanomaConjunctiva
MelanomaEpiglottisAnterior
MelanomaEyeOther
MelanomaFloorMouth
MelanomaGumLower
MelanomaGumOther
MelanomaGumUpper
MelanomaHypopharynx
MelanomaIris
MelanomaLarynxGlottic
MelanomaLarynxOther
MelanomaLarynxSubglottic
MelanomaLarynxSupraglottic
MelanomaLipLower
MelanomaLipOther
MelanomaLipUpper
MelanomaMouthOther
MelanomaNasalCavity
MelanomaNasopharynx
MelanomaPharynxOther
MelanomaSinusEthmoid
MelanomaSinusMaxillary
MelanomaSinusOther
MelanomaSkin
MelanomaTongueAnterior
MelanomaTongueBase
MerkelCellPenis
MerkelCellScrotum
MerkelCellSkin
MerkelCellVulva
MiddleEar
MouthOther
MycosisFungoides
MyelomaPlasmaCellDisorder
NasalCavity
Nasopharynx
NETAmpulla
NETColon
NETRectum
NETSmallIntestine
NETStomach
Orbit
Oropharynx
Ovary
PalateHard
PalateSoft
PancreasBodyTail
PancreasHead
PancreasOther
ParotidGland
Penis
Peritoneum
PeritoneumFemaleGen
PharyngealTonsil
PharynxOther
Placenta
Pleura
Prostate
Rectum
RespiratoryOther
Retinoblastoma
Retroperitoneum
SalivaryGlandOther
Scrotum
SinusEthmoid
SinusMaxillary
SinusOther
Skin
SkinEyelid
SmallIntestine
SoftTissue
Stomach
SubmandibularGland
Testis
Thyroid
TongueAnterior
TongueBase
Trachea
Urethra
UrinaryOther
Vagina
Vulva

KidneyParenchyma

KidneyParenchyma

Kidney (Renal Parenchyma)

C64.9

- C64.9 Kidney, NOS (Renal parenchyma)
- Note: Laterality must be coded for this site.

CS Tumor Size
CS Extension
CS Tumor Size/Ext Eval
CS Lymph Nodes
CS Lymph Nodes Eval
Regional Nodes Positive
Regional Nodes Examined
CS Mets at DX
CS Mets Eval
CS Site-Specific Factor 1
Invasion Beyond Capsule
CS Site-Specific Factor 2
Vein Involvement
CS Site-Specific Factor 3
Ipsilateral Adrenal Gland Involvement
CS Site-Specific Factor 4
Sarcomatoid Features
CS Site-Specific Factor 5
Histologic Tumor Necrosis
CS Site-Specific Factor 6
Fuhrman Nuclear Grade

CS Site-Specific Factor 7
Size of Metastasis in Lymph Nodes
CS Site-Specific Factor 8
Extranodal Extension of Regional Lymph Nodes
CS Site-Specific Factor 9 = **988**
CS Site-Specific Factor 10 = **988**
CS Site-Specific Factor 11 = **988**
CS Site-Specific Factor 12 = **988**
CS Site-Specific Factor 13 = **988**
CS Site-Specific Factor 14 = **988**
CS Site-Specific Factor 15 = **988**
CS Site-Specific Factor 16 = **988**
CS Site-Specific Factor 17 = **988**
CS Site-Specific Factor 18 = **988**
CS Site-Specific Factor 19 = **988**
CS Site-Specific Factor 20 = **988**
CS Site-Specific Factor 21 = **988**
CS Site-Specific Factor 22 = **988**
CS Site-Specific Factor 23 = **988**
CS Site-Specific Factor 24 = **988**
CS Site-Specific Factor 25 = **988**
Histology Inclusion Table AJCC 7th ed.
Histology Exclusion Table AJCC 6th ed.
AJCC TNM 7 Stage
AJCC TNM 6 Stage
Summary Stage
Extension Size Table AJCC 6
Extension Size Table AJCC 7

CS Tumor Size

Code	Description
000	No mass/tumor found
001-988	001 - 988 millimeters (mm) (Exact size to nearest mm)
989	989 millimeters or larger
990	Microscopic focus or foci only and no size of focus given
991	Described as "less than 1 centimeter (cm)"
992	Described as "less than 2 cm," or "greater than 1 cm," or "between 1 cm and 2 cm"
993	Described as "less than 3 cm," or "greater than 2 cm," or "between 2 cm and 3 cm"
994	Described as "less than 4 cm," or "greater than 3 cm," or "between 3 cm and 4 cm" Stated as T1a with no other information on tumor size
995	Described as "less than 5 cm," or "greater than 4 cm," or "between 4 cm and 5 cm" Stated as T1b with no other information on tumor size
996	Described as "7 cm or less" Stated as T1 [NOS] with no other information on tumor size
997	Described as "greater than 7 cm" Stated as T2 [NOS] or T2a with no other information on tumor size
998	Described as "greater than 10 cm" Stated as T2b with no other information on tumor size
999	Unknown; size not stated Size of tumor cannot be assessed Not documented in patient record

CS Extension

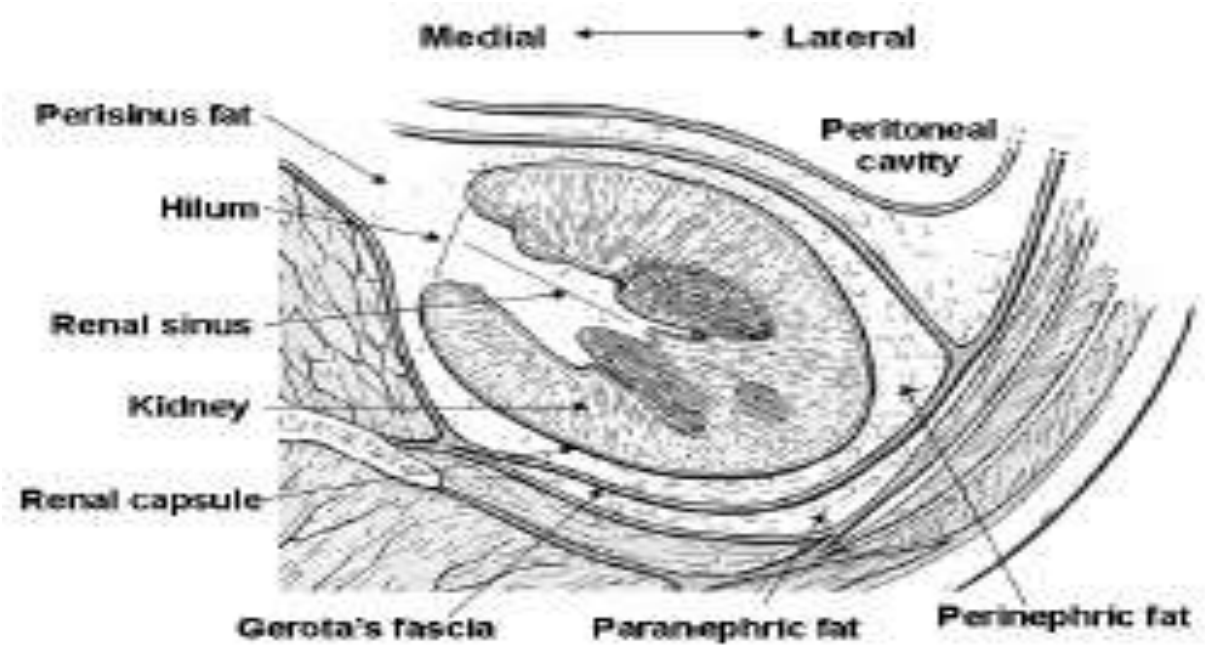


Figure I-2-13. Structures Adjacent to Kidney
Adapted from: Medi-Clip: Grant's Atlas Images I, Thorax and Abdomen. Williams and Wilkins, 1998.

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

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

CS Extension

460	Perirenal (perinephric) tissue/fat Renal (Gerota's) fascia Renal sinus fat	T3a	T3a	RE	RE
601	Blood vessels: Extrarenal portion of renal vein or segmental (muscle containing) branches Hilar blood vessel Perirenal vein Renal artery Renal vein, NOS Tumor thrombus in a renal vein, NOS	T3a	T3b	RE	RE
605	Stated as T3a with no other information on extension	T3a	T3a	RE	RE
610	Inferior vena cava (IVC) below diaphragm Stated as T3b with no other information on extension	T3b	T3b	RE	RE
620	IVC above diaphragm or invades wall of IVC Stated as T3c with no other information on extension	T3c	T3c	RE	RE
625	IVC, NOS Stated as T3 [NOS] with no other information on extension	T3NOS	OS	RE	RE
630	Ipsilateral adrenal (suprarenal) gland (Noncontiguous ipsilateral adrenal gland involvement coded in CS Mets at DX)	T4			
640	630 + (601 and/or 610) Ipsilateral adrenal gland plus blood vessels listed in code 601 and/or IVC below diaphragm	T4			
645	630 + 620 Ipsilateral adrenal gland plus IVC above diaphragm or wall of IVC	T4	c	RE	RE
650	Extension beyond Gerota's fascia to: Ascending colon from right kidney Descending colon from left kidney Diaphragm Duodenum from right kidney Peritoneum Tail of pancreas Ureter, including implant(s), ipsilateral Beyond Gerota's fascia, NOS	T4	T4	RE	RE
660	Retroperitoneal soft tissue	T4	T4	RE	RE

Code 601
Renal vein involvement **now** T3a

Code(s) 630-645 – Ipsilateral adrenal
now T4 - Contiguous Invasion

CS Extension

Code	Description	TNM 7 Map	TNM 6 Map	SS77 Map	SS2000 Map
000	In situ, intraepithelial, noninvasive	TX	TX	IS	IS
100	Invasive cancer confined to kidney cortex and/or medulla	^	*	L	L
200	Invasion of renal capsule Renal pelvis or calyces involved Separate focus of tumor in renal pelvis/calyx	^	*	L	L
300	Localized, NOS	^	*	L	L
310	Stated as T1a with no other information on extension				
320	Stated as T1b with no other information on extension				
330	Stated as T1 [NOS] with no other information on extension				
340	Stated as T2a with no other information on extension				
350	Stated as T2b with no other information on extension				
360	Stated as T2 [NOS] with no other information on extension				

"Stated as" T1a Code 310

"Stated as" T1b Code 320

"Stated as" T1NOS Code 330

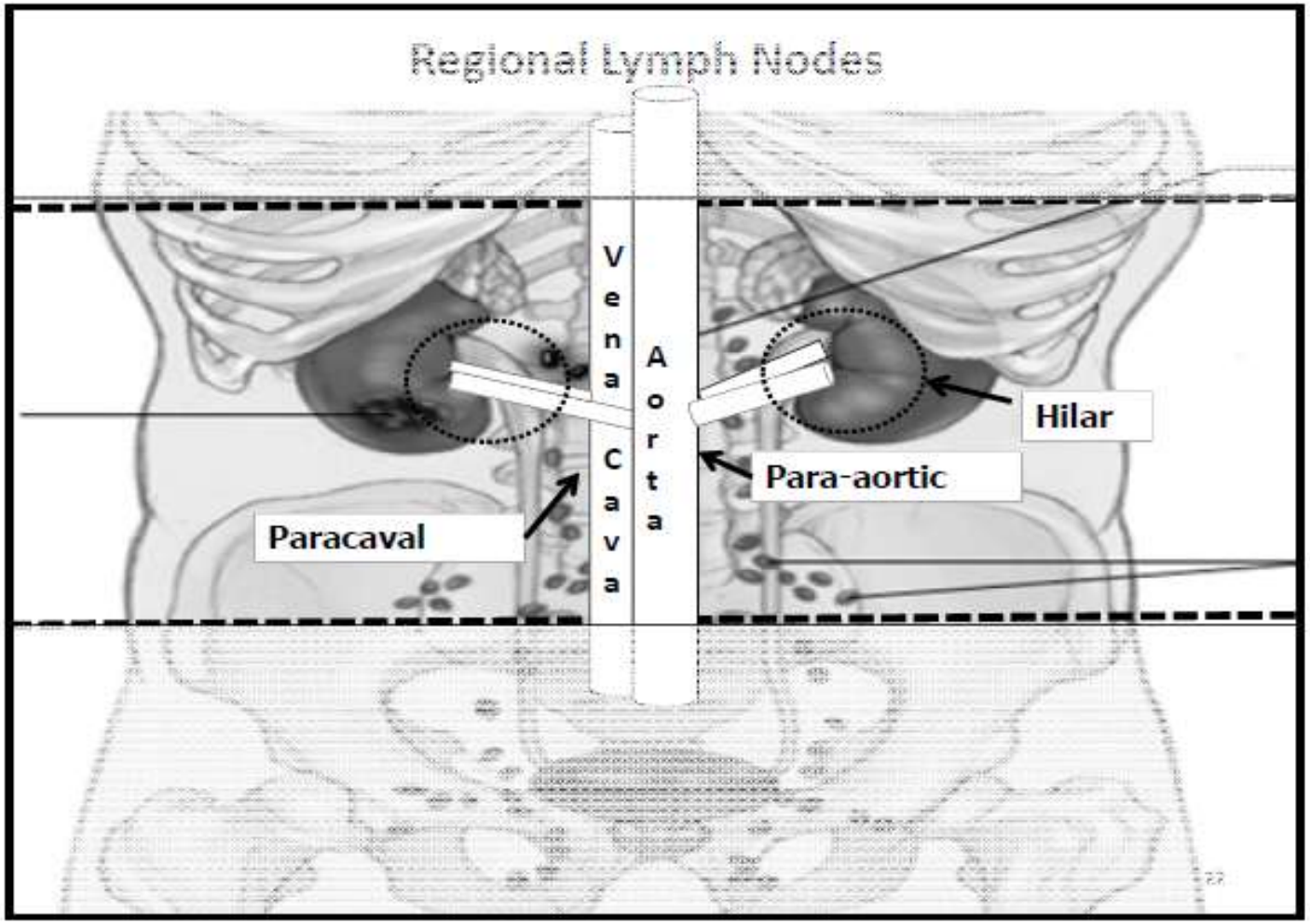
"Stated as" T2a Code 340

"Stated as" T2b Code 350

"Stated as" T2NOS Code 360

^ 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.

CS Lymph Nodes



Source: NAACCR Webinar Series - Kidney

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

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

SSF6: Fuhrman Nuclear Grade

SSF7: Size of Metastasis in Lymph Nodes

SSF8: Extranodal Extension

CS Site-Specific Factors FCDS

None Required by FCDS

Kidney Cancer Treatment

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

This study is ongoing, but not recruiting participants.

First Received on June 6, 2005. Last Updated on December 1, 2011 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

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

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)
  - Uninephric state, renal insufficiency, bilateral renal masses, familial 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 omitted if adrenal is uninvolved and tumor is not high risk on the basis of size and location.

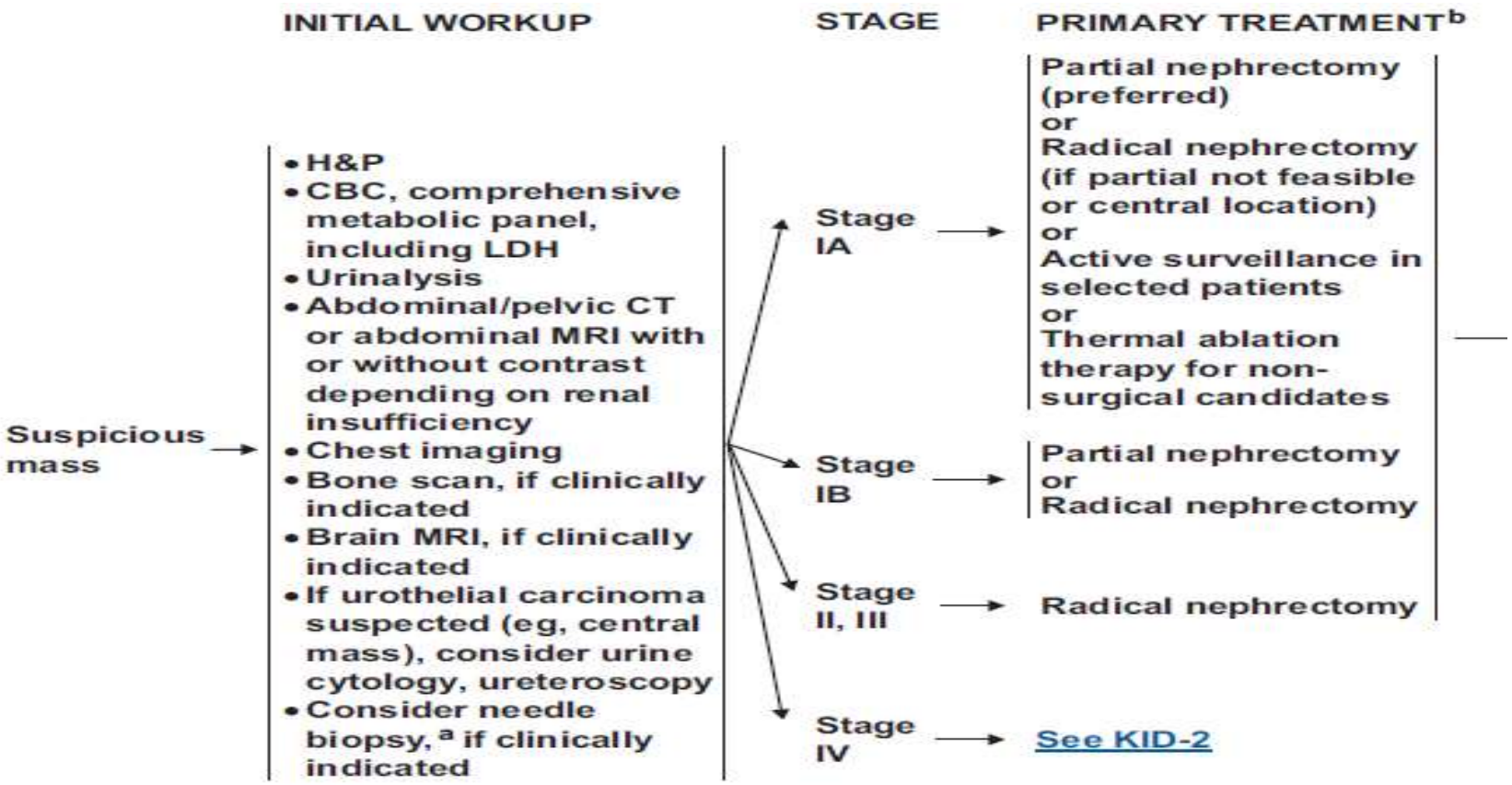
- Special teams may be required for extensive inferior vena cava involvement.

- 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 ablative techniques are associated with a higher local recurrence rate than conventional surgery.[1,2]

- Generally, patients who would be candidates for cytoreductive nephrectomy prior to systemic therapy have:
  - Excellent performance status (ECOG PS < 2)
  - No brain metastasis

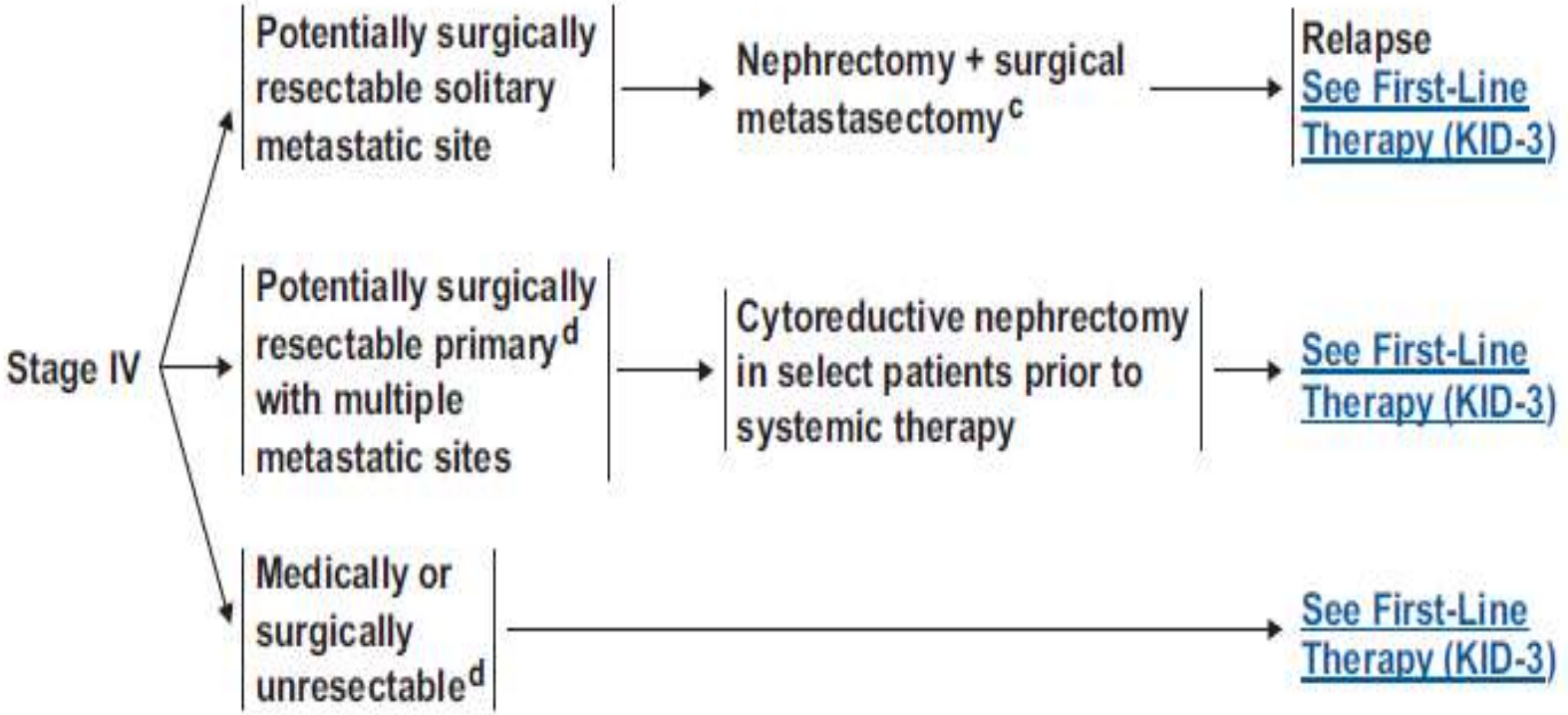
Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-A

Kidney Cancer
Primary Treatment Stage I-III



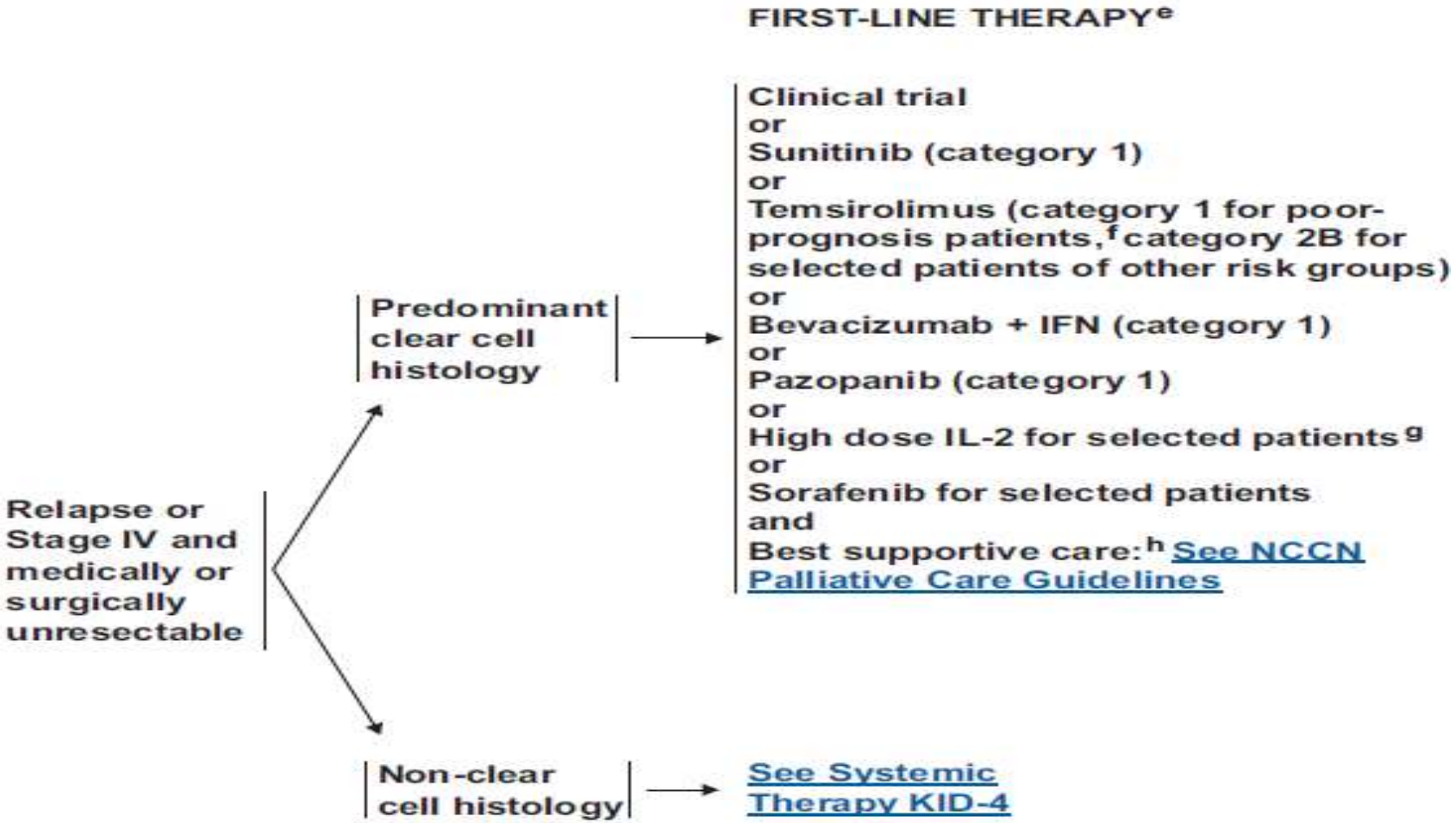
Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-1

Kidney Cancer
Primary Treatment Stage IV



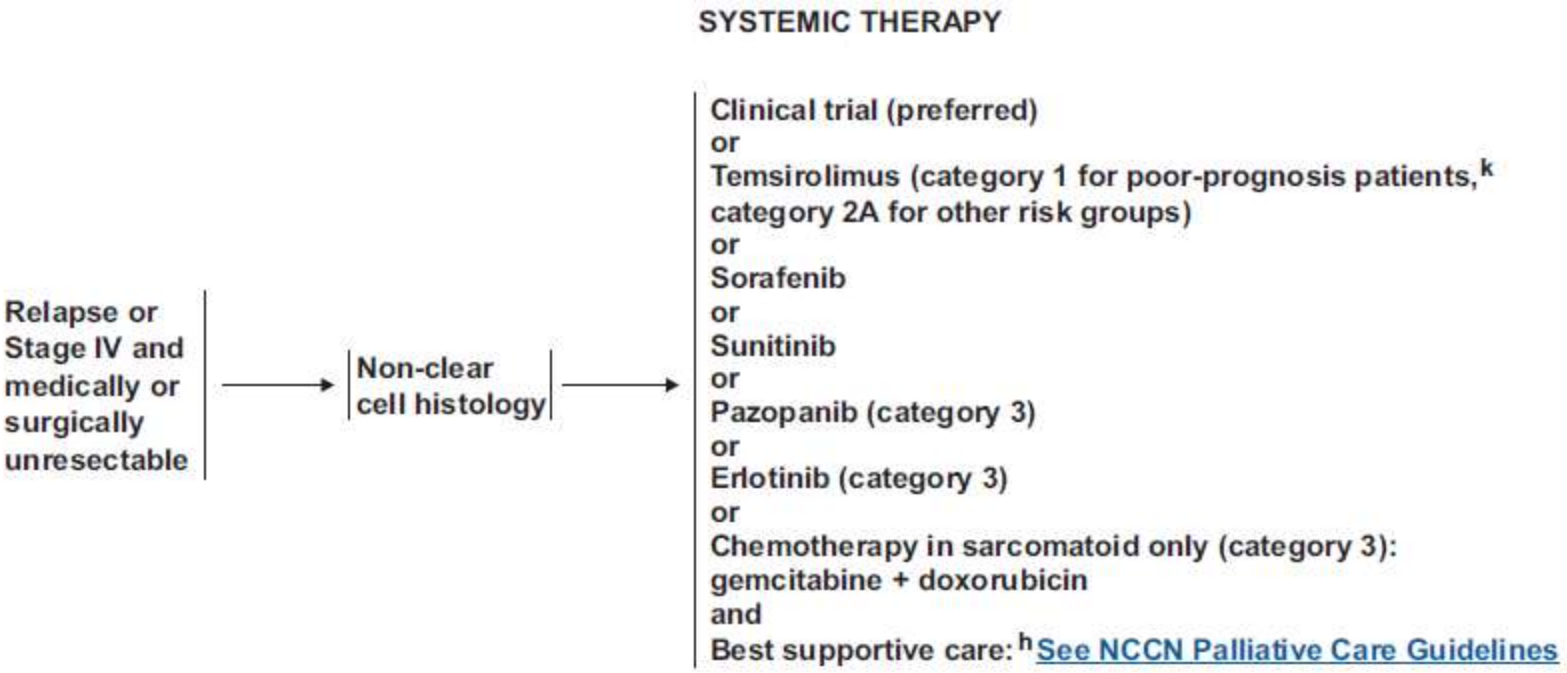
Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-2

Kidney First-Line Therapy Stage IV or Relapse Unresectable



Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-4

Kidney First-Line Therapy Stage IV or Relapse Unresectable



Source: NCCN Guidelines Version 1.2012 Kidney Cancer KID-4

Renal Pelvis, Ureter, Bladder

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.

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.

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

Source: American Cancer Society Cancer Facts and Figures 2011

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

Symptoms and Screening

Signs & Symptoms

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

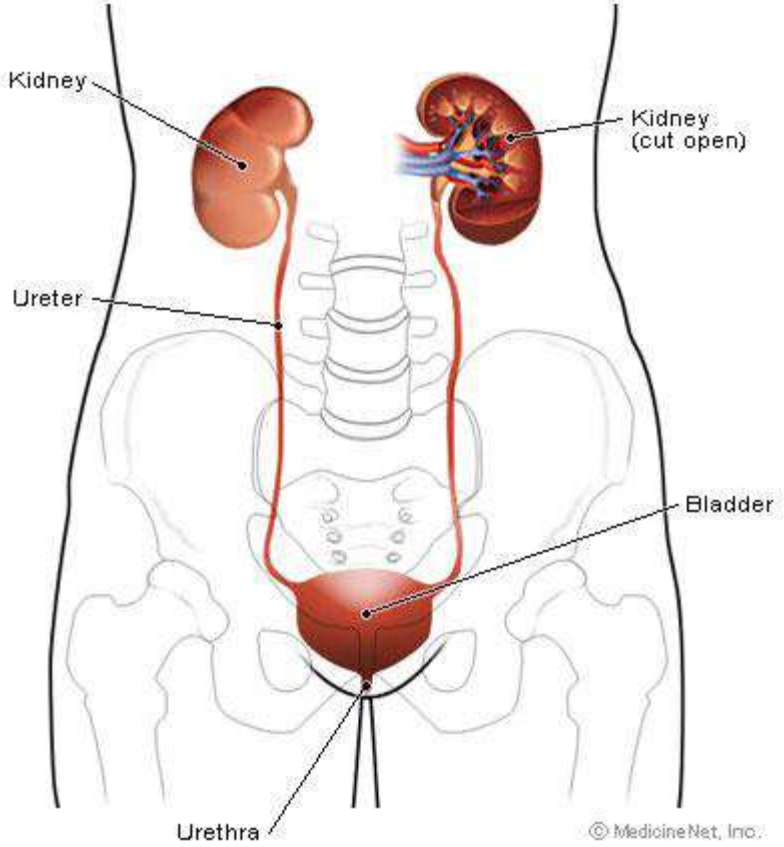
Screening Tests

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

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

Anatomy



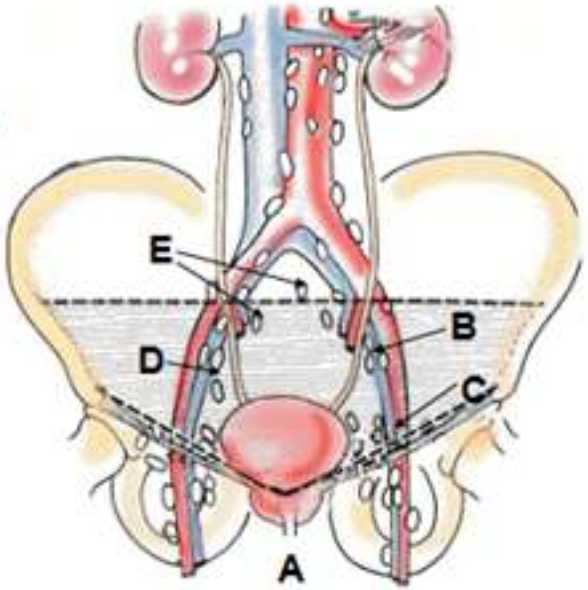
Source: http://www.medicinenet.com

Anatomy

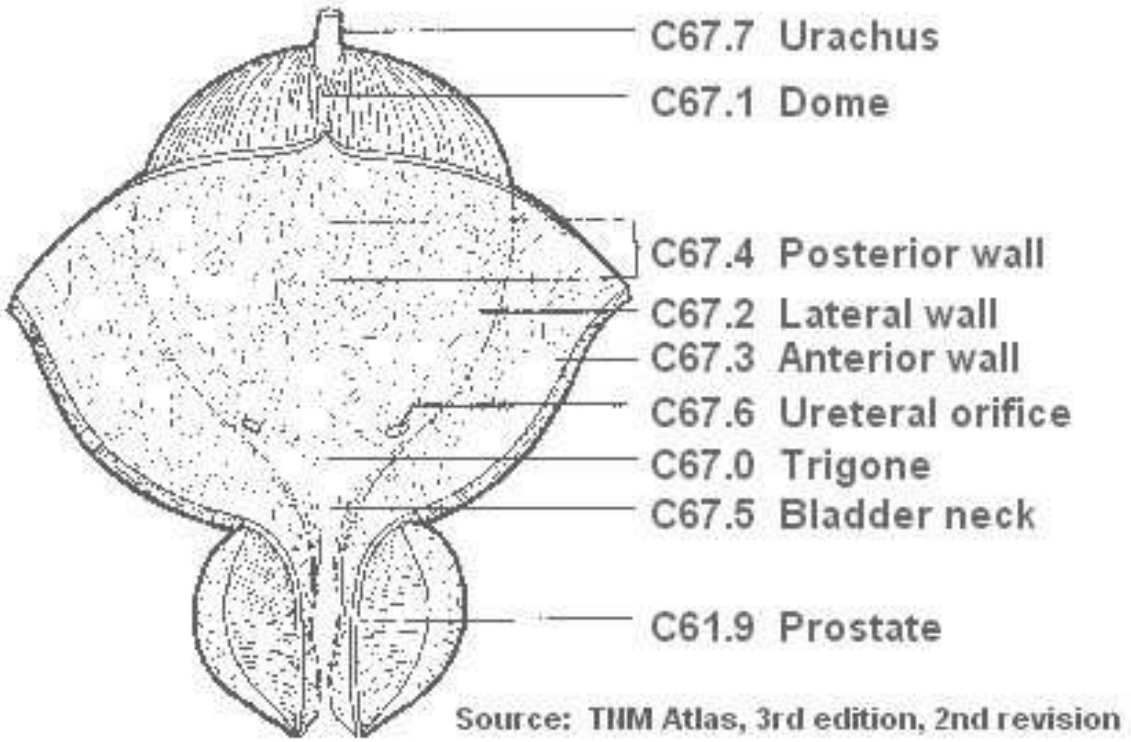
Lymph Nodes – Ureter, Bladder

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

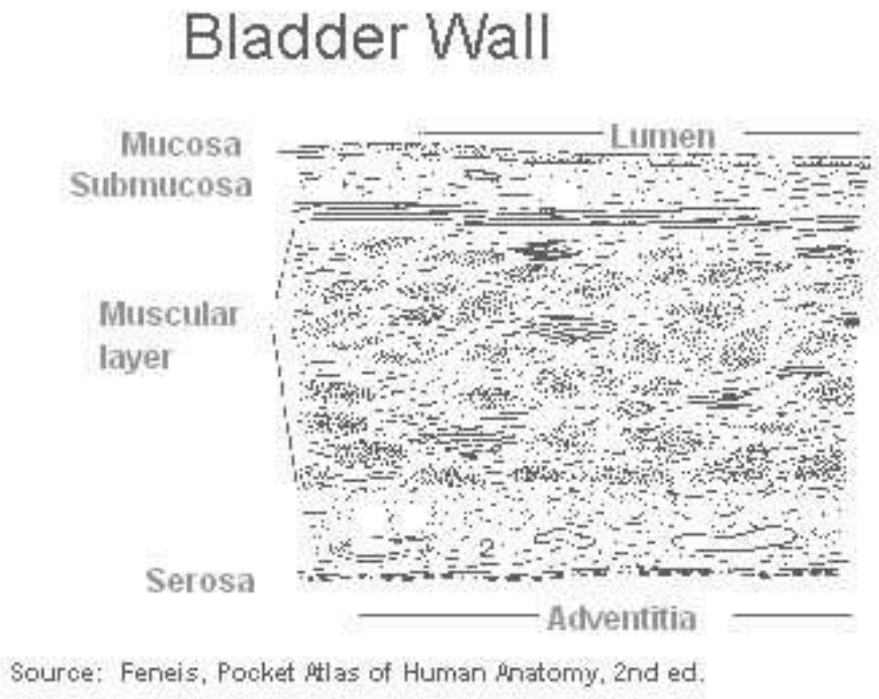


Anatomy



Source: TNM Atlas, 3rd edition, 2nd revision

Anatomy



Source: Feneis, Pocket Atlas of Human Anatomy, 2nd ed.

Histology

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

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

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

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

Two-Grade System Conversion Table

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

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

Multiple Primary Rules
Histology Coding Rules

Renal Pelvis
Ureter
Bladder

Formats

- Flowchart Format
- Matrix Format
- Text Format

Multiple Primary and Histology Coding Rules

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

Renal Pelvis, Ureter, Bladder, and Other Urinary Equivalent Terms, Definitions, Tables and Illustrations
C659, C669, C670-C679, C680-C689
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

Renal Pelvis, Ureter, Bladder, and Other Urinary

The renal pelvis, ureters, bladder and proximal portion of the urethra are lined by transitional epithelium, also known as urothelium. Tumors of the urothelium are more often multifocal compared to other sites. Two mechanisms have been proposed to explain this phenomenon: 1). a "field effect" and 2) tumor cell implantation.

1. 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.
2. 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.

Molecular evidence has been found to support both of these theories, but neither has been proven to be the case for all tumors. Similarly, the widespread presence of flat carcinoma in situ may be a result of direct spread of neoplastic cells within the epithelium, direct extension, or due to implantation or field effect. The rules regarding histology and number of primaries are an attempt to reconcile these observations so that incidence data are consistent and reproducible.

Bladder

In the United States, transitional cell carcinomas account for more than 90% of all bladder cancers. Squamous cell carcinomas make up 3-8%, and adenocarcinomas make up about 1-2%. Pure squamous cell carcinoma of the bladder has a poor prognosis. See histology coding rules H5 and H13 for coding instructions.

Equivalent or Equal Terms

- **Flat transitional cell, flat urothelial**
- **In situ transitional cell carcinoma, in situ urothelial carcinoma**
- **Tumor, mass, lesion, neoplasm**
- **Urothelial and transitional**
- **Urothelium and transitional epithelium**
- **Intramucosal and in situ**
- **Papillary transitional cell carcinoma, papillary urothelial carcinoa**

Definitions

Contiguous Sites:

- Renal pelvis
- Ureter
- Bladder
- Urethra/prostatic urethra

Field effect: Widespread changes in normal or relatively normal tissue that predispose a person to cancer

Renal Pelvis, Ureter, Bladder, and Other Urinary Equivalent Terms, Definitions, Tables and Illustrations C659, C669, C670-C679, C680-C689 (Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

Flat Tumor (bladder)/Noninvasive flat TCC: A flat tumor is a non-papillary bladder tumor that lies flat against the bladder tissue. Flat tumors usually have a poor prognosis. Noninvasive flat TCC (also called carcinoma in situ, or CIS) grows in the layer of cells closest to the inside of the bladder and appears as flat lesions on the inside surface of the bladder. Flat, invasive TCC may invade the deeper layers of the bladder, particularly the muscle layer.

Note 1: Flat tumors may have foci or focus of invasion. This definition is for those flat tumors described as being carcinoma in situ, CIS, or non-invasive.
Note 2: Flat tumors could be called in situ or non-invasive. If the term "non-invasive' is used to describe flat carcinoma, be aware that for staging this would be an in situ carcinoma.

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

Intraluminal (Ureter): Within the lumen of a tubular or hollow structure. Urinary tumors may spread intraluminally to adjacent urinary organs.

Intramucosal: Within the mucosal surface.

Invasive: A tumor that penetrates beyond the basement membrane.

Most invasive: The tumor with the greatest continuous local/regional extension (see focal and foci/focus definitions).

Bladder

The walls of the **bladder** in order from least to greatest extension are:

- Mucosa
- Lamina propria (some pathologists equate this to submucosa)
- Muscularis mucosae (this layer not always present, may not be mentioned)
- Submucosa
- Muscular layer (muscularis propria, detrusor muscle)
- Serosa, adventitia

Renal pelvis and ureter

The walls of the **renal pelvis** and **ureter** from least to greatest extension are:

- Epithelium
- Subepithelial connective tissue, submucosa
- Muscularis mucosa
- Adventitia, periureteric fat, peripelvic fat

Multicentric, multifocal, and polycentric are often used as synonyms. The tumor has multiple centers. The foci are not contiguous.

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

Papillary tumor: A papillary bladder, ureter, or renal pelvis tumor is a warty growth that is attached to the wall by a stalk.

Papillary and Flat Carcinomas: Urothelial carcinomas may be either flat or papillary. The terms papillary and flat describe the structure or architecture of the tumor, not a specific histologic type. Both are transitional cell/urothelial carcinoma, although there are behavioral differences between the two.

Prostatic Urethra: Adenocarcinoma of the prostatic urethra is usually an extension of adenocarcinoma of the prostate. Transitional cell/urothelial carcinoma in the prostatic urethra may be an extension from the bladder or may be primary in the prostatic urethra. .

Satellite lesion or metastasis: Metastatic lesion within the immediate vicinity of the primary tumor.

Transitional cell carcinoma usually begins in the renal pelvis, not in the kidney. The cancer cells are different from renal cell carcinoma.

Transitional epithelium: A highly expandable epithelium that has a layered appearance with large cube-shaped cells in the relaxed state that transform and stretch into broad and flat cells in the expanded or distended state.

Urinary tract: Structures lined by transitional epithelium also known as urothelium.

Urothelium: The transitional epithelium lining the wall of the bladder, ureter, and renal pelvis, external to the basement membrane.

Multiple Primary Rules

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)

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.

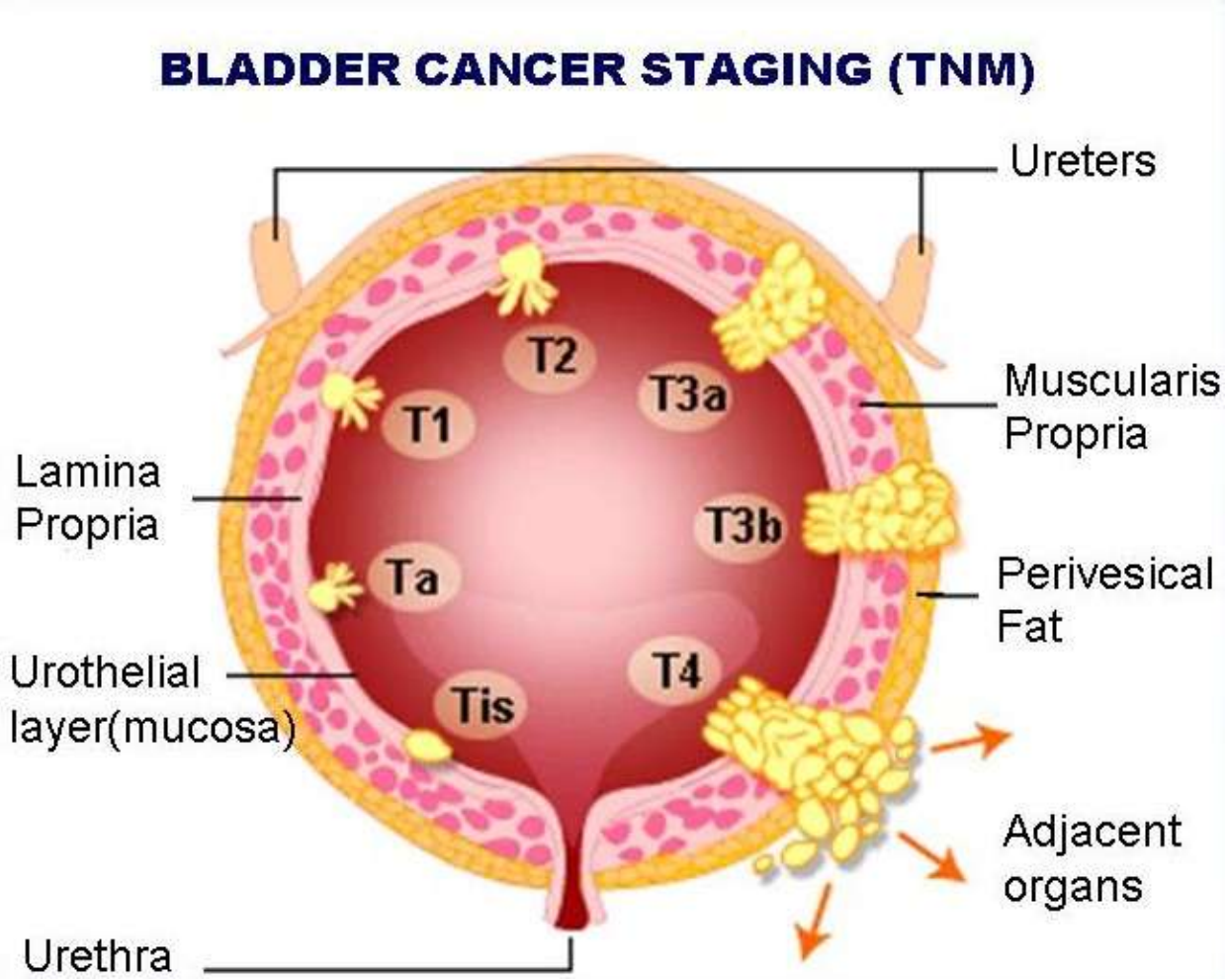
- Each patient can only have one non-invasive urothelial bladder cancer per lifetime.
  - Must occur prior to the invasive urothelial bladder cancer

Collaborative Stage v02.03.02

Bladder

C67.0 – 67.9

Bladder Cancer Staging

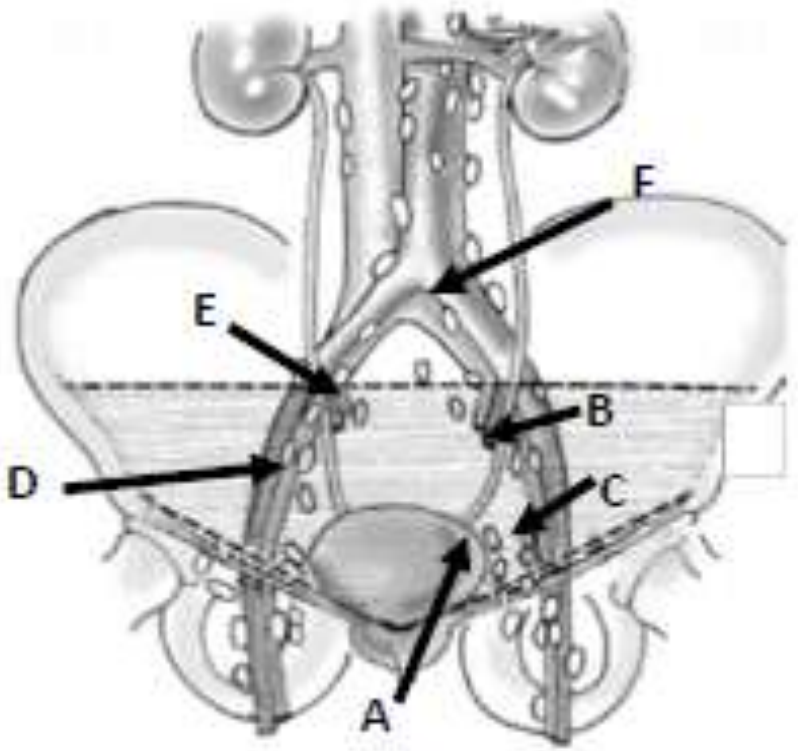


Source: http://www.emoryhealthcare.org/urology/oncology/bladder-cancer

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

COLLABORATIVE STAGE DATA COLLECTION SYSTEM

Collaborative Stage Version 2

TNM 7 Schema List (v.02.03)

Version v.02.03

Natural Order • **Alphabetical Order** •

Bladder

AdnexaUterineOther
AdrenalGland
AmpullaVater
Anus
Appendix
BileDuctsDistal
BileDuctsIntraHepat
BileDuctsPerihilar
BiliaryOther
Bladder
Bone
Brain
Breast
BuccalMucosa
CarcinoidAppendix
Cervix
CNSOther
Colon
Conjunctiva
CorpusAdenosarcoma
CorpusCarcinoma
CorpusSarcoma
CysticDuct
DigestiveOther
EndocrineOther
EpiglottisAnterior
Esophagus
EsophagusGEJunction
EyeOther
FallopianTube
FloorMouth
Gallbladder
GenitalFemaleOther
GenitalMaleOther
GISTAppendix
GISTColon
GISTEsophagus
GISTPeritoneum
GISTRectum
GISTSmallIntestine
GISTStomach
GumLower
GumOther
GumUpper
HeartMediastinum
HemeRetic
Hypopharynx
KaposiSarcoma
KidneyParenchyma
KidneyRenalPelvis
LacrimalGland
LacrimalSac
LarynxGlottic
LarynxOther
LarynxSubglottic
LarynxSupraglottic
LipLower
LipOther
LipUpper
Liver
Lung
Lymphoma
LymphomaOcularAdnexa
MelanomaBuccalMucosa
MelanomaChoroid
MelanomaCiliaryBody
MelanomaConjunctiva
MelanomaEpiglottisAnterior
MelanomaEyeOther
MelanomaFloorMouth
MelanomaGumLower
MelanomaGumOther
MelanomaGumUpper
MelanomaHypopharynx
MelanomaIris
MelanomaLarynxGlottic
MelanomaLarynxOther
MelanomaLarynxSubglottic
MelanomaLarynxSupraglottic
MelanomaLipLower
MelanomaLipOther
MelanomaLipUpper
MelanomaMouthOther
MelanomaNasalCavity
MelanomaNasopharynx
MelanomaOropharynx
MelanomaPalateHard
MelanomaPalateSoft
MelanomaPharynxOther
MelanomaSinusEthmoid
MelanomaSinusMaxillary
MelanomaSinusOther
MelanomaSkin
MelanomaTongueAnterior
MelanomaTongueBase
MerkelCellPenis
MerkelCellScrotum
MerkelCellSkin
MerkelCellVulva
MiddleEar
MouthOther
MycosisFungoides
MyelomaPlasmaCellDisorder
NasalCavity
Nasopharynx
NETAmpulla
NETColon
NETRectum
NETSmallIntestine
NETStomach
Orbit
Oropharynx
Ovary
PalateHard
PalateSoft
PancreasBodyTail
PancreasHead
PancreasOther
ParotidGland
Penis
Peritoneum
PeritoneumFemaleGen
PharyngealTonsil
PharynxOther
Placenta
Pleura
Prostate
Rectum
RespiratoryOther
Retinoblastoma
Retroperitoneum
SalivaryGlandOther
Scrotum
SinusEthmoid
SinusMaxillary
SinusOther
Skin
SkinEyelid
SmallIntestine
SoftTissue
Stomach
SubmandibularGland
Testis
Thyroid
TongueAnterior
TongueBase
Trachea
Urethra
UrinaryOther
Vagina
Vulva

Bladder

Bladder

C67.0-C67.9

- C67.0 Trigone of bladder
- C67.1 Dome of bladder
- C67.2 Lateral wall of bladder
- C67.3 Anterior wall of bladder
- C67.4 Posterior wall of bladder
- C67.5 Bladder neck
- C67.6 Ureteric orifice
- C67.7 Urachus
- C67.8 Overlapping lesion of bladder
- C67.9 Bladder, NOS

CS Tumor Size
CS Extension
CS Tumor Size/Ext Eval
CS Lymph Nodes
CS Lymph Nodes Eval
Regional Nodes Positive
Regional Nodes Examined
CS Mets at DX
CS Mets Eval
CS Site-Specific Factor 1
WHO/ISUP Grade
CS Site-Specific Factor 2
Size of Metastasis in Lymph Nodes
CS Site-Specific Factor 3
Extranodal Extension of Regional Lymph Nodes
CS Site-Specific Factor 4 = **988**
CS Site-Specific Factor 5 = **988**
CS Site-Specific Factor 6 = **988**

CS Site-Specific Factor 7 = **988**
CS Site-Specific Factor 8 = **988**
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CS Site-Specific Factor 25 = **988**
Histology Inclusion Table AJCC 7th ed.
Histology Exclusion Table AJCC 6th ed.
AJCC TNM 7 Stage
AJCC TNM 6 Stage
Summary Stage
Lymph Nodes Size Mets 00 AJCC 6 Table
Lymph Nodes Size Mets 99 AJCC 6 Table
Lymph Nodes Size Mets 11, 40, 55, or 60 AJCC 6 Table
Lymph Nodes Size Mets 10 or 50 AJCC 6 Table

Bladder CS Tumor Size

Collaborative Stage for TNM 7 - Revised 10/06/2010 [Schema]

Bladder

CS Tumor Size

Code	Description
000	No mass/tumor found
001-988	001 - 988 millimeters (mm) (Exact size to nearest mm)
989	989 mm or larger
990	Microscopic focus or foci only and no size of focus given
991	Described as "less than 1 centimeter (cm)"
992	Described as "less than 2 cm," or "greater than 1 cm," or "between 1 cm and 2 cm"
993	Described as "less than 3 cm," or "greater than 2 cm," or "between 2 cm and 3 cm"
994	Described as "less than 4 cm," or "greater than 3 cm," or "between 3 cm and 4 cm"
995	Described as "less than 5 cm," or "greater than 4 cm," or "between 4 cm and 5 cm"
999	Unknown; size not stated Size of tumor cannot be assessed Not documented in patient record

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

Bladder: CS Extension Notes

CS Extension

- Note 1: Distinguishing noninvasive and invasive bladder cancer: The two main types of bladder cancer are the flat (sessile) variety and the papillary type. The flat (sessile) variety is called in situ when tumor has not penetrated the basement membrane. Papillary tumor that has not penetrated the basement membrane is called noninvasive.
- Note 2: Noninvasive papillary transitional carcinoma: Pathologists use many different descriptive terms for noninvasive papillary transitional cell carcinoma. Frequently, the pathology report does not contain a definite statement of noninvasion; however, noninvasion can be inferred from the microscopic description.
  - A. Definite statements of noninvasion for papillary transitional cell carcinomas (code 010) include:
    - Noninfiltrating
    - Noninvasive
    - No evidence of invasion
    - No extension into lamina propria
    - No stromal invasion
    - No extension into underlying supporting tissue
    - Negative lamina propria and superficial muscle
    - Negative muscle and (subepithelial) connective tissue
    - No infiltrative behavior/component
  - B. Inferred descriptions of noninvasion for papillary transitional cell carcinomas (code 030) include:
    - No involvement of muscularis propria and no mention of subepithelium/submucosa
    - No statement of invasion (microscopic description present)
    - (Underlying) Tissue insufficient to judge depth of invasion
    - No invasion of bladder wall
    - No involvement of muscularis propria
    - Benign deeper tissue
    - Microscopic description problematic (noninvasion versus superficial invasion)
    - Frond surfaced by transitional cell
    - No mural infiltration
    - No evidence of invasion (no sampled stroma)
    - Confined to mucosa (see also Note 3 if tumor is not described as papillary)

Bladder: CS Extension - Notes

- Note 3: Noninvasive (in situ) flat transitional cell carcinoma: 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 for noninvasion 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 carcinomas. In order to accurately code tumors described as "confined to mucosa", abstractors should determine:
  If the tumor is confined to the epithelium: then it is noninvasive (code 060).
  If the tumor has penetrated the basement membrane to invade the lamina propria: then it is invasive (code 155). The lamina propria and submucosa tend to merge when there is no muscularis mucosa, so these terms may be used interchangeably, along with stroma and subepithelial connective tissue.
  If the distinction between involvement of the epithelium and lamina propria cannot be made, then the tumor should be coded as "confined to mucosa, NOS" (code 100).
  Statements meaning confined to mucosa, NOS for flat transitional cell carcinomas include:
    Confined to mucosal surface
    Limited to mucosa, no invasion of submucosa and muscularis
    No infiltration/invasion of fibromuscular and muscular stroma
    Superficial, NOS
- Note 4: In case of multifocal noninvasive Ta and Tis tumors, use code 060 or 100 in preference to 010 or 030.
- Note 5: Use code 230 if the only description of extension is through full thickness of bladder wall, and there is no clear statement as to whether or not the cancer has extended into fat. If there is documentation that tumor has breached the wall, including invasion into fat or beyond, use code 410 or higher.
- Note 6: An associated in situ component of tumor extending into the prostatic ducts, prostatic glands, or ureter without invasion is disregarded in staging classification. Use the code that best describes depth of bladder wall invasion.
- Note 7: Direct 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 extension from bladder directly into distal ureter. The distal ureter is defined as below the iliac vessel, within the pelvic brim.
- Note 8: Extension from bladder into subepithelial tissue of prostatic urethra should be coded 160 and not code 600.
- Note 9: If CS Extension code is 010-060, Behavior ICD-O-3 must be coded as 2. If CS Extension code is 100, Behavior ICD-O-3 may be coded as 2 or 3. If CS Extension code is 155 or greater, Behavior ICD-O-3 must be coded as 3.

Bladder CS Extension

Code	Description	TNM 7 Map	TNM 6 Map	SS77 Map	SS2000 Map
010	Papillary transitional cell carcinoma, stated to be noninvasive Papillary non-infiltrating (See Note 2A) Stated as Ta with no other information on extension (See Notes 1 and 2)	Ta	Ta	IS	IS
030	Papillary transitional cell carcinoma, with inferred description of noninvasion (See Note 2B)	Ta	Ta	IS	IS
060	Sessile (flat) (solid) carcinoma in situ Carcinoma in situ, NOS Transitional cell carcinoma in situ Stated as Tis with no other information on extension	Tis	Tis	IS	IS
100	Confined to mucosa, NOS (See Note 3)	Tis	Tis	L	L
150	OBSOLETE DATA RETAINED V0200 See codes 155 and 170 Invasive tumor confined to subepithelial connective tissue (tunica propria, lamina propria, submucosa, stroma) TNM/AJCC T1 Jewett-Strong-Marshall Stage A	ERROR	T1	L	L
155	Subepithelial connective tissue (tunica propria, lamina propria, submucosa, stroma) of bladder only	T1	T1	L	L
160	Subepithelial connective tissue of prostatic urethra	T1	T1	L	L
165	Extension to distal ureter: Subepithelial connective tissue of bladder and/or distal ureter (See Note 7)	T1	T1	RE	RE
170	Stated as T1 with no other information on extension	T1	T1	L	L

Bladder CS Lymph Nodes

- CS Lymph Node
  - N1: single positive node
  - N2: multiple positive nodes
  - N3: common iliac node involvement

- Common Iiac Nodes
  - Coded in CS Lymph nodes for 7th edition
    - Previously coded in CS Mets at Dx

Bladder Site-Specific Factors

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

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

Urothelial Cancer Treatment

Principles of Surgical Management

Transurethral Resection for Papillary Appearing Tumor (likely non-muscle invasive)

- Adequate resection with muscle in specimen
- Early repeat TURBT (within six weeks) if
  - Incomplete initial resection
  - No muscle in original specimen for high grade disease
  - Large or multi-focal lesions
  - Any T1 lesion

Transurethral Resection for Suspected or Known Carcinoma In Situ

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

Transurethral Resection for Sessile or Invasive Appearing Tumor (likely muscle invasive)

- Perform exam under anesthesia
- Repeat TURBT if
  - No muscle in specimen for high grade disease
  - Any T1 lesion
  - First resection does not allow adequate staging/attribution of risk for treatment selection
  - Incomplete resection and considering tri-modality bladder preservation therapy

Segmental (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.

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

Principles of Intravesical Treatment

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

Immediate 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

Induction Intravesical Chemotherapy
- Initiated 3-4 wks after resection
- Maximum of 2 inductions without complete response
- Maintenance therapy is optional

Induction Intravesical Immunotherapy
- Initiated 3-4 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

Principles of Chemotherapy Management

First-line chemotherapy (neoadjuvant, adjuvant, and metastatic)

- Gemcitabine and cisplatin (preferred, category 2A for neoadjuvant and adjuvant; category 1 for metastatic). A large randomized trial comparing this regimen to MVAC demonstrated that gemcitabine/cisplatin had efficacy similar to MVAC in terms of objective response rate, progression-free and overall survival, and demonstrated a more favorable toxicity profile. This combination is considered the standard first-line choice for most patients.
- MVAC (methotrexate, vinblastine, doxorubicin and cisplatin) (category 1). Concern regarding toxicity limit this regimen's use, however it is the historical standard of care based on improved survival and response rates when compared to older regimens.
- Three drug regimens such as gemcitabine, cisplatin, and paclitaxel have not been proven superior to gemcitabine and cisplatin.
- Carboplatin should not be substituted for cisplatin in patients with normal renal function. For patients with borderline renal function or minimal dysfunction, a split dose administration of cisplatin may be considered (such as 35 mg/m^2 on days 1 and 2 or days 1 and 8) (category 2B). While safer, the relative efficacy of the cisplatin-containing combination administered with such modifications remains undefined.
- Presence of both visceral metastases and ECOG performance score ≥ 2 strongly predict poor outcome with chemotherapy. Patients without these adverse prognostic factors have the greatest benefit from chemotherapy.
- A modest survival benefit of neoadjuvant chemotherapy in patients with muscle-invasive bladder cancer was noted in randomized trials and meta-analyses performed in patients receiving 3 cycles prior to cystectomy but not radiotherapy.

First-line chemotherapy (alternative regimens)

- A substantial proportion of patients cannot receive cisplatin-based chemotherapy due to renal impairment or other co-morbidities. Carboplatin and taxane-based regimens, or single agent therapy can be considered for these patients.
- Participation in clinical trials of new or more tolerable therapy is recommended.

Second-line chemotherapy (metastatic)

- No standard therapy exists in this setting. Participation in clinical trials of new agents is recommended. Depending on first-line therapies, palliative options include single agent therapy such as cisplatin, carboplatin, docetaxel, doxorubicin, 5-fluorouracil, gemcitabine, ifosfamide, paclitaxel, pemetrexed, methotrexate, and vinblastine.

Radiosensitizing chemotherapy regimens (For concurrent treatment with radiation therapy for selective bladder preservation)

- First-line chemotherapy
  - Cisplatin alone, or in combination with 5-fluorouracil
  - Mitomycin C in combination with 5-fluorouracil (category 2B)
- Alternative regimens
  - Clinical trial

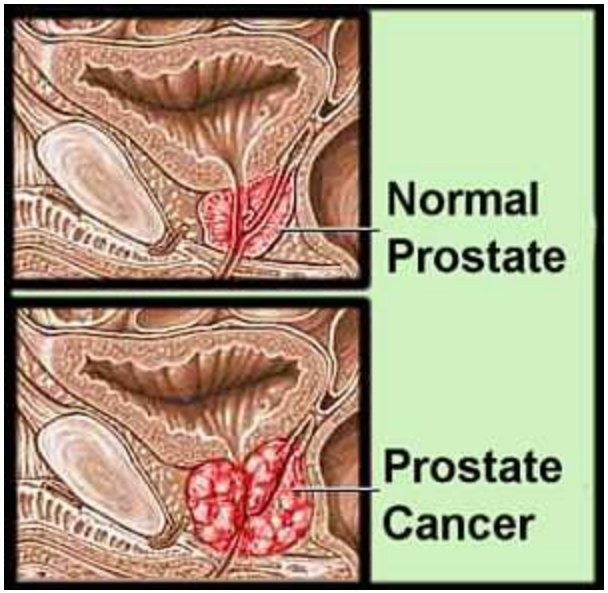
Principles of Radiation Management of Invasive Disease

- External beam radiation is rarely appropriate for patients with recurrent Ta-T1 tumors or diffuse Tis.
- External beam radiation is most successful on patients without hydronephrosis or extensive invasive tumor-associated Tis.
- External beam radiation (with or without concurrent chemotherapy) can also be used as potentially curative therapy for medically inoperable patients or for local palliation in patients with metastatic disease.
- Precede radiation or concurrent chemotherapy and radiation by maximal TUR of the tumor when safely possible.
- Combining concurrent chemotherapy with radiation is encouraged for added tumor cytotoxicity. Such therapy is optimally given by dedicated multidisciplinary teams.
- Simulate and treat patients with the bladder empty.
- Use multiple fields from high-energy linear accelerator beams.
- Treat the whole bladder with or without pelvic lymph nodes with 40- 45 Gy and then boost the bladder tumor to a total dose up to 66 Gy excluding, if possible, normal areas of the bladder from the high-dose volume.
- Consider low-dose pre-operative radiation therapy prior to segmental resection for invasive tumors (category 2B).

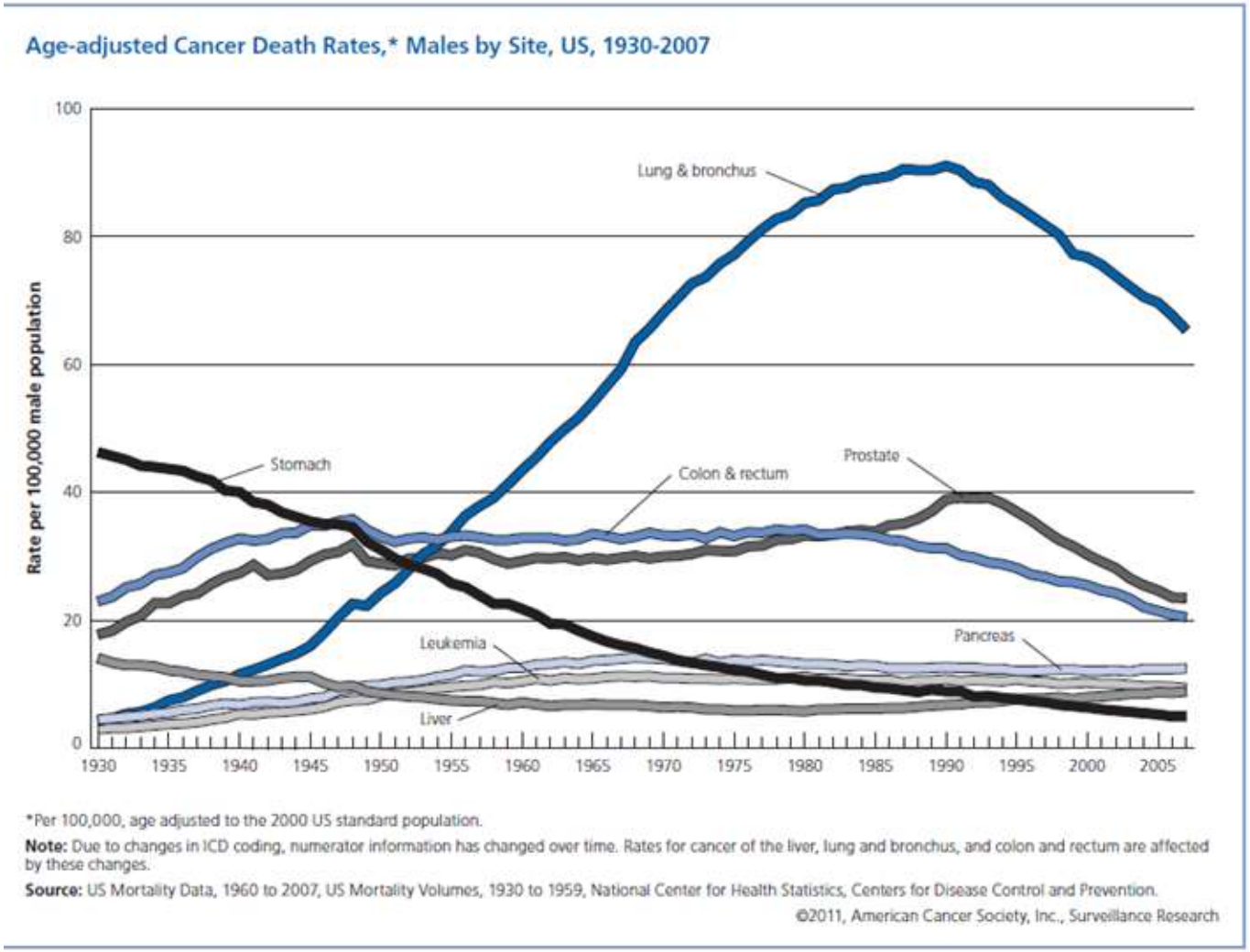
PROSTATE

Overview

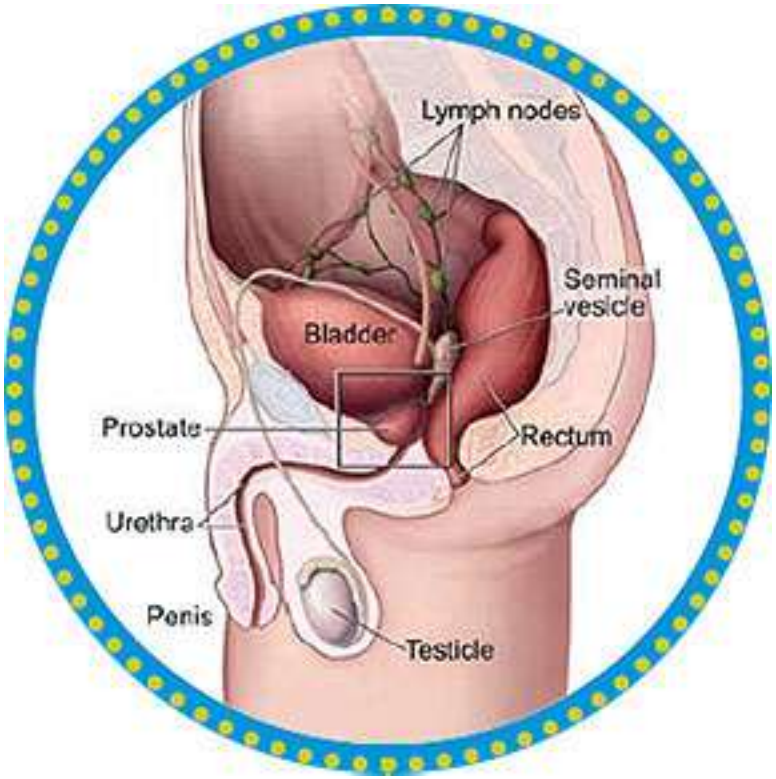
- Most common male cancer
- 2nd leading cause of cancer related death in men in the U.S.
- African-American men 2.5 x higher mortality rate than Caucasian men.
- Estimated new cases: 240,890; deaths: 33,720
- Risk Factors:
  - Age
  - Race/Ethnicity-
  - Family history
  - Genetics
  - Diet



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



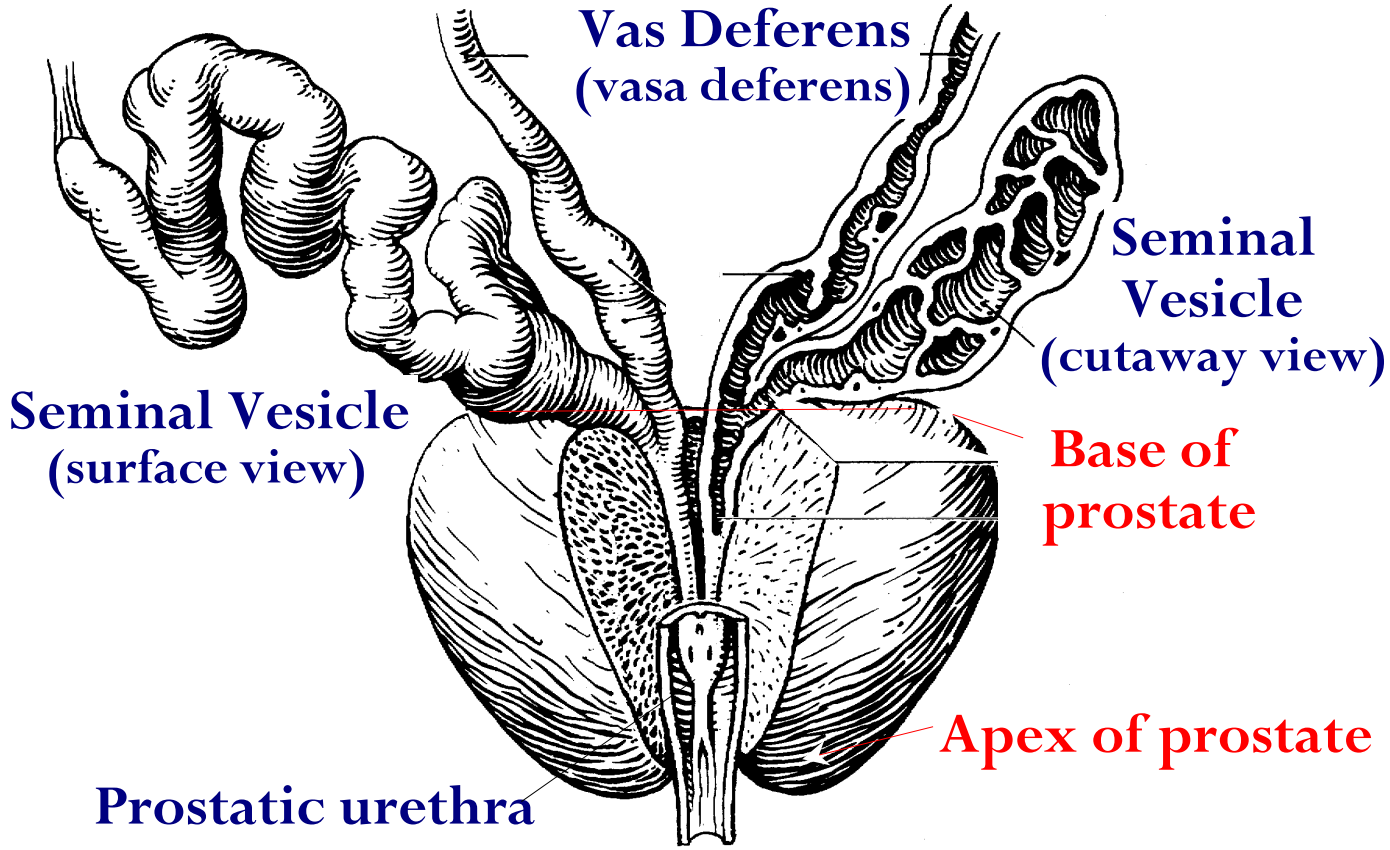
Anatomy



- 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

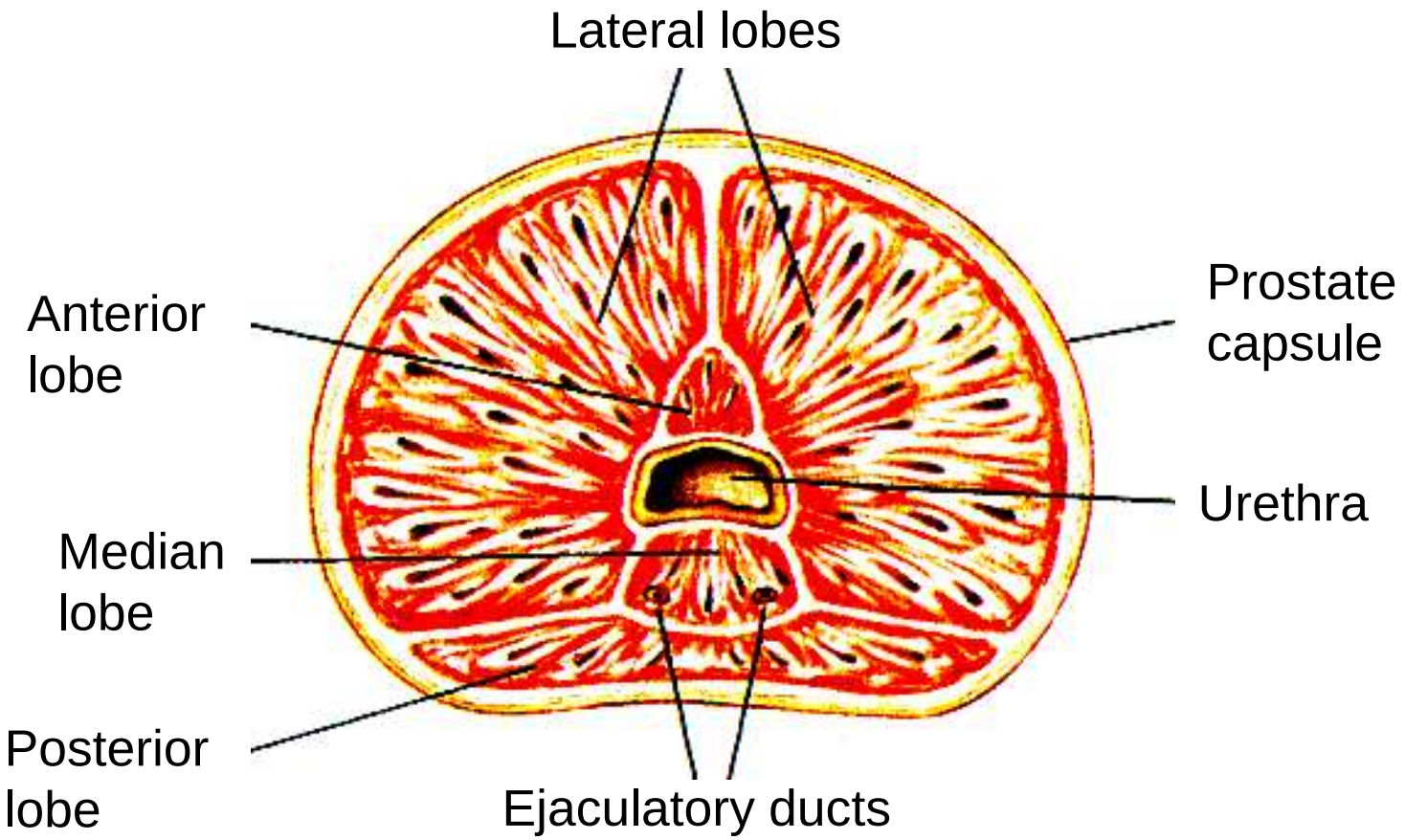
Source: http://www.abbottdiagnostics.com
U.S. National Cancer Institute

Anatomy



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

Anatomy



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

Diagnostic Procedures

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

Relax, it's only a DRE

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

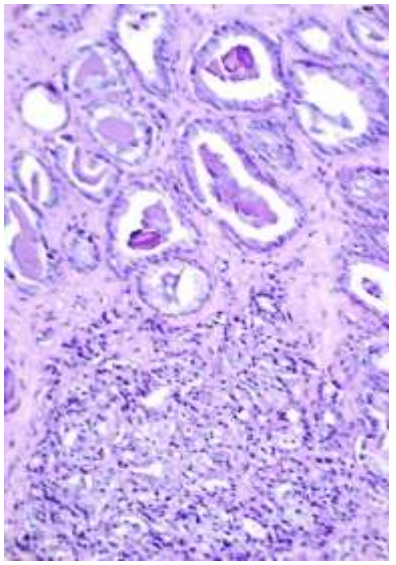


Image source: National Cancer Institute

Prognostic Factors

- **Clinical predictors**
  - PSA – Prostate-specific antigen
  - Gleason score
  - Tumor stage

- **Pathologic factors**
  - Number/percentage of positive biopsies
  - Surgical margin status

Multiple Primary and Histology Coding Rules

January 01, 2007

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

MPH Rules

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

ICD-O-3 Site Codes

Related Adjectives

Prostate = prostato-

ICD-O-2/3	Term
C61.9	Prostate gland; Prostate, NOS

Prostate: Clinical Assessment

Clinically Apparent vs Inapparent

Clinical Stage: Why Important??

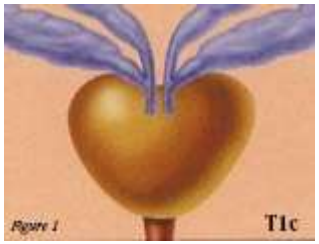
- The CS is logically divided into 4 major categories: T1, T2, T3 and T4 stages.
- Clinical Stages T1a and T1b
  - Incidentally detected during a TURP
- Clinical stages T1c and T2
  - PSA test positive – detects earlier stage
- Clinical Stage T3
  - DRE detects palpable disease sufficient to indicate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

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.

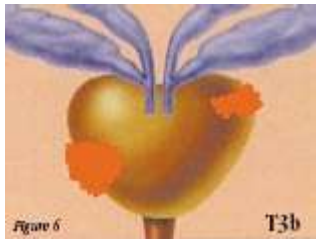
Clinical Stage Illustrations

T1c

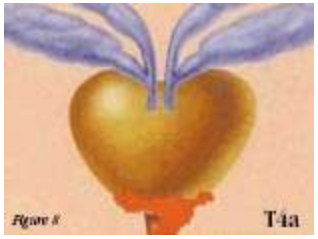


T2 (a,b,c)

T3 (a,b,c)

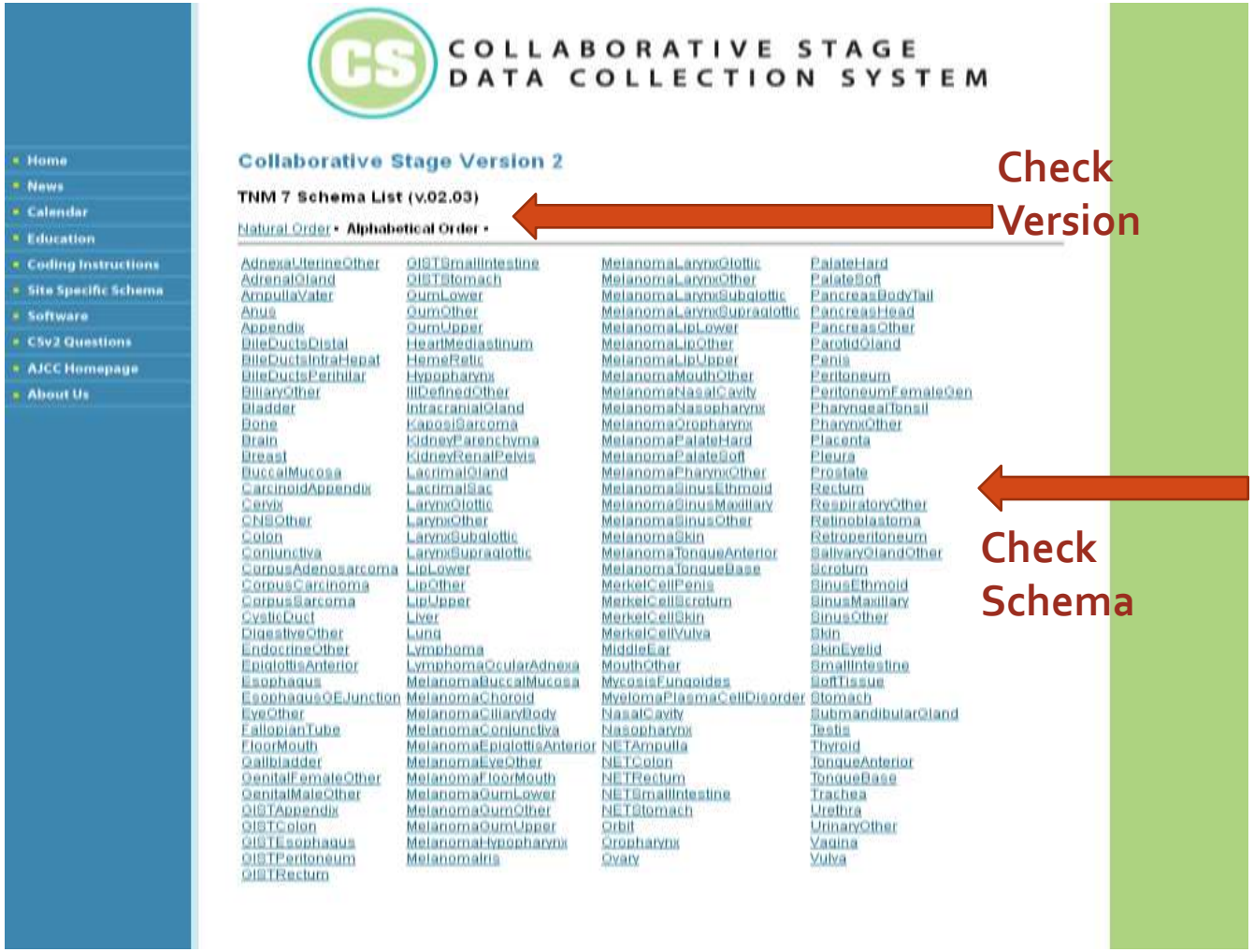


T4 (a,b)



Material provided by Prostate Cancer Research Institute (PCRI)

Prostate - CS v02.03.02



Prostate: CS Data Collection

C61.9

- C61.9 Prostate gland
- Note 1: Transitional cell (urothelial) carcinoma of the prostatic urethra is to be coded to primary site C68.0, Urethra, and assigned Collaborative Stage codes according to the urethra schema.
- Note 2: The 7th Edition AJCC stage group is derived not only from the T, N, and M categories but also from Site-Specific Factor 1 (PSA Lab Value) and Site-Specific Factor 6 or 10 (Gleason's Score). The specific Gleason's Score used is dependent upon the values of CS Extension - Clinical Extension, Site-Specific Factor 3 (CS Extension - Pathologic Extension) and CS Tumor Size/Ext Eval as shown in the Special Calculation Table for TNM 7 Invasive/Unknown Pathologic Extension Eval and Special Calculation Table for TNM 7 Non-Invasive Pathologic Extension.

CS Tumor Size
CS Extension - Clinical Extension
CS Tumor Size/Ext Eval
CS Lymph Nodes
CS Lymph Nodes Eval
Reg LN Pos
Reg LN Exam
CS Mets at DX
CS Mets Eval
CS Site-Specific Factor 1
Prostatic Specific Antigen (PSA) Lab Value
CS Site-Specific Factor 2
Prostatic Specific Antigen (PSA) Interpretation
CS Site-Specific Factor 3
CS Extension - Pathologic Extension
CS Site-Specific Factor 4
Prostate Apex Involvement (OBSOLETE: Prostatic Acid Phosphatase (PAP))
CS Site-Specific Factor 5
OBSOLETE (Gleason's Primary Pattern and Secondary Pattern Value)
CS Site-Specific Factor 6
OBSOLETE (Gleason's Score)
CS Site-Specific Factor 7
Gleason's Primary Pattern and Secondary Pattern Value on Needle Core Biopsy/TURP
CS Site-Specific Factor 8
Gleason's Score on Needle Core Biopsy/TURP
CS Site-Specific Factor 9
Gleason's Primary Pattern and Secondary Pattern Value on Prostatectomy/Autopsy
CS Site-Specific Factor 10
Gleason's Score on Prostatectomy/Autopsy
CS Site-Specific Factor 11
Gleason's Tertiary Pattern Value on Prostatectomy/Autopsy
CS Site-Specific Factor 12
Number of Cores Positive
CS Site-Specific Factor 13
Number of Cores Examined
CS Site-Specific Factor 14
Needle Core Biopsy Findings
CS Site-Specific Factor 15
Clinical Staging Procedures Performed
CS Site-Specific Factor 16 = 988
CS Site-Specific Factor 17 = 988
CS Site-Specific Factor 18 = 988
CS Site-Specific Factor 19 = 988
CS Site-Specific Factor 20 = 988
CS Site-Specific Factor 21 = 988
CS Site-Specific Factor 22 = 988
CS Site-Specific Factor 23 = 988
CS Site-Specific Factor 24 = 988
CS Site-Specific Factor 25 = 988
Histology Inclusion Table AJCC 7th ed.
Histology Exclusion Table AJCC 6th ed.
AJCC TNM 7 Stage
AJCC TNM 6 Stage
Summary Stage
Special Calculation Table for DEEP Summary Stage
Special Calculation Table for TNM 6 Non-Invasive Pathologic Extension
Special Calculation Table for TNM 6 Invasive/Unknown Pathologic Extension Eval
Special Calculation Table for TNM 7 Non-Invasive Pathologic Extension
Special Calculation Table for TNM 7 Invasive/Unknown Pathologic Extension Eval

CS Site-Specific Factor 1

Prostatic Specific Antigen (PSA) Lab Value

Code	Description
000	OBSOLETE DATA CONVERTED V0200 See code 998 Test not done (test was not ordered and was not performed)
001	0.1 or less nanograms/milliliter (ng/ml) (Exact value to nearest tenth of ng/ml)
002-979	0.2 - 97.9 ng/ml (Exact value to nearest tenth of ng/ml)
980	98.0 ng/ml or greater
981-987	OBSOLETE DATA CONVERTED V0200 See code 980 98.1 - 98.7 ng/ml
988	Not applicable: Information not collected for this case (If this item is required by your standard setter, use of code 988 will result in an edit error.) (Cases with code 988 in CSv1 converted to code 980)
989	OBSOLETE DATA CONVERTED V0200 See code 980 98.9 ng/ml
990	OBSOLETE DATA CONVERTED V0200 Data converted to code 980 99.0 or greater ng/ml
997	Test ordered, results not in chart
998	Test not done (test not ordered and not performed)
999	Unknown or no information Not documented in patient record

CS Site-Specific Factor 3

CS Extension - Pathologic Extension

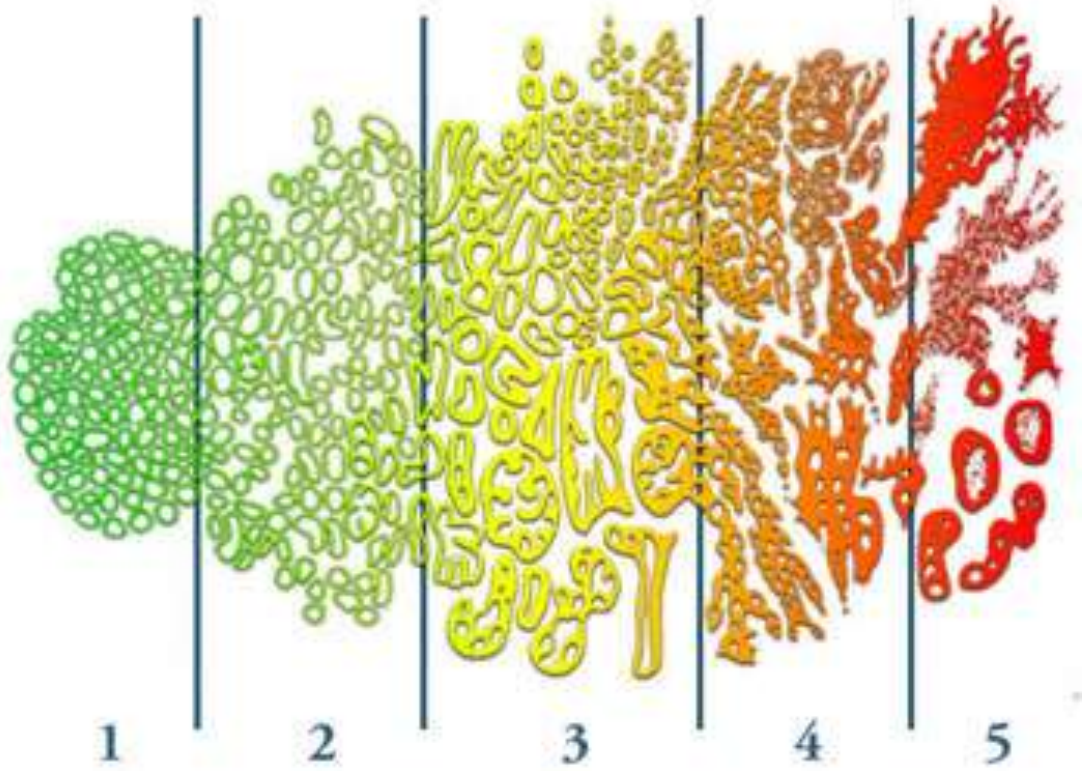
200	Involves one lobe/side, NOS	T2NOS	T2NOS	L	L
210	Involves one half of one lobe/side or less Stated as pT2a with no other information on pathologic extension	T2a	T2a	L	L
220	Involves more than one half of one lobe/side, but not both lobes/sides Stated as pT2b with no other information on pathologic extension	T2b	T2b	L	L
230	Involves both lobes/sides Stated as pT2c with no other information on pathologic extension	T2c	T2c	L	L
300	Localized, NOS Confined to prostate, NOS; intracapsular involvement only Stated as pT2 (NOS) with no other information on pathologic extension	T2NOS	T2NOS	L	L
320	Invasion into (but not beyond) prostatic capsule	T2NOS	T2NOS	L	L
330	320 + 210 Invasion into (but not beyond) prostatic capsule plus involves one half of one lobe/side or less	T2a	T2a	L	L
340	320 + 220 Invasion into (but not beyond) prostatic capsule plus involves more than one half of one lobe/side, but not both lobes/sides	T2b	T2b	L	L
350	320 + 230 Invasion into (but not beyond) prostatic capsule plus involves both lobes/sides	T2c	T2c	L	L
400	No extracapsular extension but specific margins involved (see Note 6)	T2NOS	T2NOS	L	RE
402	400 + 210 No extracapsular extension but specific margins involved plus involves one half of one lobe/side or less	T2a	T2a	L	RE
404	400 + 220 No extracapsular extension but specific margins involved plus involves more than one half of one lobe/side, but not both lobes/sides	T2b	T2b	L	RE
406	400 + 230 No extracapsular extension but specific margins involved plus involves both lobes/sides	T2c	T2c	L	RE
410	OBSOLETE DATA REVIEWED V02303 See codes 415 and 483 Extension to periprostatic tissue: Extracapsular extension (beyond prostatic capsule), NOS Through capsule, NOS Stated as pT3a with no other information on pathologic extension Stage C1, NOS	T3a	T3a	RE	RE
415	Extension to periprostatic tissue: Extracapsular extension (beyond prostatic capsule), NOS Through capsule, NOS	T3a	T3a	RE	RE
420	Unilateral extracapsular extension	T3a	T3a	RE	RE
430	Bilateral extracapsular extension	T3a	T3a	RE	RE
480	Extracapsular extension and specific margins involved (see Note 6)	T3a	T3a	RE	RE
482	Microscopic bladder neck involvement	T3a	T4	RE	RE
483	Stated as pT3a with no other information on pathologic extension	T3a	T3a	RE	RE
485	Extension to seminal vesicle(s) Stated as pT3b with no other information on pathologic extension	T3b	T3b	RE	RE
490	485 + 482 Extension to seminal vesicle(s) plus microscopic bladder neck involvement	T3b	T4	RE	RE
495	Stated as pT3, (NOS) with no other information on pathologic	T3NOS	T3NOS	RE	RE

CS Site-Specific Factor 8

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

Code	Description
002-010	Gleason's score
988	Not applicable: Information not collected for this case (If this information is required by your standard setter, use of code 988 may result in an edit error.)
998	No needle core biopsy/TURP performed
999	Unknown or no information Not documented in patient record

Gleason Pattern(s) and Score



http://www.stjohnprovidence.org

Grade Conversion

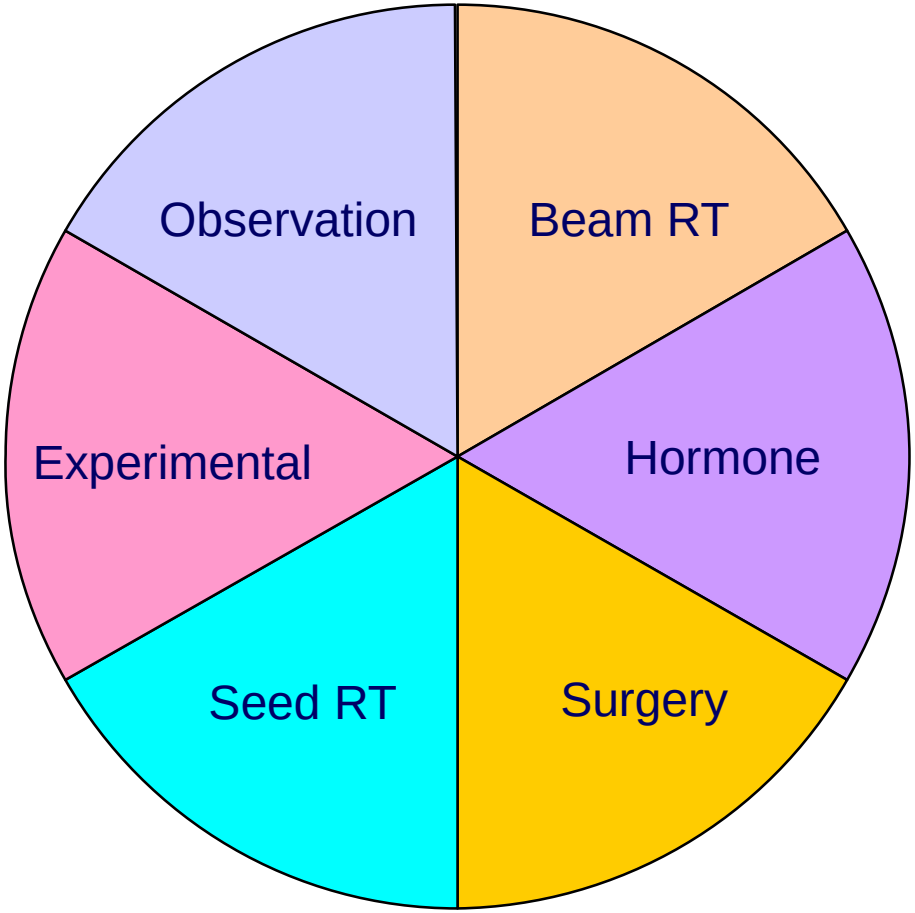
Code	Gleason's Score	Terminology	Histologic Grade
1	2, 3, 4	Well differentiated	I
2	5, 6	Moderately differentiated	II
3	7, 8, 9, 10	Poorly differentiated	III

CS Site-Specific Factor 10

Gleason's Score on Prostatectomy/Autopsy

Code	Description
002-010	Gleason's Score (See Notes 1-5)
988	Not applicable: Information not collected for this case (If this information is required by your standard setter, use of code 988 may result in an edit error.)
998	No prostatectomy/autopsy performed
999	No Gleason's score documented on prostatectomy/autopsy Unknown or no information Not documented in patient record

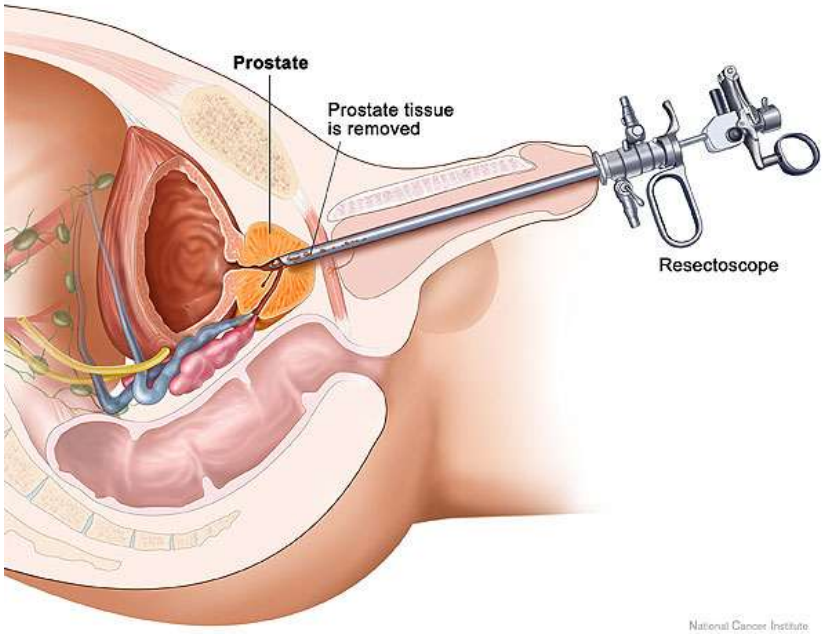
Treatment Options

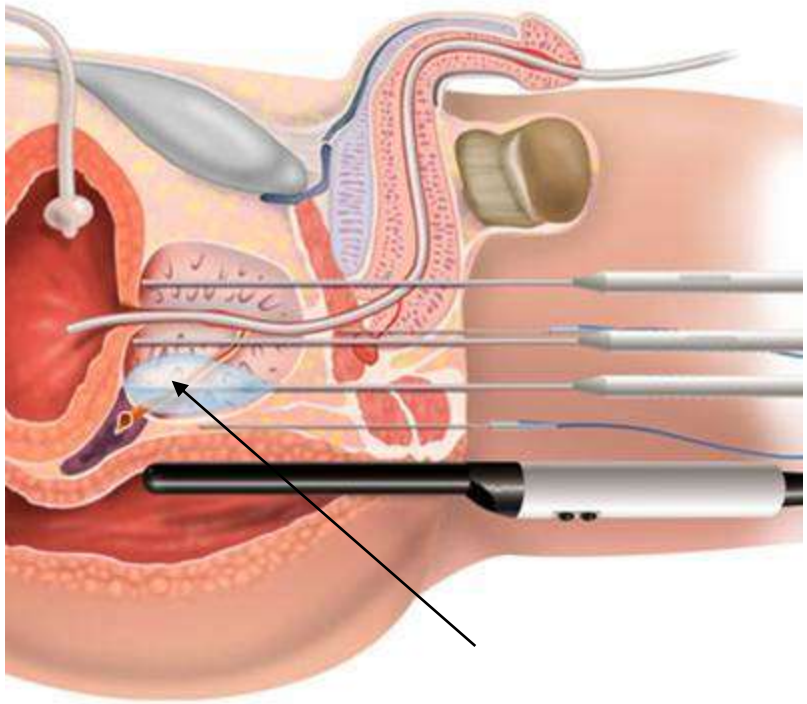


Surgery

TURP

Codes 19 OR 21-26





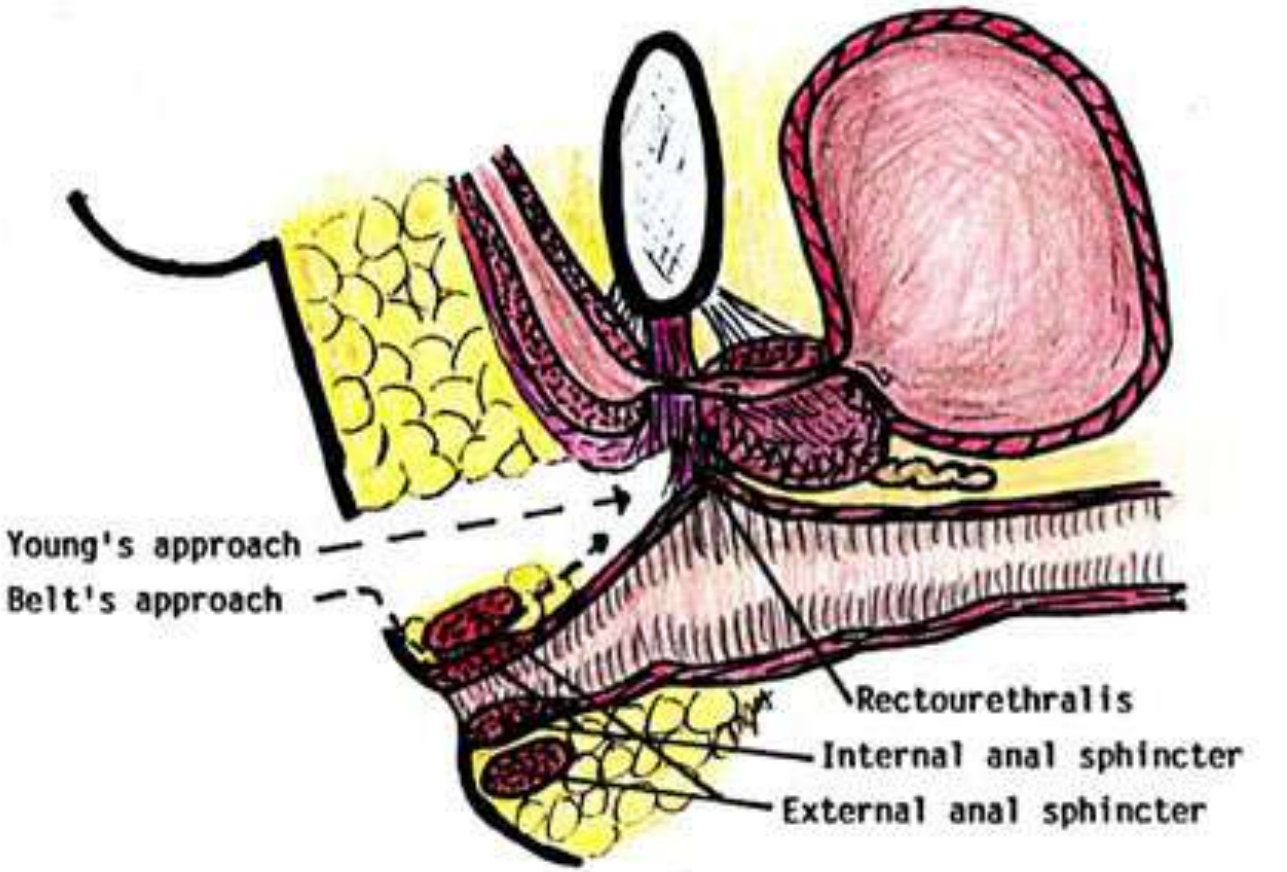
CRYOSURGERY

Codes 14 OR 24

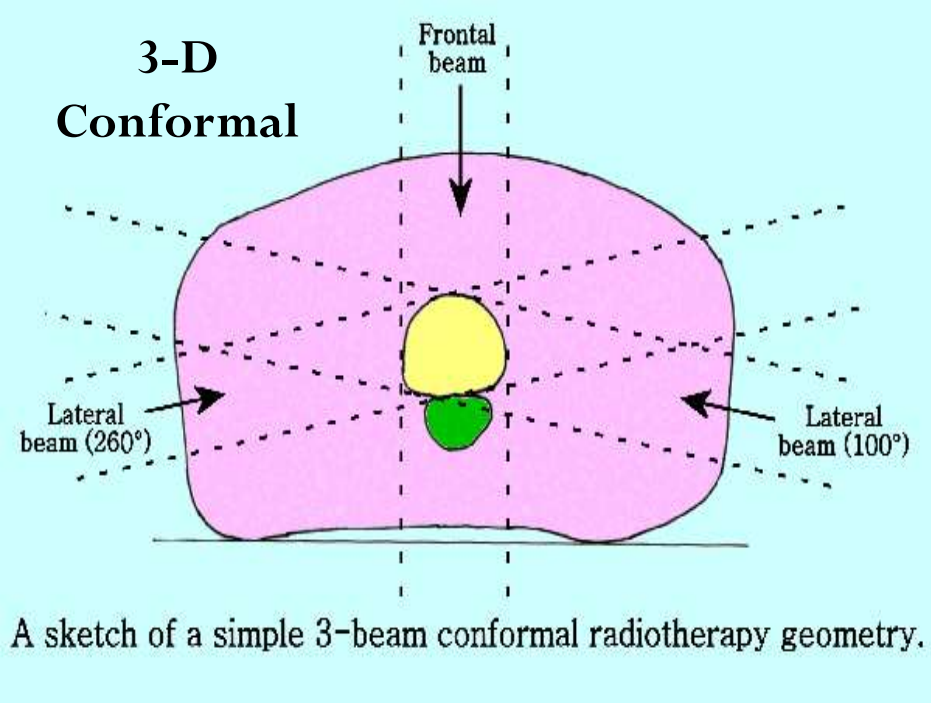
Prostatectomy

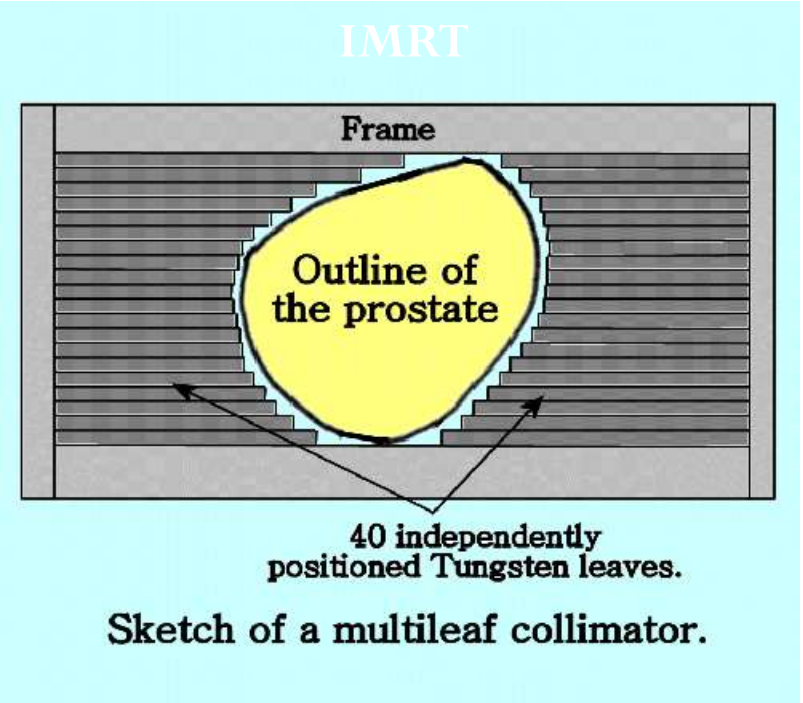
- Perineal, retropubic, suprapubic– depends on patient's anatomy and surgical history
  - Nerve-sparing
  - Robotic
  - Codes 30 – 80
  - Laparoscopic radical prostatectomy constitutes less than 1% of all prostatectomies performed in the US.

Radical Perineal Prostatectomy



Beam Radiation





Prostate sitting on rectum

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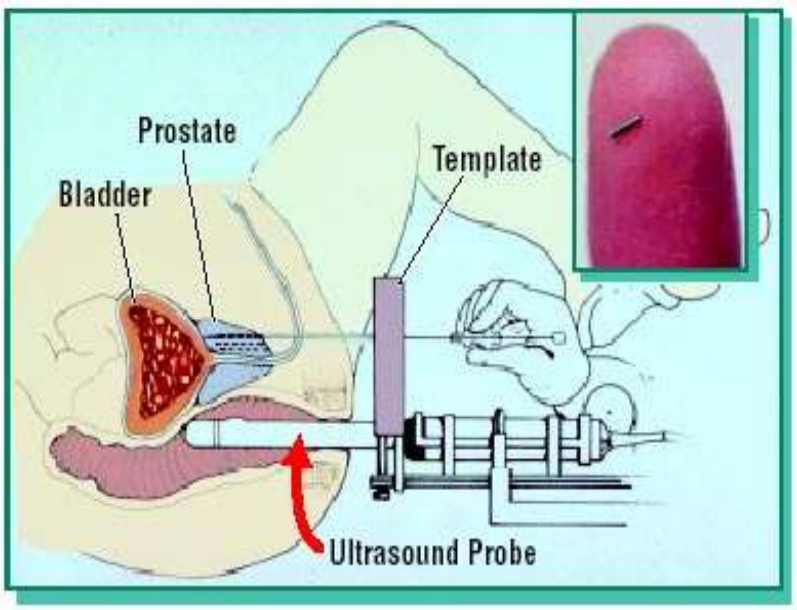
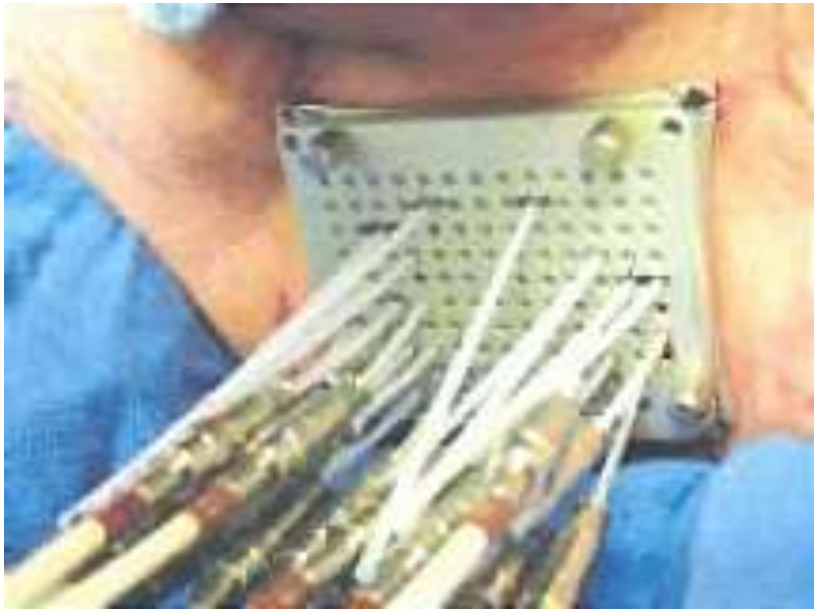
Brachytherapy (HDR)





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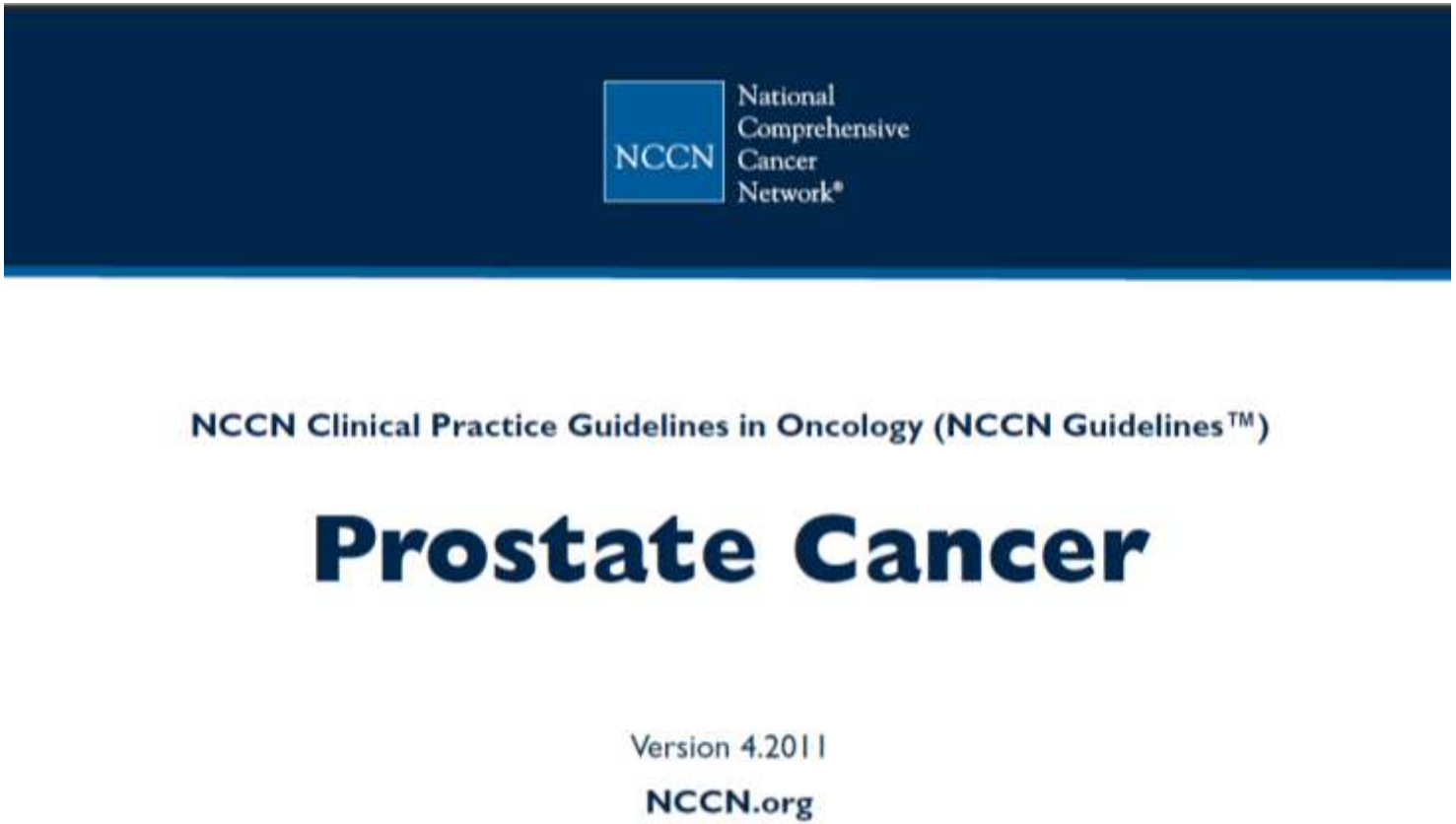
NCCN Guidelines



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)

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)

Questions

Happy Holidays

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