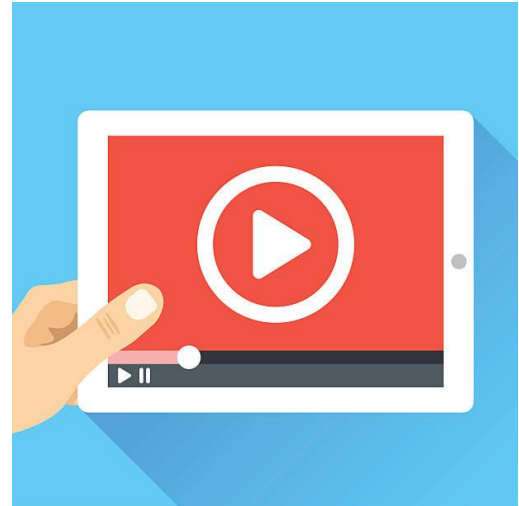


KIDNEY C649

EOD STAGE SSDI TREATMENT

Presented by Melissa Riddle, ODS-C
ICR VIDEO TRAINING SERIES | Iowa
Cancer Registry
March 2025



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Kidney EOD

https://staging.seer.cancer.gov/eod_public/home/3.1/

- 2024 = v3.1
 - Site: Kidney Parenchyma C649
 - EOD Primary Tumor
 - EOD Regional Nodes
 - EOD Mets

EOD Data SEER*RSR v3.1 NAACCR 2024

This information is for an older version of EOD which was compatible with NAACCR 2024

EOD Home > Schema List

Cancer Schema List

☒ Standard Search
☐ Site/History Search

Search Term(s)

Adnexa Uterine Other	Eye Other
Adrenal Gland	Fallopian Tube
Ampulla of Vater	Floor of Mouth
▶ Anus	Gallbladder
▶ Appendix	Genital Female Other
Bile Duct Distal	Genital Male Other
Bile Ducts Intrahepatic	GIST
Bile Ducts Perihilar	Gum
Biliary Other	Heart, Mediastinum and Pleura
Bladder	HemeRetic
Bone Appendicular Skeleton	Hypopharynx
Bone Pelvis	III- Defined Other
Bone Spine	▶ Intracranial Gland
▶ Brain	Kaposi Sarcoma
Breast	Kidney Parenchyma
Buccal Mucosa	Kidney Renal Pelvis

2

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Kidney EOD Primary Tumor

Code	Description
000	In situ, intraepithelial, noninvasive
100	Any size tumor, invasion of RENAL Capsule, confined to kidney NOS
200	Blood vessel(s) major [see manual for other extension]
300	Inferior vena cava below diaphragm
400	IVC above diaphragm or invades wall of diaphragm
500	Tumor extends into major veins (excluding ipsilateral adrenal gland)
600	Extension beyond Gerota's fascia to... [T4]
700	Aorta Liver Ribs Spleen...
800	No evid pri tumor
999	Unknown

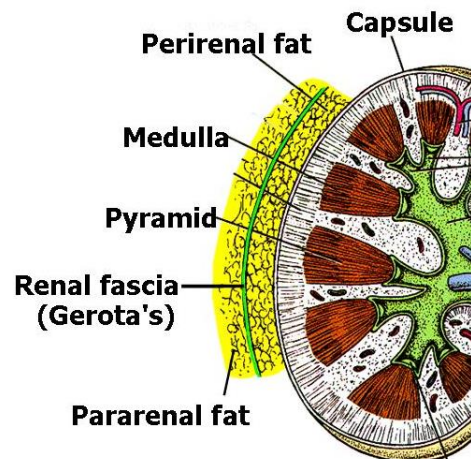
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Kidney EOD Primary Tumor

Note 1: Gerota's fascia is a fibrous tissue sheath surrounding the kidney and suprarenal or adrenal gland. The perirenal fat, renal capsule and renal parenchyma lie below the fascia.

- Beyond Gerota's fascia - 600

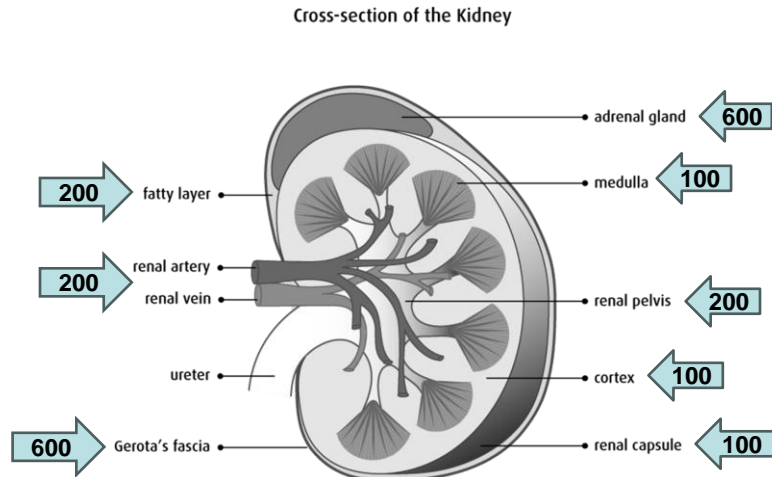


Source: Snell, Clinical Anatomy for Medical Students

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Kidney EOD Primary Tumor

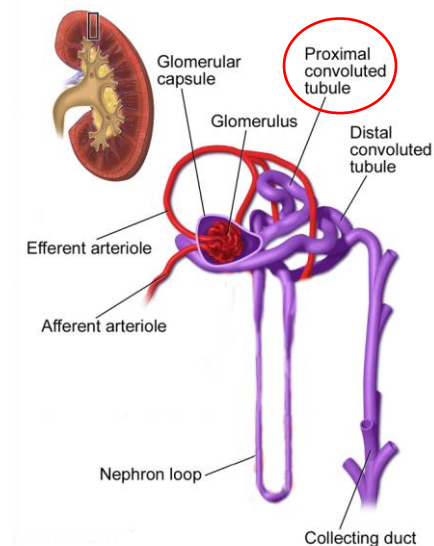


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Kidney EOD Primary Tumor

- **Note 2:** Most common site for renal parenchymal cancer to develop is in the **proximal convoluted tubule**.
 - Tumor extension from one of these structures into another is **code 100** and is dependent on size in the absence of further involvement.



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Kidney EOD Reg Nodes

Note 1: Only regional nodes in this field

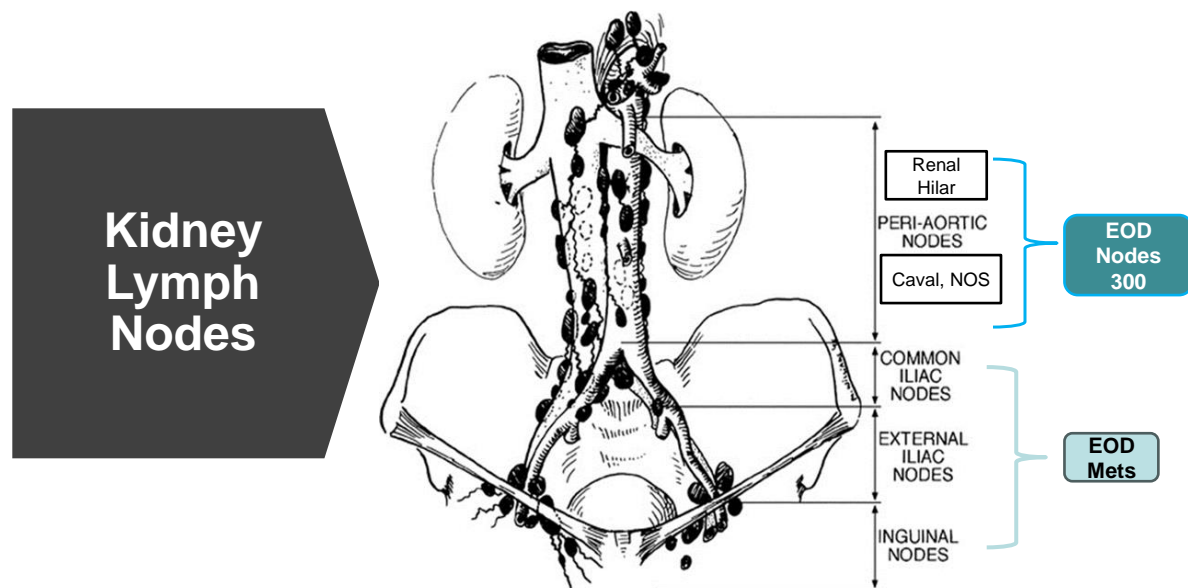
Note 2: Regional nodes include bilateral and contralateral involvement of named nodes

Note 3: Code 800 if regional nodes involved, no indication which ones

Code	Description
000	No regional LN involvement
300	Aortic, NOS [see list] Caval, NOS [see list] Renal Hilar Retroperitoneal, NOS
800	Regional lymph node(s), NOS Lymph Nodes, NOS
999	Unknown

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Kidney EOD Mets

Code	Description
00	No distant mets, **unknown if distant mets
10	Distant lymph nodes, NOS
70	Extension to: Adrenal gland Contralat kidney Contralat ureter Liver Spleen Carcinomatosis Distant mets with or without distant nodes Distant mets NOS
99	DC Only

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GRADE TABLE 18

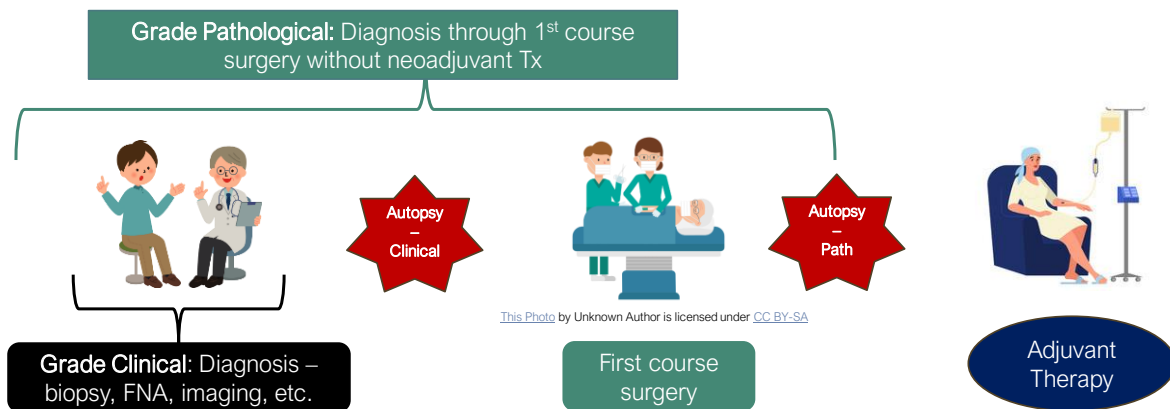
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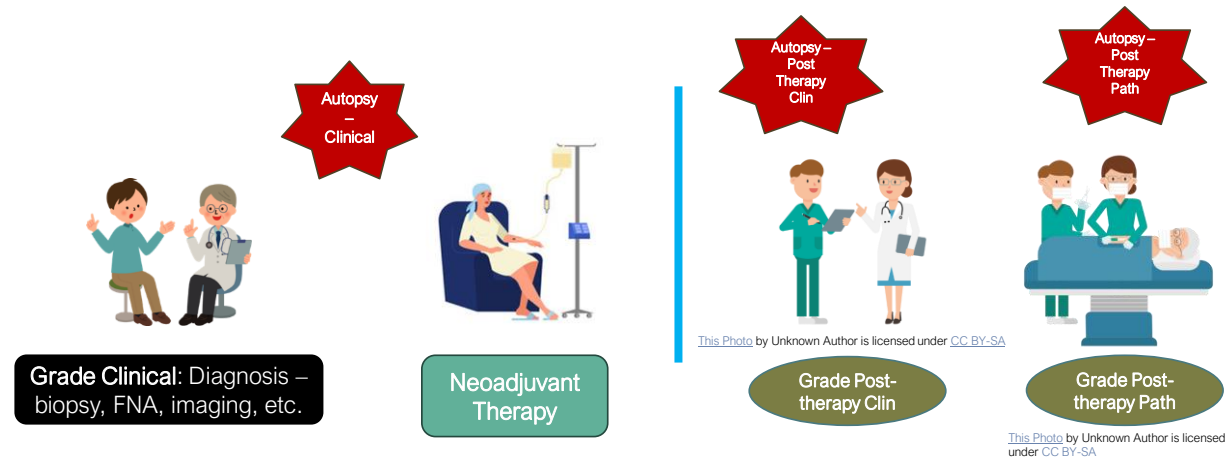
Kidney Grade

- Grade Clinical
- Grade Pathological
- Grade Post Therapy Clin (yc)
- Grade Post Therapy Path (yp)

Clinical & Path Grade Coding Timeframe



Post-Therapy Grade Coding Timeframe



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Kidney Parenchyma – Table 18

Description	Code
G1: Nucleoli absent or inconspicuous; WHO/ISUP Grade 1	1
G2: Nucleoli conspicuous and eosinophilic at 400x magnification; WHO/ISUP Grade 2	2
G3: Nucleoli conspicuous and eosinophilic at 100x magnification; WHO/ISUP Grade 3	3
G4: Marked nuclear pleomorphism and/or multinucleate giant cells and/or rhabdoid and/or sarcomatoid differentiation; WHO/ISUP Grade 4	4
Well differentiated	A
Moderately differentiated	B
Poorly differentiated	C
Undifferentiated; anaplastic	D
Grade cannot be assessed; Unknown	9

Preferred Grade System; Use codes 1-4 over A-D

Refer to Generic Grade Table, pages 33-34

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SITE SPECIFIC DATA ITEMS (SSDI)

Kidney Parenchyma

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Kidney SSDI

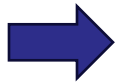
- #3864 Invasion Beyond capsule
- #3861 Ipsilateral Adrenal Gland Involvement
- #3886 Major Vein Involvement
- #3925 Sarcomatoid Features

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Invasion Beyond Capsule

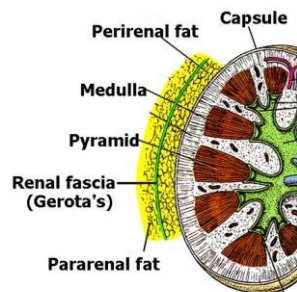
- Pathologically confirmed invasion beyond fibrous capsule
 - **Must be from the pathology report**
 - Do **NOT** use information from imaging
 - Physician statement can be used if no pathology report available
 - Surgical resection is done, and tumor is “*confined to kidney*”
 - Staging is based on size
 - Then there is no invasion through the capsule, **code 0**



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Invasion Beyond Capsule



Source: Snell, Clinical Anatomy for Medical Students

Code	Description
0	Invasion beyond capsule not identified; “confined to kidney” and staging based on size of tumor (<i>Note 2</i>)
1	Perinephric (beyond renal capsule) fat or tissue (confirm microscopically) synonyms: renal hilum, renal sinus fat, medial invasion
2	Renal sinus
3	Gerota’s fascia
4	Any combination of codes 1-3
5	Invasion beyond capsule, NOS
9	Not documented in medical record; invasion beyond capsule not mentioned or unknown if assessment performed; no surgical resection of primary site

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Major Vein Involvement

- Source: pathology report
 - Physician statement can be used to code
 - Do **NOT** use imaging information
 - Involvement of *specific named veins* from pathology report
 - Do **NOT** code small unnamed vein(s) of the type collected as lymph-vascular invasion
 - Major veins not mentioned as being involved – **code 9**
- Surgery performed and tumor is “*confined to kidney*”
 - Staging is based on size
 - Then there is no involvement of major veins, **code 0**

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Major Vein Involvement

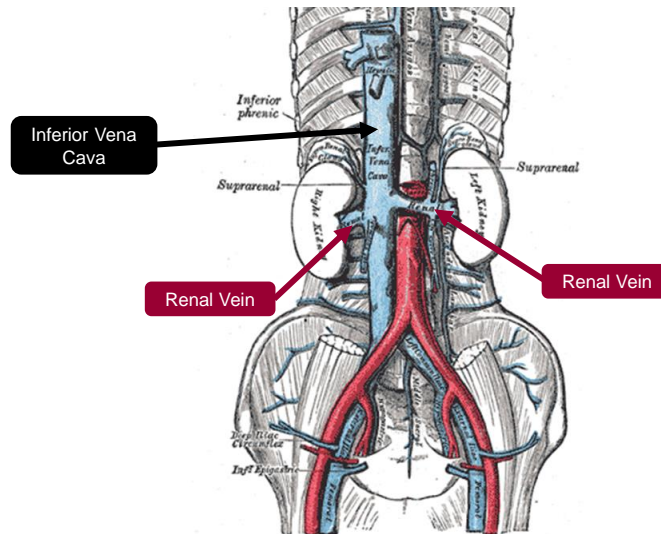
Description	Code
Major vein involvement not present/identified; “confined to kidney” (<i>Note 2</i>)	0
Renal vein or its segmental branches	1
Inferior vena cava (IVC) (<i>doesn't include direct tumor invasion of the wall of IVC</i>)	2
Major vein invasion, NOS	3
Any combination of codes 1-3	4
Not documented in record; Vein involvement not assessed or unknown if assessed; No surgery to primary site; No mention of major vein involvement	9

May be described as thrombus, cluster of tumor cells in center vein; may resemble mud extruding along the inside of a pipe

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Major Vein Involvement



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Ipsilateral Adrenal Gland Involvement

- From path report information
 - May use a physician statement on involvement
 - Do **NOT** use imaging information
- Adrenal Gland or Suprarenal Gland involvement
 - Same side as primary tumor
- Surgery performed and tumor is “*confined to kidney*”
 - Staging is based on size
 - Then assume no involvement, **code 0**

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Ipsilateral Adrenal Gland Involvement

Code	Description
0	Ipsilateral adrenal gland not present/not involved; “ <u>Confined to kidney</u> ” (<i>Note 2</i>)
1	Adrenal gland involved by direct extension; contiguous involvement
2	Adrenal gland involved by separate nodules; discontinuous involvement
3	Combination codes 1-2
4	Ipsilateral adrenal gland involved, unknown if direct or separate nodule
9	Not documented in record; ipsilateral gland NOT resected ; Ipsilateral adrenal gland involvement not assessed or unknown if assessed; NO surgical resection primary site

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Sarcomatoid Features

- Source: pathology report
 - May use physician statement to code
 - Absence or presence documented
 - Do **NOT** use imaging information to code
- Mostly seen with RCC and all variants
 - Seen with other histologies, still code information
 - **Applies to carcinomas only**
- Other names: spindle cell features
- Only information is available from metastatic site, **code XX5**

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Sarcomatoid Features

Description	Code
Sarcomatoid features not present/not identified	000
Sarcomatoid features 1-100%	001-100
Sarcomatoid features stated less than 10%	R01
Sarcomatoid features stated as range 10-30% present	R02
Sarcomatoid features stated as range 31-50% present	R03
Sarcomatoid features stated as range 51-80% present	R04
Sarcomatoid features stated as greater than 80%	R05
Sarcomatoid features present from <i>metastatic site only AND not present in primary site</i>	XX5
Sarcomatoid features present, percentage unknown	XX6
Not applicable: Not a RCC morphology (example: NET of kidney)	XX7
Not documented in record; Not assess/unknown if assessed; No surgery primary site; No mention of sarcomatoid features	XX9

Code actual percentage when given: 25%, code 025

Only use range codes when sarcomatoid is given as a range, not an actual percentage

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RCC Sarcomatoid features

NOS/Specific Histology Term and Code	Synonyms	Subtypes/Variants
Renal cell carcinoma NOS 8312 <i>Note 1:</i> WHO, IARC, and CAP agree that sarcomatoid carcinoma is a pattern of differentiation, not a specific subtype, of renal cell carcinoma. <i>Note 2:</i> Sarcomatoid is listed in the CAP Kidney protocol under the header "features." <i>Note 3:</i> Continue coding sarcomatoid renal cell carcinoma as 8312 until otherwise indicated.	Eosinophilic renal cell carcinoma Oncocytic renal cell carcinoma RCC Renal cell spindle cell carcinoma Sarcomatoid carcinoma Sarcomatoid renal cell carcinoma Succinate dehydrogenase-deficient renal cell carcinoma	Acquired cystic disease-associated renal cell carcinoma/tubulocystic renal cell carcinoma 8316* Chromophobe renal cell carcinoma (ChRCC)/Hybrid oncocytic chromophobe tumor 8317 Clear cell papillary renal cell carcinoma 8323/3 <i>Note:</i> The 2016 WHO 4th Ed Class. of Tumors of the Urinary System and Male Genital Organs has reclassified this histology as /1 because it is low nuclear grade and is now thought to be a neoplasia. This change has NOT yet been implemented and it remains reportable . Clear cell renal cell carcinoma (ccRCC) 8310 Collecting duct carcinoma 8319 ELOC (formerly TCEB1) mutated RCC 8311^ Eosinophilic solid and cystic RCC 8311^ Fumarate hydratase-deficient RCC ALK-rearranged RCC 8311^ Hereditary leiomyomatosis and renal cell carcinoma-associated

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Forum Says

SSDI Kidney Sarcomatoid features vs Sarcomatoid differentiation

Question: For coding the Sarcomatoid features SSDI, is a description of sarcomatoid differentiation usable?

Pathology from radical nephrectomy reads:

Final Diagnosis: Renal cell carcinoma, clear cell type with sarcomatoid and rhabdoid differentiation. Note: Approximately 40% of the submitted tumor shows sarcomatoid and rhabdoid differentiation. Synoptic report lists sarcomatoid features as present.

A: Yes, the differentiation description can be used. Code 040.

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Forum Says

Kidney SSDI Sarcomatoid features

Question: I have a path report which states sarcomatoid features 50-60%. This does not fit the ranges available to choose from in the SSDI. Which code should be used in this situation?

Should this circumstance/situation be added as a coding guideline or instruction?

A: Code R04, which is 51%-80%. Since the percentage is probably greater than 50%, this would be the better range to choose from than R03, which is 31%-50%. The ranges set up in this data item were recommended by AJCC.

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TREATMENT

Kidney Schema C649

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Kidney Treatment

- **Surgery** is the treatment of choice for most stages of renal cancer; open or robotic
- **Radiation** – Stereotactic body radiation (SBRT)
- **Targeted Therapy** – Typically for Stage III and IV disease
 - Chemotherapy
 - Immunotherapy

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Kidney Surgery Codes

Code	Description	Notes
A130	Cryosurgery (no pathology report)	AKA: cryoablation; cold to destroy kidney tumors; T1 tumors
A150	Thermal ablation (no pathology report)	AKA: radiofrequency ablation (RFA); uses high-energy waves to heat and destroy tumor; T1 tumors
A300	Partial or subtotal nephrectomy	Segmental or wedge resection
A400	Complete/Total/Simple nephrectomy	Includes bladder cuff, renal pelvis, or ureter
A500	Radical nephrectomy	May include removal of portion IVC, adrenal gland, Gerota's fascia, perinephric fat or partial/total ureter
A700	Any nephrectomy in continuity with resection of other organs	Other organs (colon or bladder) may be partial or total removal; En bloc resection
A800	Nephrectomy NOS	Specific type unknown; can't code A300-A700

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Stereotactic Ablative Body Radiotherapy

- **Stereotactic body radiation therapy (SBRT)**
 - Thin beams of radiation guided by imaging that target the tumor from many different angles
 - External beam radiation therapy (EBRT)
 - Over a course of a few treatments
 - Possible for patients who can't undergo surgery or refuse surgery
 - **Modality:** 02 External Beam Photons
 - **Planning Technique:** 06 Stereotactic Radiotherapy

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Targeted Therapy

Targeted area	Drug
Blood vessel growth <ul style="list-style-type: none"> Angiogenesis 	Sunitinib (Sutent) - chemo Pazopanib (Votrient) - chemo Cabozantinib (Cabometyx) - chemo Lenvatinib (Lenvima) - chemo Bevacizumab (Avastin) - immunotherapy Axitinib (Inlyta) - chemo Tivozanib (Fotivda) - chemo Belzuifan (Welireg) - chemo
mTOR protein <ul style="list-style-type: none"> Helps cells grow and divide 	Temsirolimus (Torisel) - chemo Everolimus (Afinitor) - chemo

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Immunotherapy

Immune checkpoint inhibitors	Drug
PD-1 and PD-L1 inhibitors	Pembrolizumab (Keytruda) Nivolumab (Opdivo) Avelumab (Bavencio)d
CTLA-4 inhibitor	Yervoy used with nivolumab
Cytokines	Interleukin-2 (IL-2) – no longer used as much now that newer drugs have been identified to have better response

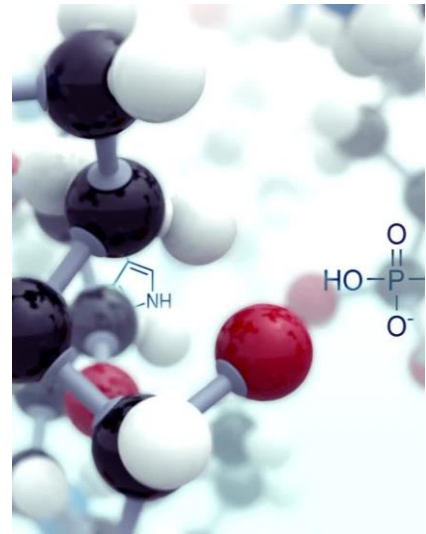
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Systemic Therapy

- **TIP:**

- If it ends in - **mab**, it is a monoclonal Ab
- If it ends in - **tinib**, it is a TKI
- If it ends in - **anib**, it is an angiogenesis inhibitor
- If it ends in - **nib**, it is a small-molecule inhibitor
- If it ends in - **limus**, it is an mTOR
- If it ends in - **imus**, it is an immunosuppressor

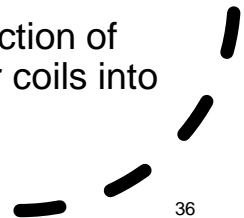


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Embolization

- **Tumor embolization:**
 - Intentional blockage of artery or vein to stop flow of blood
- **Chemoembolization:**
 - Tumor embolization + chemo drugs are administered directly into tumor
- **Radioembolization:**
 - Tumor embolization + injection of small radioactive beads or coils into an organ/tumor



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Coding Embolization

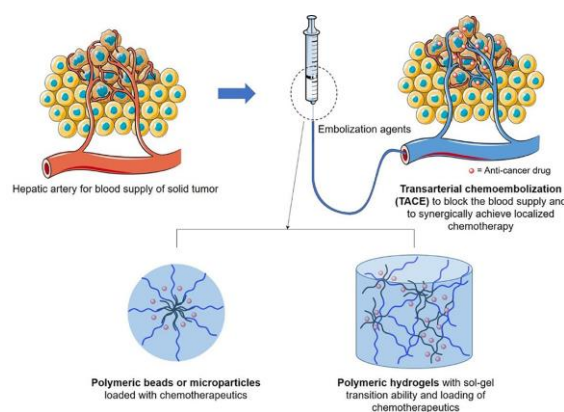
- **Arterial (Transarterial) Embolization**
 - Before surgery to shrink tumor
 - Do not code pre-surgical embolization of hypervascular tumors
 - Prevents excess bleeding during resection
 - *Example:* renal cell metastasis in the brain
 - On its own for those who can't undergo surgery
 - What is the embolizing agent?
 - Alcohol – code as *Other Therapy* code 1
 - Unknown – code as *Other Therapy* code 1
 - Gelfoam tract – if given during CT guide biopsy do not code (SINQ #20190023)

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Coding Embolization

- **Chemoembolization**
 - Code based on the chemotherapeutic drug(s)
 - Use SEER*Rx to determine chemotherapy agents
 - **Code as chemotherapy**
 - Based on number of drugs administered
 - **01** NOS; **02** single; **03** multiple



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Coding Embolization

- **Radioembolization**

- Not typical for kidney primaries
- Embolization combined with injecting small radioactive bead, spheres, or coils into an organ or tumor
 - Usually yttrium-90 (Y90) or lutetium-177 (Lu 177)
- **Code under radiation treatment**
 - *Radiation treatment modality: 13* radioisotopes, NOS

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Treatment by Stage

Stage	Treatment
1a	Partial nephrectomy; Radical nephrectomy or Thermal ablation or Active surveillance
1b	Partial nephrectomy; Radical nephrectomy or Active surveillance
2a/b	Radical or partial nephrectomy and If high grade may consider immunotherapy (Keytruda)
3a/b/c	Radical nephrectomy; sometimes partial nephrectomy Clear cell RCC: adjuvant systemic therapy
4	Cytoreductive nephrectomy and/or Systemic therapy

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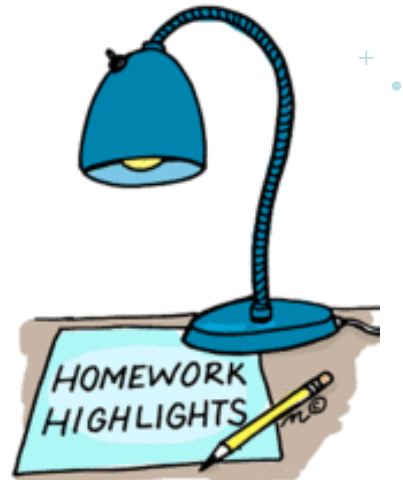
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SEER*Educate

Training | Coding CEs

-Dx 2021-2025 EOD, SS, Grade, SSDI Mashup

Kidney Parenchyma Case 1-5



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Questions?

melissa-riddle@uiowa.edu

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