

SUPPLEMENTARY TABLE 1. LOINC for Hemoglobin A_{1c}

	ICD 10 PCS		ICD 10 CM		CPT code	
Cystectomy	0TTB0ZZ	Resection of bladder, open approach	C67	Malignant neoplasm of bladder	51550	Cystectomy, partial
	0TTB4ZZ	Resection of bladder, percutaneous endoscopic approach	C67.0	Malignant neoplasm of trigone of bladder	51570	Cystectomy, complete (separate procedure)
	0TTB7ZZ	Resection of bladder, via natural or artificial opening	C67.1	Malignant neoplasm of dome of bladder	51580	Cystectomy, complete, with ureterosigmoidostomy or ureterocutaneous diversion
	0TTB8ZZ	Resection of bladder, via natural or artificial opening endoscopic	C67.2	Malignant neoplasm of lateral wall of bladder	51555	Cystectomy, partial, complicated
			C67.3	Malignant neoplasm of anterior wall of bladder	51565	Cystectomy, partial, with ureteral reimplantation
			C67.4	Malignant neoplasm of posterior wall of bladder	51590	Cystectomy, with ileal conduit or sigmoid bladder
			C67.5	Malignant neoplasm of bladder neck	51575	Cystectomy, with bilateral pelvic lymphadenectomy
			C67.6	Malignant neoplasm of ureteric orifice	51596	Cystectomy, with continent urinary diversion, and open technique
			C67.7	Malignant neoplasm of urachus	51585	Cystectomy, with ureterosigmoidostomy or ureterocutaneous diversion, with bilateral pelvic lymphadenectomy
			C67.8	Malignant neoplasm of overlapping sites of bladder	51595	Cystectomy, with ileal conduit or sigmoid bladder, with bilateral pelvic lymphadenectomy
			C67.9	Malignant neoplasm of bladder, unspecified	51597	Pelvic exenteration

Nephrectomy	0TT00ZZ	Resection of right kidney, open approach	C64	Malignant neoplasm of kidney, except renal pelvis	50220	Removal of kidney and partial removal of ureter
	0TT04ZZ	Resection of right kidney, percutaneous endoscopic approach	C64.1	Malignant neoplasm of right kidney, except renal pelvis	50225	Removal of kidney and partial removal of ureter complicated by previous surgery on same kidney
	0TT10ZZ	Resection of left kidney, open approach	C64.2	Malignant neoplasm of left kidney, except renal pelvis	50230	Nephrectomy, including partial ureterectomy, any open approach including rib resection; radical, with regional lymphadenectomy and/or vena caval thrombectomy
	0TT14ZZ	Resection of left kidney, percutaneous endoscopic approach	C64.9	Malignant neoplasm of unspecified kidney, except renal pelvis	50234	Nephrectomy with total ureterectomy and bladder cuff; through same incision
	0TT20ZZ	Resection of bilateral kidneys, open approach			50236	Removal of kidney and ureter with partial removal of bladder through separate incision
	0TT24ZZ	Resection of bilateral kidneys, percutaneous endoscopic approach			50240	Partial removal of kidney
	0TB00ZZ	Excision of right kidney, open approach			50543	Partial nephrectomy
	0TB04ZZ	Excision of right kidney, percutaneous endoscopic approach			50545	Removal of kidney and lymph nodes using an endoscope (radical nephrectomy)
	0TB10ZZ	Excision of left kidney, open approach			50546	Removal of kidney and partial removal of ureter using an endoscope
	0TB14ZZ	Excision of left kidney, percutaneous endoscopic approach			50548	Removal of kidney and ureter using an endoscope
Prostatectomy	0VT00ZZ	Resection of Prostate, Open Approach	C61	Malignant neoplasm of prostate	55842	Prostatectomy, retropubic radical, with or without nerve sparing; with lymph node biopsy(s) (limited pelvic lymphadenectomy)
	0VT04ZZ	Resection of prostate, percutaneous endoscopic approach	D07.5	Carcinoma in situ of prostate	55845	Prostatectomy, retropubic radical, with or without nerve sparing; with bilateral pelvic lymphadenectomy, including external iliac, hypogastric, and obturator nodes
	0VT07ZZ	Resection of prostate, via natural or artificial opening			55866	Laparoscopy, surgical prostatectomy, retropubic radical, including nerve sparing, includes robotic assistance, when performed
	0VT08ZZ	Resection of prostate, via natural or artificial opening endoscopic				

Abbreviations: CPT, Current Procedural Terminology; ICD-10, International Classification of Diseases, Tenth Revision; LOINC, Logical Observation Identifiers, Names, and Codes.

SUPPLEMENTARY TABLE 2. Complication Diagnostic Codes

Complication	Example	ICD ninth revision code	ICD 10th revision code
Hemorrhage bleeding	Hemorrhage complicating procedure, acute hemorrhagic anemia, hematoma, blood transfusion, iron deficiency anemia secondary to blood loss	V58.2, 998.1, 998.11, 998.12, 285.1, 39.98, 54.12, 39.41, 39.49, 34.43, 99.00, 99.02, 99.03, 99.04, 459.0, 568.81, 998.11, 280, 285.9	D50.0, D62, R58
Cardiac	Myocardial infarction, hypertensive disease with heart failure, heart failure, supraventricular tachycardia, atrial fibrillation, cardiac arrest, cardiogenic shock	410.1, 410.2, 410.3, 410.4, 410.5, 410.6, 410.7, 410.8, 410.9, 402.01, 402.11, 402.91, 428.xx, 426.0, 427.0, 427.1, 427.2, 427.31, 427.32, 427.41, 427.42, 427.9, 427.5, 997.1, 785.51	I21.09, I21.19, I21.11, I21.29, I21.4, I21.3, I11.0, I50.9, I44.2, I47.0, I47.1, I47.2, I47.9, I48.0, I48.1, I48.2, I48.3, I48.4, I48.91, I48.92, I49.01, I49.02, I49.9, I46.9, I97.88, I97.89
Respiratory	Atelectasis, pneumonia (any type) and ventilator-associated pneumonia, pneumothorax, transfusion-related acute lung injury, chronic respiratory failure with hypoxia, acute respiratory failure with hypoxia	518, 514, 518.4, 518.5, 518.82, 466.xx, 480.xx, 481, 482.xx, 483.xx, 485, 486, 507.0, 799.1, 512.1, 518.7, 997.3, 518.81, 518.84, 997.3x, 483.x, 484.x, 507.x, 997.31, 997.39	J90, J91.8, J81.0, J80, J95.821, J95.822, J96.00, J96.01, J96.02, J96.90, J96.91, J96.92, J96.10, J96.11, J96.20, J96.21, J96.22, J13, J14, J15.0, J15.1, J15.20, J15.211, J15.212, J15.29, J15.3, J15.4, J15.5, J15.6, J15.8, J15.9, J18.0, J18.1, J18.2, J18.8, J18.9, J95.851, J95.859, J69.0, J69.8, R09.2, J95.811, J95.84
Gastrointestinal	Paralytic ileus, nausea, vomiting, diarrhea, constipation, small bowel obstruction, gastrointestinal bleeding, gastric or duodenal ulcer, bowel leak	530.82, 531.0x, 531.1x, 531.2x, 531.4x, 531.6x, 532.0x, 532.1x, 532.2x, 532.4x, 532.6x, 533.0x, 533.1x, 533.2x, 533.4x, 533.6x, 534.0x, 534.1x, 534.2x, 534.4x, 534.6x, 535.x1, 578.9, 997.4, 560, 560.0, 560.2, 560.2, 560.3x, 560.8, 560.81, 560.89, 560.9	K56.x, K20.x, K21.x, K22.x, K22.11, K22.8, K25.x, K26.x, K28.x, K29.6, K28.7, K92.x, K91.3, K91.89, K91.x, K90.8, K90.9
Genitourinary	Renal or perinephric abscess, urine leak, urinary obstruction, urinary fistula, hematuria, other postprocedural complications and disorders of genitourinary systems, stoma complications: parastomal hernia, stomal ischemia	593.82, 596.1, 596.2, 596.3, 997.5, 593.8x, 442.1, 997.72, 445.81, 902.4x, V44.6, V55.6, 866.xx, 867.x, 868.14, 868.04, 599.1, 619.0, 788.8, 567.89, 55.12, 55.21, 55.22, 55.29, 55.8x, 55.92, 55.93, 55.94, 87.73, 87.74, 88.75, 88.45, 97.61, 97.62, 56.0, 56.31, 56.39, 56.8x, 56.6x, 56.74, 56.75, 56.79, 57.0, 57.93, 57.32, 59.0x, 59.2x, 59.92, 59.93, 590.3, 46.4, 56.52, 599.6x, 593.3, 593.4, 593.5, 591, 5848, 9975, 55.0, 55.02, 55.03, 59.8, 56.72	N28.89, N30, N32.1, N32.2, N32.3, N99.89, N13.4, N13.30, N13.8,
Wound and hernia	Wound seroma, wound infection, poor wound healing, secondary intention healing, wound dehiscence, fascial dehiscence and/or evisceration, abdominal wall hernia, incisional hernia	879.2, 998.31, 998.32, 998.83, 998.3, 998.5, 998.59, 998.51, 998.6, 958.3, 998.3x, 998.5x, 54.61, 54.62, 54.63, 54.72, 86.04, 86.05, 86.22, 86.28, 551.9, 552.8, 552.9, 553.9, 553.21, 53.5, 53.51, 53.59, 53.6, 53.61, 53.62, 53.63, 53.69	K43.3, K43.4, K43.5, K45.0, K46.1, K46.0, K46.9
Thrombosis/embolic	Phlebitis, thrombosis of vein or artery, deep vein thrombosis, pulmonary embolism	415.1, 451.1x, 451.2, 451.81, 451.9, 453.8, 453.9, 997.2, 999.2, 444.22, 444.81, 451.11, 451.19, 453.40, 453.41, 415.11, 415.13, 415.19	I26.02, I26.09, I26.9, I26.99, I80.10, I80.12, I80.13, I80.201, I80.202, I80.291, I80.292, I80.293, I80.299, I8.2401, I82.402, I82.403, I82.409, I82.411, I82.412, I80.203, I80.209, I80.211, I80.212, I80.213, I80.219, I80.221, I80.222, I80.223, I80.229, I80.231, I80.232, I80.233, I80.239, I82.413, I82.419, I82.421, I82.422, I82.423, I82.429, I82.431, I82.432, I82.433, I82.439, I82.4Y1, I82.4Y2, I82.4Y3, I82.4Y9, I74.3, I74.5, I80.11

Infection and sepsis	Pyelonephritis, unspecified kidney infection, urinary tract infection, peritoneal abscess, necrotizing fasciitis, <i>Clostridium difficile</i> , drainage of abscess, MRSA sepsis, septic shock, postoperative sepsis, bacteremia	590.2, 580.8, 590.80, 590.1, 590.81, 590.00, 590.11, 038.0, 038.2, 038.3, 038.4, 038.8, 038.9, 996.64, 599.0, 590.9, 567.22, 686.8, 686.9, 728.86, 009.1, 008.45, 567, 567.1, 567.2x, 567.3x, 567.81, 567.82, 567.9, 320.xx, 510.x, 513.x, 519.2, 683, 038.xx, 785.52, 785.50, 785.59, 998.0, 995.91, 995.92, 996.62, 999.3, 999.31, 790.7	N12, N16, N11.0, N10, A40.9, R78.81, T83.510, N39.0, K65.1, A02.1, A40.0, A40.1, A40.3, A41.01, A41.02, A41.1, A41.2, A41.3, A41.4, A415.0, A41.51, A41.52, A41.53, A41.59, A41.81, A41.89, A41.9, A42.7, A54.86, B37, R65.20, R65.21, L08.89, L08.9, M72.6, A09, A04.7, A04.71, A04.72, A40.x, A41.x, R65.xx, T80.2, T80.21, T80.219, R78.81, T81.12
Renal failure, metabolic disturbances, dehydration, failure to thrive, malnutrition	Renal failure, acute kidney injury, acute kidney failure, dialysis catheter placement, acidosis, volume depletion, dehydration, electrolyte disorders	586, 584, v45.1x, v56.0, v56.1, 38.95, 39.27, 39.95, 54.98, 55.6, 276.2, 276.5, 276.51, 276.9, E87.3, 263.9, 263.1, 263, 263.2, 263.8, 783.7	E87.2, E86.0, E87.8, R62.7
Neurologic	Subarachnoid, subdural, or intracranial hemorrhage; occlusion or stenosis of cerebral artery—no thrombosis, ischemic or hemorrhagic stroke, neuropathy	436, 434.91, 434.11, 434.01, 997.01, 997.02, 997.0x, 433.xx, 434.xx, 430, 431, 432.1, 432.9, 997.09, 356.8	I67.89, I63.5, I63.40, I63.30, G97.81, G97.82, I97.811, I97.821, I65, I63, I66, I60, I61, I62, G97.81, G60.3, G62
Miscellaneous and surgical	Lymphocele, lower extremity swelling, uncontrolled pain, lymphedema, accidental cut/puncture/perforation, fall, intraoperative repair of colon or small bowel (bowel injury), unspecified complication	39.79, E870.0, 998.8, 998.89, 998.9, 999.9, E878.8, E878.9, 997.9, 999.4, 999.5, 999.6, 999.7, 999.8x, e876.x, e878.x, e911, e912, e879.x, 997.99	Y83.8, Y83.9, Y84.0, I89.8, W01, W02, W03, W04, W05, W06, W07, W08, W09, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19

Abbreviations: ICD, *International Classification of Diseases*; MRSA, methicillin-resistant *Staphylococcus aureus*.