



Bladder, Kidney Parenchyma and Testis

Education and Training Team
Collaborative Stage Data Collection System
Version 0203

Learning Objectives

- Understand rationale behind changes and updates
- Understand use of codes and reporting
- Determine proper code use for accurate reporting
- Understand finding specific documentation
 - SSFs
 - Coding rules

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Outline

- Overview of the following schemas:
 - Bladder
 - Kidney Parenchyma
 - Testis
- Review Collaborative Stage data items for schemas
- Describe changes to schemas in CSv2

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Bladder Histologies

- Papillary Transitional Cell Carcinomas (67.9%)
- Transitional Cell Carcinomas, NOS (25.0%)
- Carcinoma, NOS (1.5%)
- Squamous Cell Carcinoma, NOS (1%)

- Note: Many Bladder tumors have multiple histologies

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Bladder

- AJCC 7th edition stage derived from:
 - T (CS Extension)
 - N (CS Lymph Nodes)
 - M (CS Mets at Dx)
 - Eval codes (for clinical/pathologic staging)
- No site specific factors or extra tables used for AJCC 7th edition staging
 - AJCC 6th edition uses SSF 2 and extra tables due to changes in staging for lymph nodes

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Bladder CS Extension-Notes

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

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Bladder CS Extension

- **OBSOLETE Codes (Automatically converted)**
 - 200 (v0200): See code 240
 - 400 (v0203): See code 430
 - 410 (v0203): See code 411
 - 415 (v0203): See code 411
 - 420 (v0203): See code 421
 - 450 (v0200): See code 810

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Bladder CS Extension OBSOLETE Code 600

- **Extension to distal ureter divided into:**
 - Code 165: Subepithelial connective tissue of bladder and/or distal ureter
 - Code 215: Superficial muscle of bladder and/or distal ureter
 - Code 235: Deep muscle or extension through wall of bladder and/or distal ureter
 - Code 245: Muscle (muscularis propria) invaded, NOS of bladder and/or distal ureter
- **Code 630**
 - Prostatic stroma; Prostate, Ureter (excluding distant ureter), NOS; Urethra

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Bladder CS Extension OBSOLETE Codes 730/801


- **Code 730 divided into:**
 - Code 673: Rectum, male
 - Code 710: Pubic bone
 - Code 715: 700 (bladder is fixed) + 673
 - Code 720: (710 or 700) + 677
- **Code 801 divided into:**
 - Code 677: large intestine (includes rectum, female)
 - Code 720: (710 or 700) + 677
 - Code 802: Further contiguous extension

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Bladder CS Lymph Nodes

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

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Bladder CS Lymph Nodes

- Code 150: SINGLE named regional nodes (N1)
- Code 250: MULTIPLE named regional nodes (N2)
- Code 350: Common iliac nodes/Stated as N3
 - Previously collected in CS Mets at Dx (code 10)
- Code 400: Code 350 + 150 (N3)
- Code 450: Code 350 + 250 (N3)
- Code 505: Regional Lymph Nodes NOS (N1)
- Code 800: Lymph Nodes, NOS (N1)

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Bladder CS Mets at Dx

- Code 10 OBSOLETE: Common Iliac nodes moved to lymph nodes (codes 350, 400, 450)
- Code 50 OBSOLETE: Combination code with code 10
- Code 55: New combination code for distant lymph nodes (code 11) and distant mets (code 40)
- Code 60: New code
 - Distant metastasis, NOS
 - Stated as M1 with no other information on metastases

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Bladder Site-Specific Factors

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

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Bladder Site-Specific Factor 1: WHO/ISUP Grade

- Histologic grade is prognostic factor for cancers of lower urinary tract
- Higher grade means poorer outcome
- Source of information: pathology report
- Collected also for Kidney Renal Pelvis

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Bladder Site-Specific Factor 1: WHO/ISUP Grade

- 010 Low grade urothelial carcinoma
- 020 High grade urothelial carcinoma
- 987 Not applicable; morphology is NOT urothelial
 - Histology is NOT 8120-8131
- 998 No histologic examination of primary site
- 999 Unknown, not documented in record
 - Grade described as grade ii, grade III
 - Grade described as well, mod or poor diff

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Bladder 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, Testis

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Bladder Site-Specific Factor 2: Size of Metastasis in Lymph Nodes

- 000 No regional lymph nodes involved
- 001-979 Code actual size in millimeter's
- 980 Size of lymph node greater than 980 mm
- 990 Microscopic focus or foci, no size focus given
- 991-997 Range/size codes
- 999 Unknown

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Bladder Site-Specific Factor 3: Extranodal Extension of Regional Lymph Nodes

- Survival impacted by extranodal extension
- Applicable for clinical or pathologic
 - Pathologic takes priority
- Source documents:
 - Clinical (imaging, physical exam)
 - Pathologic (pathology report)
- Also collected for Kidney Parenchyma

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**Bladder Site-Specific Factor 3:
Extranodal Extension of Regional Lymph Nodes**

- 000 No regional lymph nodes involved
- 010 Extranodal extension not present
- 020 Extranodal extension present
- 030 Regional nodes involved, unknown if extranodal extension
- 999 Unknown

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Kidney Parenchyma Histologies

- Clear cell adenocarcinoma – 40.6%
- Renal cell carcinoma-34.0%
- Papillary adenocarcinoma-7.8%
- Renal cell carcinoma, chromophobe type-3.5%
- Other histologies-14.1%

- Note: Many Kidney Parenchyma tumors have multiple histologies

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Kidney Parenchyma

- AJCC 7th edition stage derived from:
 - T (CS Tumor Size and CS Extension)
 - Extension Size Table used to determine T
 - N (CS Lymph Nodes)
 - M (CS Mets at Dx)
 - Eval codes (for clinical/pathologic staging)
- No site specific factors used for AJCC 7th edition staging

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Kidney Parenchyma CS Tumor Size

- T2 divided into T2a and T2b
- “Stated as” codes for Tumor Size
 - Code 994: Stated as T1a
 - Code 995: Stated as T1b
 - Code 996: Stated as T1 [NOS]
 - Code 997: Stated as T2 [NOS] or T2a
 - Code 998: Stated as T2b

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Kidney Parenchyma CS Extension Notes

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

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Kidney Parenchyma CS Extension

- Ipsilateral adrenal involvement upstaged
 - Reclassified as T4 for contiguous invasion
 - Reclassified as M1 for non-contiguous invasion
- Renal vein involvement downstaged
 - Reclassified as T3a
- “Stated as” Extension codes
 - 310 (T1a), 320 (T1b), 330 (T1 [NOS])
 - 340 (T2a), 350 (T2b), 360 (T2 [NOS])
 - 605 (T3a), 610 (T3b), 620 (T3c), 625 (T3 [NOS])
 - 810 (T4)

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Kidney Parenchyma CS Extension

- **OBSOLETE Codes**
 - 390 (v0200): See code 625
 - 400 (v0200): See codes 450 and 630
 - 450 (v0203): See codes 460 and 660
 - 600 (v0200): See codes 601 and 610
 - 800 (v0203): See CS Extension codes 460, 601, 610-750, 801; CS Mets at Dx codes 20, 55

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Kidney Parenchyma CS Extension Code 450

- **Obsolete Data Reviewed in v0203**
 - Cases reassigned to code 460 or 660
- **Code 460**
 - Perirenal (perinephric) tissue fat; renal (Gerota's) fascia, Renal sinus fat
- **Code 660**
 - Retroperitoneal soft tissue

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Kidney Parenchyma CS Extension Code 800

- **Obsolete Data Reviewed in v0203**
 - Cases reassigned to extension codes 460, 601, 610-750, 801
 - CS Mets at Dx 20, 55
- **Code 800**
 - Further contiguous extension:
 - Aorta
 - Other direct extension

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Kidney Parenchyma CS Lymph Nodes

- **OBSOLETE codes**
 - Code 150 (v0203) See code 210
 - Code 400 (v0203) See codes 200 and 210
- **Code 200**
 - MULTIPLE regional lymph nodes from code 100
- **Code 210**
 - MULTIPLE regional lymph nodes from code 110, with or without nodes from code 100
- **Code 700: Regional lymph nodes, NOS**
- **Code 800: Lymph nodes, NOS**

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Kidney Parenchyma CS Mets at Dx-NEW

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

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Kidney Parenchyma Site Specific Factors

- **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**

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Kidney Parenchyma Site-Specific Factor 1: Invasion beyond capsule

- Survival outcomes differ by location of involved extracapsular structures
- Information also collected in extension (T3)
- SSF provides more specificity on direction of invasion
- Source document: Pathology report

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Kidney Parenchyma Site-Specific Factor 1: Invasion beyond capsule

- Code 000: Not present/not identified
- Code 010: Lateral invasion
- Code 020: Medial invasion
- Code 030: 020 + 010
- Code 991: Invasion beyond capsule, NOS
- Code 998: No surgical resection of primary site
- Code 999: Unknown

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Kidney Parenchyma Site-Specific Factor 2: Vein Involvement

- Survival outcome impacted by vein involvement
- Tumor cells disseminate easily in the bloodstream
- Information also collected in extension (T3)
- SSF provides more specificity on vein involvement
- Source document: Pathology report

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Kidney Parenchyma Site-Specific Factor 2: Vein Involvement

- Code 000: Not present/not identified
- Code 010: Involvement of renal vein only
- Code 020: Involvement of IVC below diaphragm
- Code 030: Involvement of IVC above diaphragm
- Code 040: Involvement of IVC, NOS only
- Code 050-090: Combination codes of 010-040
- Code 998: No surgical resection of primary site
- Code 999: Unknown

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Kidney Parenchyma Site-Specific Factor 3: Ipsilateral Adrenal Gland Involvement

- Involvement of ipsilateral adrenal gland (same side) is an adverse prognostic factor
 - Contiguous involvement also coded in extension (Codes 630-645, map to T4)
 - Noncontiguous involvement also coded in Mets at Dx (Code 40)
- Source document: Pathology report

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Kidney Parenchyma Site-Specific Factor 3: Ipsilateral Adrenal Gland Involvement

- Code 000: Not present/not identified
- Code 010: Contiguous involvement
- Code 020: Non contiguous involvement
- Code 030: 020 + 010
- Code 040: Involvement of ipsilateral adrenal gland, not stated whether contiguous or noncontiguous
- Code 999: Unknown

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Kidney Parenchyma: Site-Specific Factor 4: Sarcomatoid Features

- Sarcomatoid or spindle cell features are strong adverse prognostic factors
- Source documents: Pathology report

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Kidney Parenchyma: Site-Specific Factor 4: Sarcomatoid Features

- Code 000: Not present/not identified
- Code 010: Present/identified
- Code 987: Not a renal cell carcinoma morphology
- Code 998: No pathologic exam of primary site
- Code 999: Unknown

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Kidney Parenchyma Site-Specific Factor 5: Histologic Tumor Necrosis

- Necrosis indicates an aggressive tumor
 - Outgrown blood supply
- An adverse prognostic factor for renal cell carcinoma
- Source document: Pathology report

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**Kidney Parenchyma Site-Specific
Factor 5: Histologic Tumor Necrosis**

- Code 000: Not present/not identified
- Code 010: Present/identified
- Code 998: No pathologic exam of primary site
- Code 999: Unknown

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**Kidney Parenchyma Site-Specific
Factor 6: Fuhrman Nuclear Grade**

- Nuclear grade of a kidney tumor, most important prognostic factor after tumor size
- Grade based on nuclear size and shape and prominence of nucleoli in the tumor cells
- Applies to renal cell carcinoma only
- Source document: Pathology Report

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**Kidney Parenchyma Site-Specific
Factor 6: Fuhrman Nuclear Grade**

- Code 010: Grade 1
- Code 020: Grade 2
- Code 030: Grade 3
- Code 040: Grade 4
- Code 987: Not a renal cell carcinoma morphology
- Code 998: No histologic exam of primary site
- Code 999: Unknown

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Testis Histologies

- Germ cell tumors – 95%
 - Seminoma
 - Mixed germ cell tumors
 - Embryonal carcinoma
 - Choriocarcinoma and other germ cells
 - Germ cell tumors, non seminomatous
 - Teratomas
 - Yolk sac tumors
- Sex cord/gonadal stromal tumors
- Note: Many Testis tumors have multiple histologies

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Testis

- AJCC 7th edition stage derived from:
 - T (CS Extension, SSF 4: Radical Orchiectomy, Lymph vascular invasion)
 - N (CS Lymph Nodes, Regional nodes positive, SSF 5: Size of mets in lymph nodes)
 - M (CS Mets at Dx)
 - S (SSF's 13, 15, 16: Post orchiectomy Serum Tumor Markers ranges)
 - Eval codes (for clinical/pathologic staging)

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Testis CS Extension

- Codes 100 and 150 OBSOLETE
 - Invasive tumor with/without vascular lymphatic invasion
 - See code 160
 - Lymph vascular invasion collected in new data item
- Codes 400 and 450 OBSOLETE
 - Epididymis involved with/without vascular lymphatic invasion
 - See code 460
 - Lymph vascular invasion collected in new data item

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Testis and LVI

- Presence of LVI will increase the stage for T1 tumors
- Example:
 - Tumor limited to testis and epididymis with no LVI would be a T1.
 - Tumor limited to testis and epididymis with LVI would be a T2.

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Testis CS Extension

- “Stated as” codes added
 - Code 320: Stated as T1
 - Code 330: Stated as T2
 - Code 550: Stated as T3
 - Code 810: Stated as T4

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Testis CS Lymph Nodes

- Regional Lymph nodes
 - Codes: 100, 200
 - Codes 300, 350 and 400
 - Use only with previous scrotal or inguinal surgery
 - Codes 500, 800
- “Stated as” codes added
 - Code 510: Stated as N1
 - Code 520: Stated as N2
 - Code 530: Stated as N3

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Testis: Deriving N

- CS Lymph Nodes
- Regional nodes positive
- SSF 5: Size of Metastasis in Lymph nodes
 - Codes 010-030: Size of lymph nodes in three groups (less than 2 cm, 2-5 cm, greater than 5 cm)
 - Code 999: Size of lymph not known, or unknown if regional nodes involved
- Lymph Node Eval Code
 - Clinical eval: 0, 1, 5, 9
 - Pathologic eval: 2, 3, 6, 8

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Testis CS Mets at Dx

- Stated as codes
 - Code 30: New code, Stated as M1a
 - Code 40: Stated as M1b added to definition
 - Code 60: New code, Stated as M1 [NOS]
- Distant lymph nodes
 - Collected in codes 11 and 12
 - If previous scrotal or inguinal surgery, use CS Lymph nodes to code lymph node involvement
 - If unknown if previous scrotal or inguinal surgery, use CS Mets at Dx for distant lymph nodes

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Testis Site Specific Factors

- SSF1-SSF 3: OBSOLETE for CSv2
- SSF4: Radical Orchiectomy Performed
- SSF5: Size of Metastasis in Lymph Nodes
- SSF 11: OBSOLETE for CSv0203
- SSF's 6, 7, 12, 13: AFP lab values/ranges
- SSF's 8, 9, 14, 15: hCG lab values/ranges
- SSF's 10, 16: LDH ranges

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Testis Site-Specific Factor's: The Serum Tumor Markers

Serum Tumor Marker	Pre-orchieotomy		Post-orchieotomy	
	Value	Range	Value	Range
AFP	6	7	12	13
hCG	8	9	14	15
LDH	n/a	10	n/a	16

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Testis: SSF's 6, 7, 12 & 13

- Alpha fetoprotein (AFP)
 - Assess the patient's metastatic tumor burden
 - Useful in monitoring response to therapy
 - A persistent elevated AFP indicates residual tumor
 - Post-orchieotomy AFP used in the derivation of S
 - Source documents:
 - Clinical lab reports (blood or serum test), H&P, clinical statement in path report

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Testis: SSF's 8, 9, 14, 15

- Human chorionic gonadotropin (hCG)
 - Hormone produced by some germ cell tumors
 - Presence of beta-hCG indicates malignancy
 - Useful in monitoring response to therapy
 - 5-8 days after orchieotomy, hCG should not be detectable
 - Post-orchieotomy hCG used in the derivation of S
 - Source documents:
 - Clinical lab reports (blood or serum test), H&P, clinical statement in path report

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Testis Site-Specific Factor's 10 & 16: Pre and Post Orchiectomy LDH Range

- Lactate dehydrogenase (LDH)
 - This value is non-specific for testicular cancer
 - Not routinely performed unless bulky disease evident
 - Post-orchiectomy LDH used in the derivation of S
 - Source documents:
 - Clinical lab reports (blood or serum test), H&P, clinical statement in path report

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Testis SSF's 6 (AFP), 8 (hCG): Coding Structure (Pre-Orch Lab Value)

Code	Definition	Use when:
000	0 nano/ milliliter	Lab value is 0
001-200/250	Lab Values	Lab value given
995	Pre-treated case (neoadjuvant therapy)	Neoadjuvant therapy given before Rad Orch (pre-orch lab values coded in SSF's 12, 14) Code TS Ext/Eval code as 5 or 6
996	No orchiectomy performed	No orchiectomy performed (pre-orch lab values coded in SSF's 12, 14) Code SSF 4 as 000 (No Rad Orch)
997	Test ordered, results not in chart	Example: Lab value noted to be "wnl" or "elevated" but value not given
998	Test not done	Facility/doctor's office did not perform test
999	Unknown, not documented	No documentation in record

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Testis SSF's 7 (AFP), 9 (hCG), 10 (LDH): Coding Structure (Pre-Orch Range)

Code	Definition	Use when:
000	Within normal limits	Lab value available and is "WNL"
010-030	Ranges	Code the appropriate range
991	Pre-orchiectomy stated as elevated	Lab value not available, but stated to be "WNL"
992	Pre-orchiectomy unknown, Serum Tumor Markers "WNL"	Lab values not available for ALL Serum Tumor Markers, but stated to be "WNL" (code 7, 9 and 10 as 992)
993	Pre-orchiectomy unknown, Serum Tumor Markers "elevated"	Lab values not available for ALL Serum Tumor Markers, but stated to be elevated (code 7, 9 and 10 as 993)

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Testis SSF's 7 (AFP), 9 (hCG), 10 (LDH):
Coding Structure (Pre-Orch Range, cont.)

Code	Definition	Use when:
995	Pre-treated case (neoadjuvant therapy)	Neoadjuvant therapy given before surgery (code pre-orch range in SSF's 13, 15, 16)
996	No orchiectomy performed	No orchiectomy done (code pre-orch range in SSF's 13, 15, 16)
997	Test ordered, results not in chart	Test done, results not available, or lab value provided, but interpretation not available
998	Test not done	Facility or doctor's office did not perform test
999	Unknown, not documented	No documentation in record

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Testis SSF's 12 (AFP), 14 (hCG):
Coding Structure (Post-Orch Lab Value)

Code	Definition	Use when:
000	0 nanograms/milliliter	Lab value is 0
001-250	Lab Values	Lab value given
997	Test ordered, results not in chart	Example: Lab value noted to be "wnl" or "elevated" value not given
998	Test not done	Facility/doctor's office did not perform test
999	Unknown, not documented	No documentation in record

Remember: For cases with no Radical Orchiectomy or neoadjuvant therapy, code the pre-orchiectomy lab values in SSF's 12 and 14

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Testis SSF's 13 (AFP), 15 (hCG), 16 (LDH):
Coding Structure (Post-Orch Range)

Code	Definition	Use when:
000	Within normal limits	Lab value available and is WNL
010-030	Ranges	Code the appropriate range
990	Post-orch unk, but pre-orch value "WNL"	Code when post-orch value unk, pre-orch WNL (Code 000)
991	Post-orch stated as still elevated	Code when pre-orch value elevated, post-orch value is still elevated
992	Post-orch unknown, Serum Tumor Markers "WNL"	Lab values not available for ALL Serum Tumor Markers, but stated to be WNL (code 13, 15, 16 as 992)
993	Post-orch unknown, Serum Tumor Markers "elevated" Stated as Stage IS	Lab values not available for ALL Serum Tumor Markers, but stated to be elevated (code 7, 8, 10 as 993)

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Testis SSF's 13 (AFP), 15 (hCG), 16 (LDH):
Coding Structure (Pre-Orch Range, cont.)

Code	Definition	Use when:
997	Test ordered, results not in chart	Test done, results not available, or lab value provided, but interpretation not available
998	Test not done	Facility or doctor's office did not perform test
999	Unknown, not documented	No documentation in record

Remember: For cases with no Radical Orchiectomy or neoadjuvant therapy, code the pre-orchiectomy ranges in SSF's 13, 15 and 16

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Testis: The S component of staging

Serum Tumor Markers	S0	S1	S2	S3
AFP	0-40	<1,000	1,000-10,000	>10,000
hCG	< 0.8 (M)	<5,000	5,000-50,000	>50,000
LDH	105-333	<1.5N	1.5N-10N	>10N

- Based on post-orchiectomy ranges (SSF's 13, 15 and 16) and before 2nd line of treatment (if needed)
- Tumor markers should decrease after radical orchiectomy
- Persistence of elevated tumor levels indicate presence of tumor, which may result in 2nd course of treatment

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Testis: Coding the Serum Tumor Markers when no Radical Orchiectomy

- Determining S stage when no orchiectomy
 - Code the pre-orchiectomy levels (initial serum tumor marker range) in these SSF's
 - In the pre-orchiectomy SSF's, code 996
 - Example:
 - Initial hCG value is 9,200 ng/ml
 - No orchiectomy done due to comorbidities (SSF 4=000)
 - SSF 6 (Pre-Orchiectomy AFP Lab Value) : 996
 - SSF 7 (Pre-Orchiectomy AFP Range): 996
 - SSF 12 (Post-Orchiectomy AFP Lab Value): 190
 - SSF 13 (Post-Orchiectomy AFP Range): 020

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CAnswer Forum

- Submit questions to CS Forum
 - Located within the CAnswer Forum
 - Provides information for all
 - Allows tracking for educational purposes
 - Includes archives of Inquiry & Response System
- CS Forum: <http://cancerbulletin.facs.org/forums/>
- CS Web Site: www.cancerstaging.org/cstage



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