



Collecting Cancer Data: Bladder



August 4, 2016

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Q&A

- Please submit all questions concerning webinar content through the Q&A panel.
- Reminder:
- If you have participants watching this webinar at your site, please collect their names and emails.
 - We will be distributing a Q&A document in about one week. This document will fully answer questions asked during the webinar and will contain any corrections that we may discover after the webinar.

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Fabulous Prizes



3

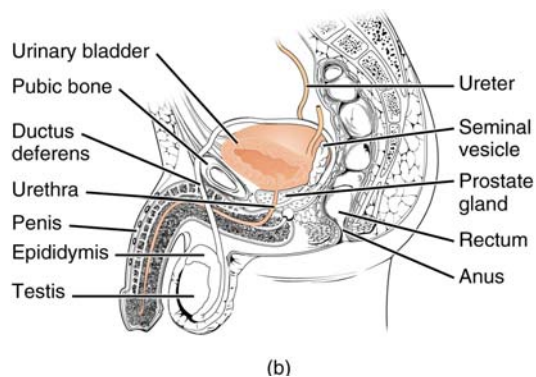
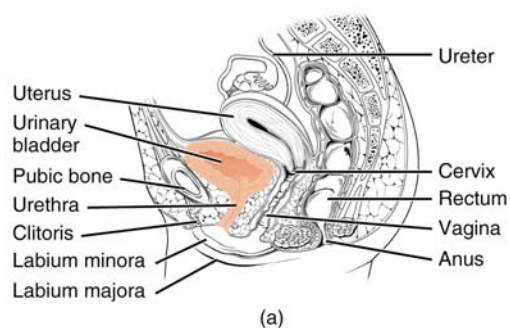


Anatomy

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Urinary Bladder – Female and Male

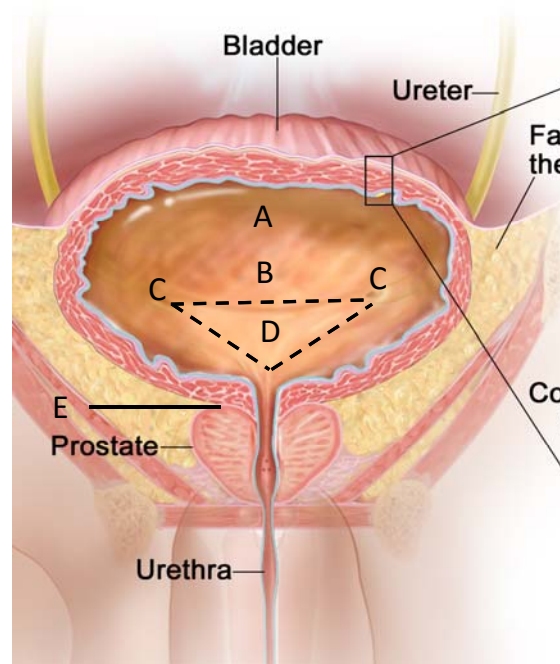


By OpenStax College - Anatomy & Physiology, Connexions Web site. <http://cnx.org/content/col11496/1.6/>, Jun 19, 2013., CC BY 3.0, <https://commons.wikimedia.org/w/index.php?curid=30148631>

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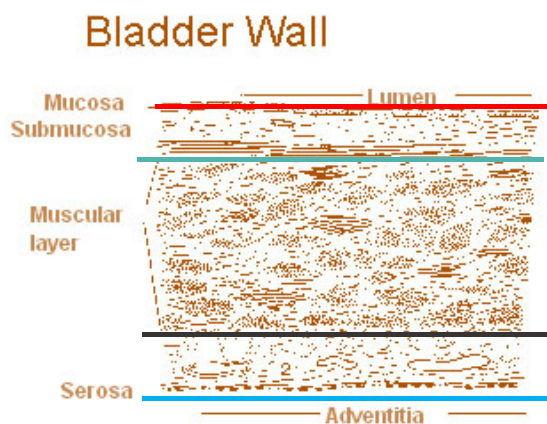
Urinary Bladder

- Dome of bladder (A)
- Posterior wall of Bladder (B)
- Ureteric Orifices (C)
- Trigone (D)
- Neck of Bladder (E)



●●●● Bladder Wall Layers

- Epithelial Layer
 - Mucosa
 - Basement membrane
 - Lamina propria
 - Submucosa
- Muscular Layer
 - Inner longitudinal
 - Middle circular
 - Outer longitudinal
- Serous Layer
 - Subserosa
 - Serosa



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

SEER Training Modules, *Bladder Cancer*. U. S. National Institutes of Health, National Cancer Institute. 25 July 2016 <<http://training.seer.cancer.gov/>>.

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Histology



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Field Effect

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.

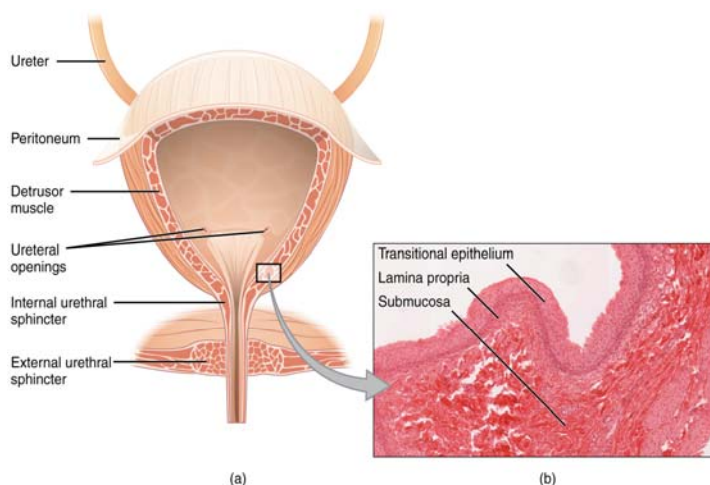


Illustration from Anatomy & Physiology, Connexions Web site. <http://cnx.org/content/col11496/1.6/>, Jun 19, 2013.

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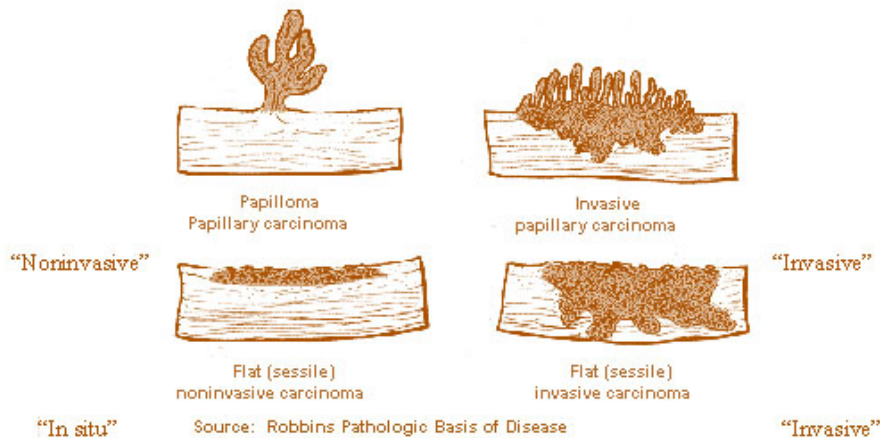
Histology

- Urothelial (transitional cell) Carcinoma
 - Papillary
 - Flat
 - With squamous metaplasia
 - With glandular metaplasia
 - With squamous and glandular metaplasia
- Squamous Cell Carcinoma
- Adenocarcinoma
- Undifferentiated carcinoma

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●●●● Papillary vs Flat

Types of Bladder Tumors



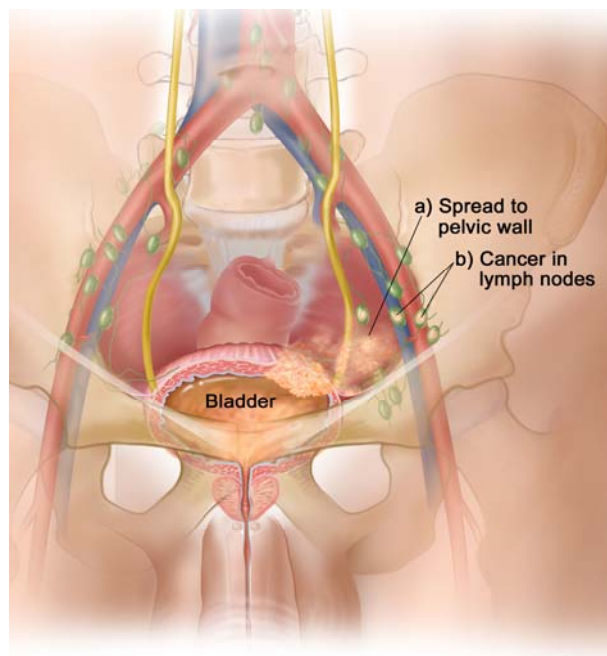
SEER Training Modules, Bladder Cancer. U. S. National Institutes of Health, National Cancer Institute. 21 June 2016
<http://training.seer.cancer.gov/bladder/abstract-code-stage/keys.html>

Regional and Distant Metastasis



Regional Lymph Nodes

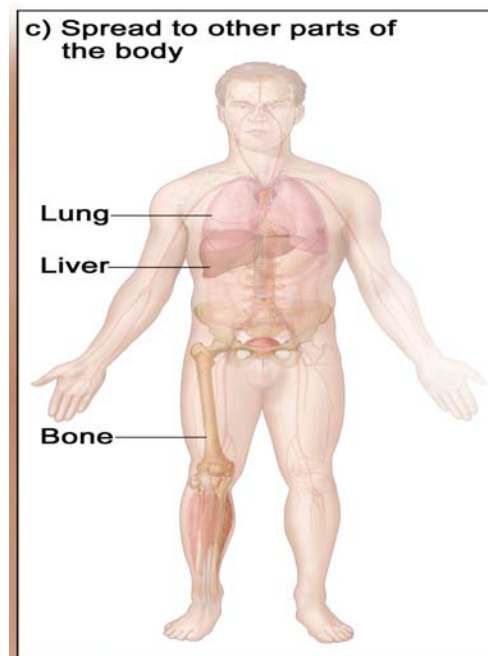
- Common Iliac*
- Internal Iliac (hypogastric)
- External Iliac
- Obturator
- Sacral
- Perivesical and Pelvic



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Distant Metastasis

- Bone
- Liver
- Lung
- Retroperitoneal lymph nodes



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Multiple Primary and Histology Rules



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Multiple Tumors Module

Rule M5

An invasive tumor following a non-invasive or in situ tumor more than 60 days after diagnosis is a multiple primary

Rule M6

Bladder tumors with any combination of the following histologies: papillary carcinoma (8050), transitional cell carcinoma (8120-8124) or papillary transitional cell carcinoma (8130-8131) are a single primary

Rule M7

Tumors diagnosed more than 3 years apart are multiple primaries

Rule M8

Urothelial tumors in two or more of the following sites are a single primary
Renal pelvis (C659), Ureter (C669), Bladder (C670-C679), Urethra/prostatic urethra (C680)

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●●●● Rule H3 & Rule H11

Code 8120 (transitional cell/urothelial carcinoma)

- Pure transitional cell carcinoma
- Flat (non-papillary) transitional cell carcinoma
- Transitional cell carcinoma with squamous differentiation
- Transitional cell carcinoma with glandular differentiation
- Transitional cell carcinoma with trophoblastic differentiation
- Nested transitional cell carcinoma
- Microcystic transitional cell carcinoma

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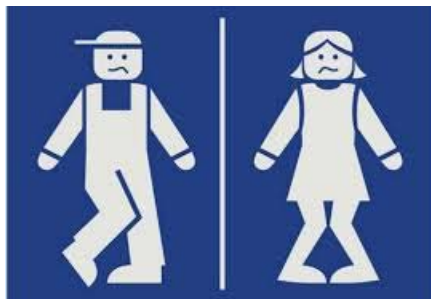


●●●● Rule H4 & Rule H12

Code 8130 (papillary transitional cell carcinoma)

- Papillary carcinoma
- Papillary transitional cell carcinoma
- Papillary carcinoma and transitional cell carcinoma

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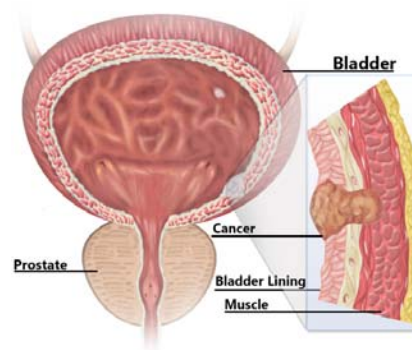


•••• And now a brief pause for...
An Epi Moment

(insert "Pride of Cucamonga" here)

•••• Epidemiology of Bladder Cancer

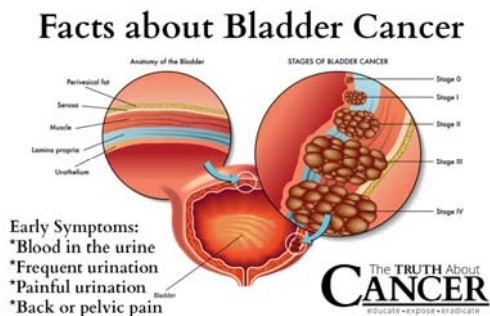
- Incidence 5%
 - 4th men; 12th women
 - 2013: 20.0 per 100,000
 - Higher among men (34.8) than women (8.6)
 - Higher among non-Hispanic whites (22.5)
 - Lower among API (8.3)
 - 9th worldwide
 - Developed countries
 - Specific areas of N Africa and W Asia
- Mortality
 - 7th men; 15th women
 - 2013: 4.4 per 100,000
 - Higher among men (7.7) than women (2.1)
 - Higher among whites (4.7)



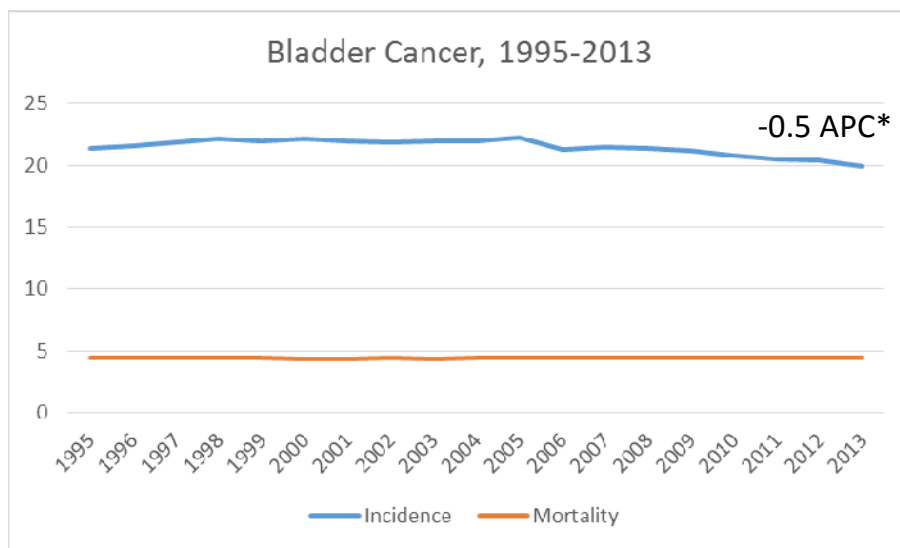
Epidemiology of Bladder Cancer



- Hollow organ in the pelvis
 - Flexible, muscular walls
 - Stores urine, muscles contract to void
- Predominately transitional cell carcinoma (TCC)
 - Generally urothelial carcinoma
 - Cells that line the inside of the bladder
 - Superficial or non-muscle invasive, Papillary or flat
- Less common:
 - squamous (1-2%), adenocarcinomas (1%),
 - small cell carcinomas (>1%)
- Average age at dx: 73
- No population based screening
 - Screening recommended for reoccurrence & high risk (birth defects & chemical exposures)
 - Urinalysis, Urine cytology, tumor marker



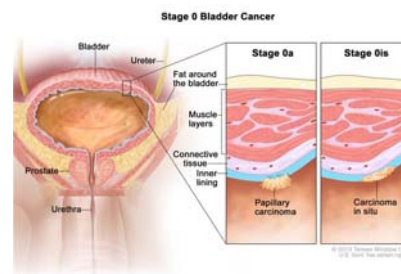
Bladder Cancer Trends, 1995-2013





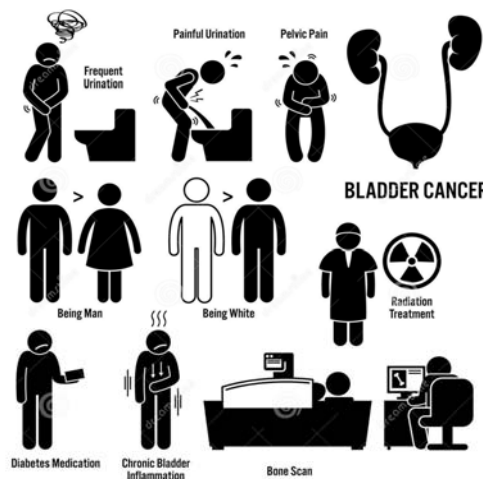
●●●● Invasive Bladder Cancer

- Age-adjusted cancer incidence rate
 - Invasive, excludes *in situ* EXCEPT for bladder
- 1985, SEER
- Difficulties and disagreement in distinguishing *in situ* from invasive
- Historical shift from invasive to *in situ*
 - Artificial decrease in invasive rates



●●●● Symptoms of Bladder Cancer

- Early stage is symptomatic
 - Hematuria
- Other symptoms
 - Urinating more often
 - Pain or burning during urination
 - Need to void when bladder is not full
 - Trouble urinating or weak urine stream
- Also signs of UTI
- Symptoms of advanced cancer
 - Unable to void, lower back pain on one side, loss of appetite and weight loss, feeling tired or weak, swelling in feet, bone pain



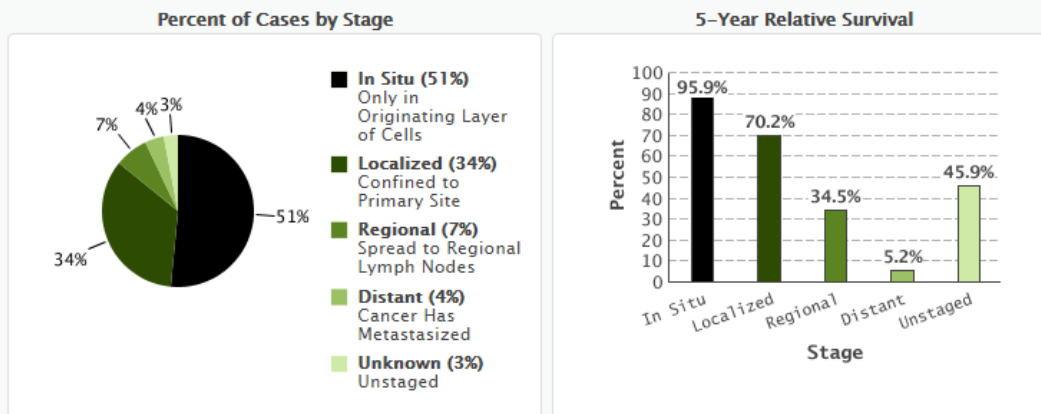
Risk Factors for Bladder Cancer

- Male, white, older
- Birth defects, genetics
 - Cowden disease, Lynch syndrome
- Smoking
 - Smokers 3x as likely than non-smokers
- Occupational exposures
 - Dye industry, Aromatic amines
 - Benzidine, beta-naphthylamine
 - Synergistic with smoking
- Arsenic
 - Drinking water, well water in US
- Dietary supplements
 - *Aristolochia* family
- *Schistosomiasis* (parasite)
- Cancer Tx
 - Cyclophosphamide (Cytosan)
 - Pelvic radiation
- Under investigation: Diabetes medicine
 - Pioglitazone (Actos)
- Protective: drinking a lot of fluids



Bladder Cancer Prognosis

Percent of Cases & 5-Year Relative Survival by Stage at Diagnosis: Bladder Cancer



SEER 18 2006-2012, All Races, Both Sexes by SEER Summary Stage 2000

●●●● Bladder Cancer Research

- CiNA
 - Standard publications
- Improved screening tests
 - Telomerase (enzyme)
- Reducing risk of reoccurrence
 - Vitamin E, minerals (selenium), dietary supplements, chemotherapy
- Improved treatment

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Questions?



Quiz 1

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Summary Stage

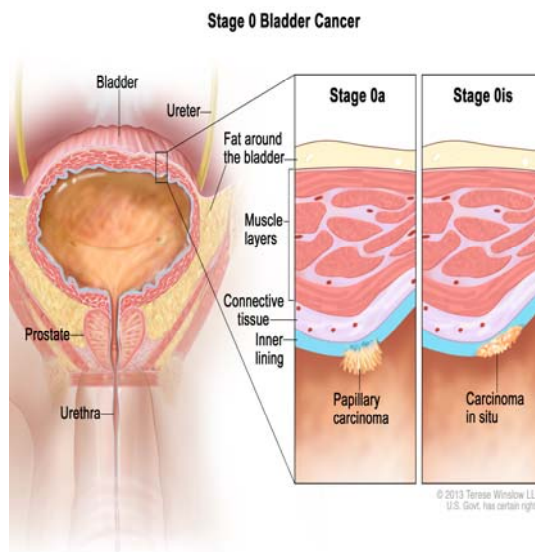


Bladder

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Bladder

- 0 In situ: Noninvasive; intraepithelial
 - Stage 0a or 0is
- 1 Localized
 - Stage 1 or 2
- 2 Regional by Direct Extension
 - Stage 3
- 3 Regional lymph nodes(s)
 - Stage 4
- 4 Regional by both Direct Extension and regional lymph nodes
 - Stage 4
- 7 Distant sties/lymph nodes
 - Stage 4





Urinary Bladder



TNM Chapter 45

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Coding Comment 1

- Labels vs Values
 - In previous webinars we had used the T, N, M values (c1, c2, p1, p2, etc)
 - What registrars will see on their pull down screens will be the labels (cT1, cT2, pT1, pT2).
 - From this point on we will use the labels in the webinars and in our case scenarios.

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	cT1	cN0	cM0	1
Path	pT1	pN1	cM0	4
Summary Stage	3-Regional to Lymph Nodes			

●●●● Take a few moments and read the rules for classification



- Is there anything in the Clinical Staging that differs from the general rules?
- Is there anything in the Pathologic Staging that differs from the general rules?

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●●●● Transurethral Resection of the Bladder (TURB)



- An endoscopic procedure used to remove bladder tumors.
 - Tumor can be resected down to bladder muscle, but not any further.
 - Biopsies of the entire bladder taken
 - May be followed by chemotherapy or BCG
 - Patient may return for re-excision TURB
 - Bimanual Examination



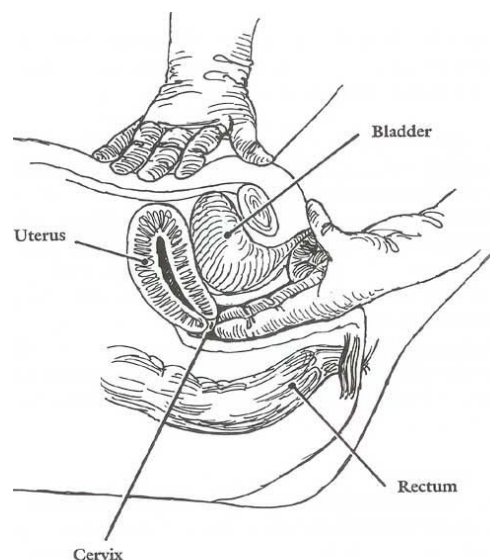
<https://www.youtube.com/watch?v=2UssZiQNxE>

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●●●● Bimanual Examination



- Examination Under Anesthesia (EUA) after a TURB
 - In men, one hand per rectum and the other on the lower abdominal wall.
 - In women one hand per anterior vaginal wall and the other on the lower abdomen.



BI-MANUAL PELVIC EXAMINATION

<http://www.redlightwarningsignals.com/dochollywoodproject/chapter11.html>

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●●●● Cystectomy



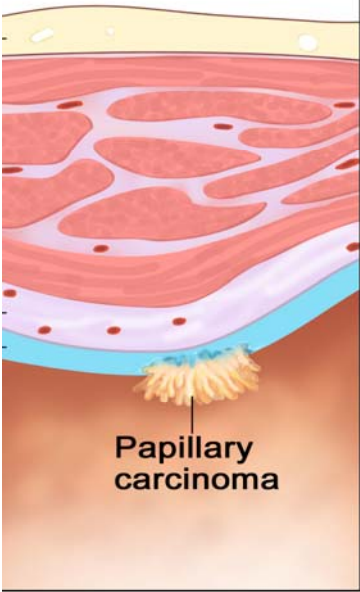
- Partial cystectomy is the removal of part of the bladder.
 - It is used to treat cancer that has invaded the bladder wall in just one area.
 - Partial cystectomy is only a good choice if the cancer is not near the openings where urine enters or leaves the bladder.
- Radical cystectomy is the removal of the entire bladder, nearby lymph nodes (lymphadenectomy), part of the urethra, and nearby organs that may contain cancer cells.
 - In men the prostate, the seminal vesicles, and part of the vas deferens are also removed.
 - In women the cervix, the uterus, the ovaries, the fallopian tubes, and part of the vagina are also removed.

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●●●● Non Invasive/ In Situ/T1

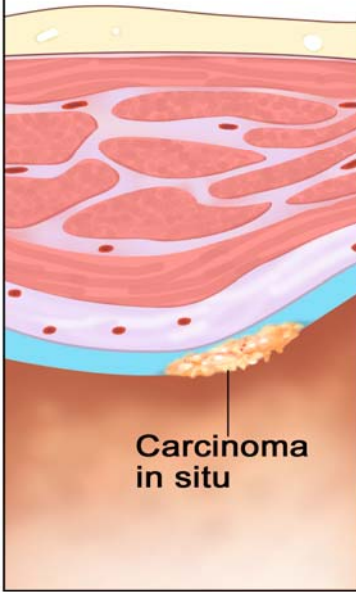
- pTa Non-invasive papillary carcinoma
 - Low Grade
 - High Grade
- pTis
 - High Grade
- T1
 - Tumor has invaded the subepithelial tissue (lamina propria)

Stage 0a



Papillary carcinoma

Stage 0is



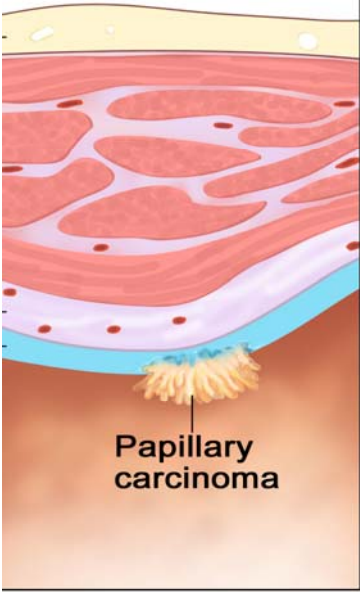
Carcinoma in situ

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●●●● Coding Comment 2

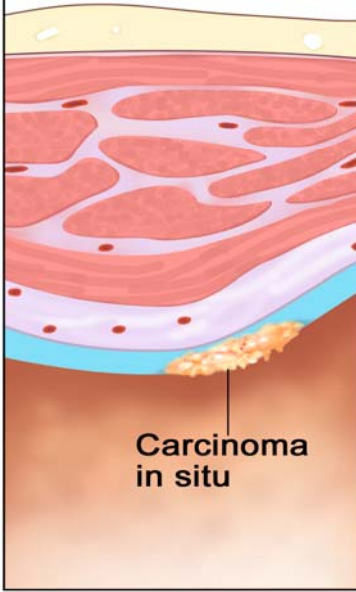
- pTa is the correct value for now (cTa will trigger and edit)
 - This may change with 8th edition
- In situ rules apply to both pTa and pTis
 - pTis and pTa may be used in the cT data item
 - cN0 may be used in the pN data item...if rules for classification have been met.

Stage 0a



Papillary carcinoma

Stage 0is



Carcinoma in situ

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●●●● Pop Quiz 1

- A patient presents for a TURB and is found to have a low grade non-invasive papillary carcinoma. All margins negative. No further treatment documented.

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	pTa	cN0	cN0	0a
Path				99
Summary Stage	0-In Situ			

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●●●● Pop Quiz 2

- A patient presents for a TURB and is found to have a low grade non-invasive papillary carcinoma. All margins negative.
- The patient went on to have a cystectomy. No lymph nodes removed. No residual tumor was identified.

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	pTa	cN0	cN0	0a
Path	pTa	cN0	cM0	0a
Summary Stage	0-In Situ			

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●●●● Pop Quiz 3

- A patient presents for a TURB and is found to have a high grade urothelial carcinoma in situ. Margins negative.
- The patient went on to have a cystectomy. Residual tumor was identified invading into the lamina propria. No muscle involvement. 12 lymph nodes were removed. All were negative.

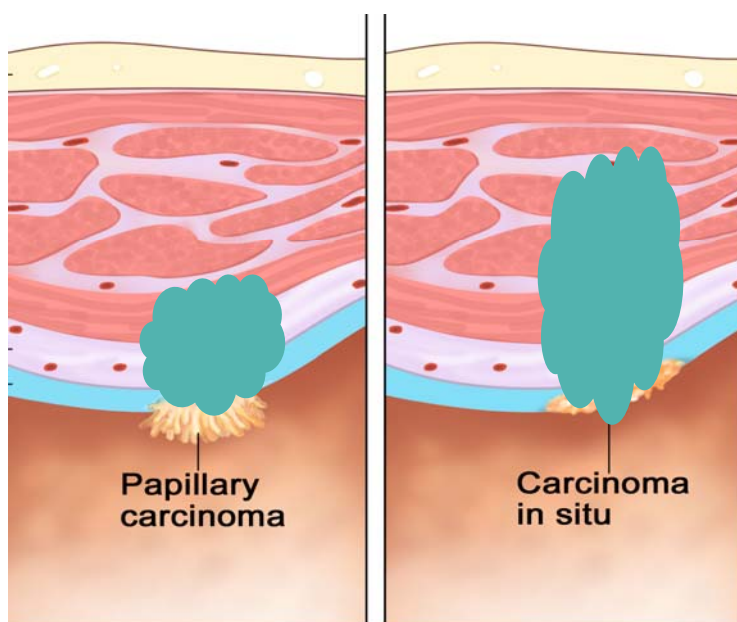
	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	pTis	cN0	cN0	0a
Path	pT1	pN0	cM0	I
Summary Stage	1-Localized			

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●●●● Muscle Invasion-T2

- Tumor invades the muscularis
 - Inner half (pT only)
 - Outer half (pT only)
- Must meet the pathologic rules for classification to use T2a or T2b
 - Cannot use T2a or T2b in the cT data item
- Stage group can be calculated with T2



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●●●● Pop Quiz 4

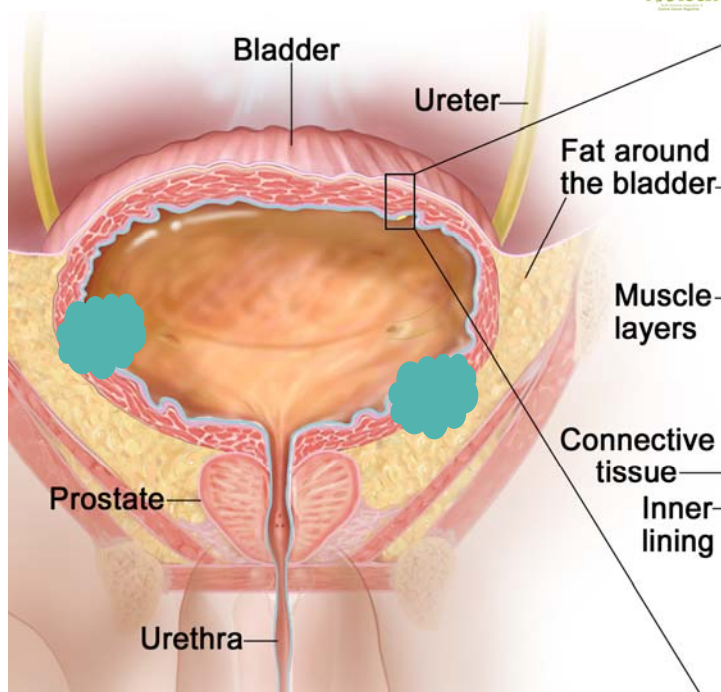
- A patient presented for a TURB and was found to have invasive urothelial carcinoma invading the superficial muscularis propria. Imaging was negative.
- The patient went on to have a cystectomy and was found to have residual non invasive transitional cell carcinoma with no evidence of invasion. 00/12 positive lymph nodes.

	Data Items as Coded in Current NAACCR Layout			
	T	N	M	Stage Group
Clin	cT2	cN0	cM0	II
Path	pT2a	pN0	cM0	II
Summary Stage	Localized			

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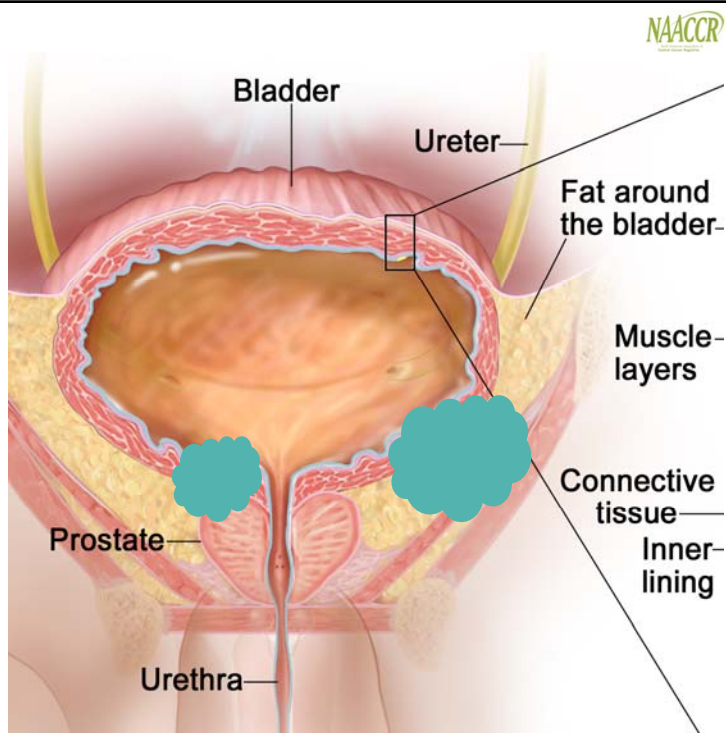
●●●● Perivesical Tissue

- Invasion into the serosa or perivesical fat T3
 - pT3a microscopic invasion
 - pT3b macroscopic



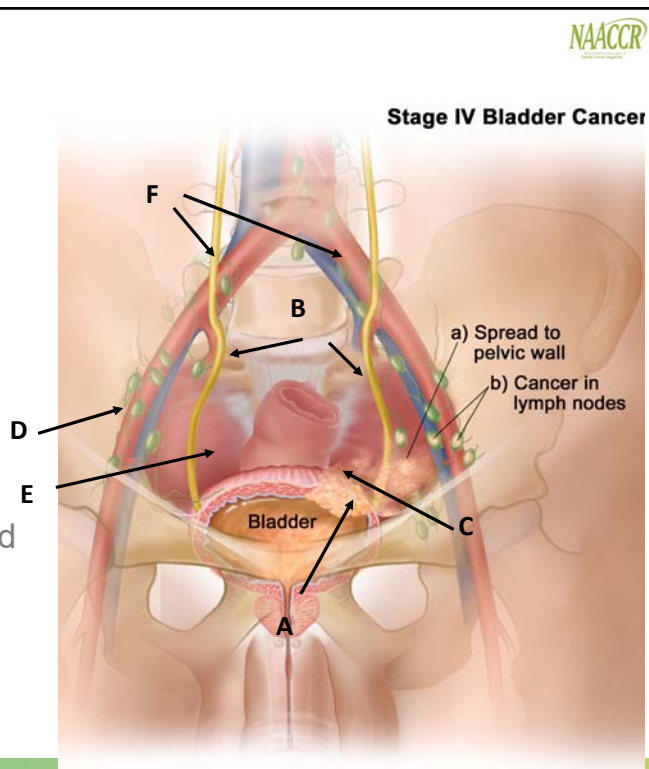
Further Extension

- Invasion beyond the perivesical fat is T4
 - T4a
 - Prostatic stroma
 - Seminal vesicles
 - Uterus
 - Vagina
 - T4b
 - Abdominal wall
 - Pelvic wall



Regional Lymph Nodes

- Single Lymph Node or multiple lymph nodes N1 or N2?
 - Perivesical (A)
 - Iliac, internal (hypogastric) (B)
 - Obturator (C)
 - Iliac, external (D)
 - Sacral (E), presacral
 - Pelvic, NOS (all nodes within shadowed area)
- Iliac, common (F)
 - N3-Secondary regional lymph nodes





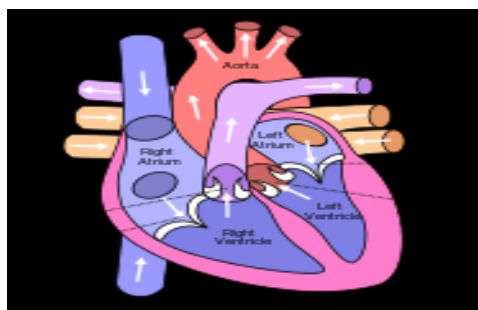
●●●● Inaccessible Site Rule (cN0)

- The data item cN may be assigned a cN0 if...
 - There is no mention of regional lymph node involvement in the physical examination, pre-treatment diagnostic testing or surgical exploration.
 - The patient has clinically low stage (T1, T2, or localized) disease.
 - The patient receives what would be usual treatment to the primary site (treatment appropriate to the stage of disease as determined by the physician) (or patient is offered usual treatment but refuses it).

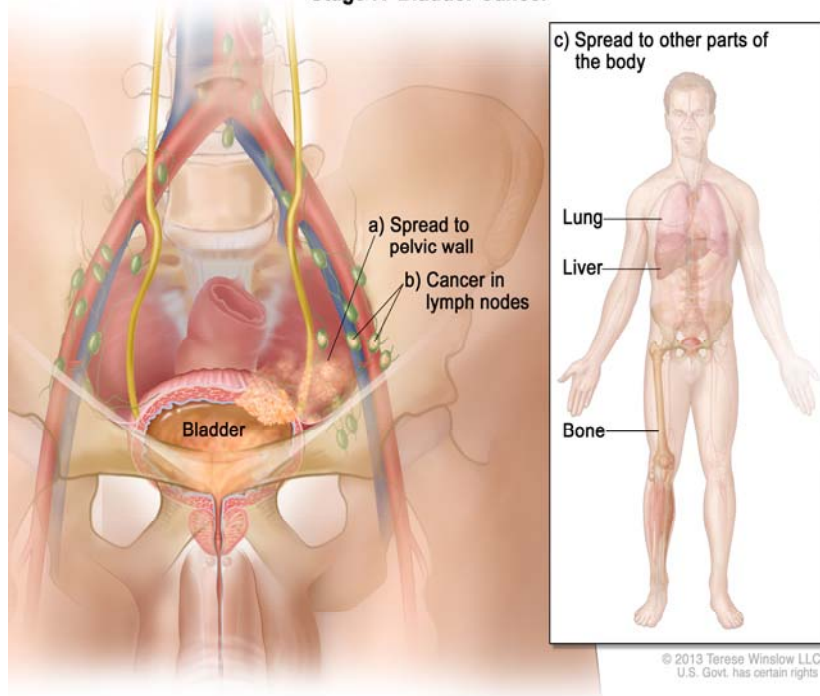
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●●●● Distant Metastasis

- Retroperitoneal lymph nodes
- Lung
- Bone
- Liver



Stage IV Bladder Cancer



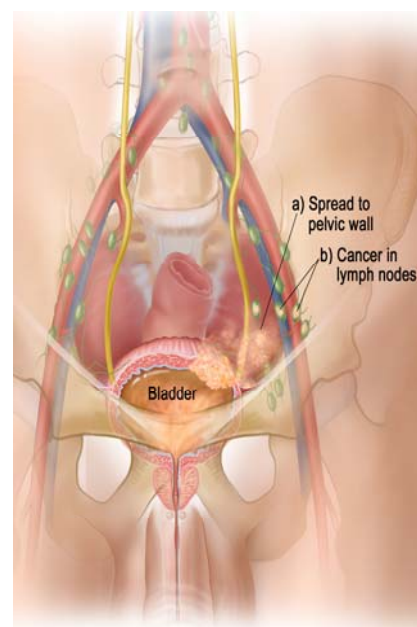


●●●● Pop Quiz 5

- A patient presented for a TURB and was found to have a bladder tumor with invasion into the muscle. Following the procedure a bimanual was performed and the physician felt thickening of the bladder wall where the tumor was excised. Imaging did not show any enlarged lymph nodes or further metastasis.
- The patient returned for a radical cystectomy. Pathology showed the tumor extended extensively into the perivesical fat. 2 of 26 pelvic lymph nodes were positive for metastasis.



●●●● What is the Stage?



Data Items as Coded in Current NAACCR Layout				
	T	N	M	Stage Group
Clin	cT3	cN0	cN0	III
Path	pT3B	pN2	cM0	IV
Summary Stage	4 Regional by both Direct Extension and regional lymph nodes			

Stage Grouping

- Stage 0a
 - Papillary non-invasive tumor
- Stage 0is
 - Non-papillary or flat in situ tumor
- Stage I
 - Confined to lamina propria
- Stage II
 - Muscle invasion
- Stage III
 - Invasion through the bladder into surrounding tissue (excluding pelvic or abdominal wall)
- Stage IV
 - Invasion into pelvic or abdominal wall
 - Regional lymph node involvement
 - Distant metastasis

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CS Site Specific Factors



SSF's 1, 2, and 3

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●●●● SSF1: WHO/ISUP Grade

- Code 010: Low grade urothelial carcinoma
- Code 020: High grade urothelial carcinoma
- Code 987: Not applicable – not a urothelial morphology
- Code 998: No pathologic exam of primary site
- Code 999: Unknown WHO/ISUP grade; Not documented in



●●●● Histologic Grade

- In transitional cell carcinoma for bladder, the terminology high grade TCC and low grade TCC are coded in the two-grade system.

Term	Description	Grade Code
1 / 2, I/II	Low Grade	2
2/2, II/II	High Grade	4



●●●● Pop Quiz

- Path report for bladder primary: High grade urothelial carcinoma
- What is the code for SSF1?
 - 020: High grade urothelial carcinoma
 - 987: Not applicable: Not a urothelial morphology
 - 998: No pathologic examination of primary site
 - 999: Unknown WHO/ISUP grade; Not documented in patient record
- What is the histologic grade?
 - 1
 - 2
 - 3
 - 4
 - 9



●●●● SSF2: Size of Metastasis in Lymph Nodes

- Code exact size of largest metastasis in a regional node to the nearest mm
 - 001-979
- Code size of involved regional node if size of metastasis is not documented
- Use code 999 when regional nodes are involved but size is not stated; unknown if regional nodes involved; no information on size of lymph node metastasis or size of node





SSF3: Extranodal Extension (ENE) of Regional Lymph Nodes

- Code 010
 - No ENE documented in reports
 - Documented on reports that nodes are involved but no mention of ENE
 - Involved nodes are clinically mobile
- Code 020
 - ENE is present per path report or clinical statement
 - Involved nodes are clinically fixed or matted
- Code 030
 - Documentation of involved nodes but no mention of ENE and no reports to review



Treatment



●●●● Intravesical Treatment

- Chemotherapy (15)
 - Immediate: Within 24 hours after TURB
 - Lowers recurrence rate in Ta low-grade tumors
 - Induction: Initiated 3-4 weeks after resection
 - Typically 2 inductions without complete response
- Immunotherapy (16)
 - 3-4 weeks after resection
 - Typically 2 inductions without complete response

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●●●● Transurethral Resection (27)

- Papillary appearing Tumor (non-muscle invasive)
 - Resection with muscle in specimen
 - Mitomycin within 24 hours
 - Repeat TURBT (within 6 weeks)
- Carcinoma In Situ
 - Biopsy adjacent to papillary tumor
 - Consider prostate urethral biopsy
- Sessile or Invasive Appearing Tumor (muscle invasive)
 - Perform Examination Under Anesthesia (EUA)
 - Repeat TURBT

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●●●● Transurethral Resection surgical margins

- Surgical Margins of The Primary Site
 - Margin Status based on pathology report
 - Code 7 – margins could not be determined
 - Code 9 – no mention of margins/no tissue sent to pathology

<http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/56992-surgical-margins-on-turb>

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●●●● Surgical Margins of the Primary Site

Code	Label	Definition
0	No residual tumor	All margins are grossly and microscopically negative
1	Residual tumor, NOS	Involvement is indicated, but not specified
2	Microscopic residual tumor	Cannot be seen by the naked eye
3	Macroscopic residual tumor	Gross tumor of the primary site which is visible to the naked eye
7	Margins not evaluable	Cannot be assessed (indeterminate)
8	No primary site surgery	NO surgical procedure of the primary site, Diagnosed at autopsy
9	Unknown or not applicable	It is unknown whether a surgical procedure to the primary site was performed; death certificate only; for lymphomas with a lymph node primary site; an unknown or ill defined primary ; or for hematopoietic, reticuloendothelial, immunoproliferative, or myeloproliferative disease.

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 Pop Quiz

- Patient has TURBT. Final Diagnosis: Papillary transitional cell carcinoma, tumor infiltrates bladder wall deep muscle tissue. Margins: indeterminate
- What is the Surgical Margins of Primary Site?

<http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/56992-surgical-margins-on-turb>

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 Which Code Do We Use?

- 20 Local tumor excision, NOS
- 26 Polypectomy
- 27 Excisional biopsy
- Combination of 20 or 26-27 WITH
 - 21 Photodynamic therapy (PDT)
 - 22 Electrocautery
 - 23 Cryosurgery
 - 24 Laser ablation
 - 25 Laser excision

<http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/1271-bladder-turbt>

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Pop Quiz

- TURBT done with fulguration for margins only for bladder cancer.
- What is the correct code for Surgical Procedure of Primary Site?
 - 20 – Local Tumor Excision, NOS
 - 27 – Excisional Biopsy
 - 22 - Electrocautery
 - 23 - Cryosurgery

<http://cancerbulletin.facs.org/forums/forum/fords-national-cancer-data-base/fords/first-course-of-treatment/surgery/55649-turbt-fulgeration-of-margins>

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Cystectomy

- Segmental (Partial) Cystectomy (30)
 - Solitary lesion
 - No carcinoma in situ
 - Bilateral pelvic lymphadenectomy (common, internal and external iliac and obturator nodes)
- Radical Cystectomy (60-64)
 - Bilateral pelvic lymphadenectomy (common, internal and external iliac and obturator nodes)

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Chemotherapy



- Muscle invasive bladder cancer
 - Cisplatin based neoadjuvant chemo
 - Shows a survival benefit
- T3, T4 or N+ disease at cystectomy
 - Adjuvant chemo
 - Suggests a survival benefit

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Radiation



- Invasive tumors
 - Low dose preoperative radiation prior to segmental cystectomy
- Concurrent chemoradiotherapy or radiation therapy alone
 - Without hydronephrosis, extensive carcinoma in situ association with their muscle invading tumor
- Ta, T1 or Tis external beam alone rarely appropriate

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Questions?



Quiz 2

Case Scenarios

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Coming Up...

- Coding Pitfalls
 - 9/1/2016
- Collecting Cancer Data: Melanoma
 - 10/6/2016

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●●●● And The Winners Are...



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●●●● CE Certificate Quiz/Survey



- Phrase
- Link

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Thank You!!!!



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