

Cancer Surgery Volume Methodology International Classification of Diseases-Clinical Modification Version 10 (ICD-10) and Current Procedural Terminology (CPT) Code Selection

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To capture inpatient surgeries, International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10) procedure and diagnostic codes (Table 1) were identified that corresponded to cancer-directed operations for the specified malignancies. These codes were then tested using actual data and subsequently vetted by experts.

1. The ICD-10 coding manual was examined to identify codes related to the malignancies of interest.
2. The codes were reviewed with specialists to ensure that codes reflected cancer-directed surgeries.
3. All the codes in the literature review document were assessed for inclusion. Some of these codes were included, but many of the codes included in prior research studies were determined by the research team to be inconsistent with the goals of this project.
4. California Office of Statewide Health Planning and Development (OSHPD) data were used to ensure that relevant ICD-10 procedure codes were not missed. First, we selected ICD-10 diagnosis codes for the malignancies of interest. Frequencies of the most common ICD-10 procedure codes associated with these diagnoses were then run to ensure that common ICD-10 procedure codes for these cancers were included in our lists.
5. The OSHPD data were used to ensure that relevant ICD-10 diagnosis codes were not missed. First, ICD-10 procedure codes were selected for the malignancies of interest. Then frequencies of the most common ICD-10 diagnosis codes associated with these surgeries were run to ensure that common ICD-10 diagnosis codes for these cancers were included in our lists.
6. Some additional decisions were made for classifying patients who had two cancer diagnoses and one common procedure or patients who had multiple cancer diagnoses and one sole robotic procedure.
 - a. If both a colon cancer diagnosis and rectum cancer diagnosis were present and the only procedure was resection of the sigmoid colon, this cancer procedure was classified as “colon”.
 - b. If both an esophagus cancer diagnosis and a stomach cancer diagnosis were present and the only procedure was excision or resection of esophagogastric junction, this cancer procedure was be classified as “esophagus”.
 - c. If both an esophagus cancer diagnosis and a stomach cancer diagnosis were present and the only procedure was resection of esophagogastric junction, this cancer procedure was classified as “esophagus”.
 - d. If more than one of these seven cancer diagnoses (bladder, colon, lung, pancreas, prostate, rectum, and stomach) were present and a robotic procedure was the sole procedure, the procedure was attributed to the cancer associated with the primary diagnosis. If none of these cancer diagnoses was a primary diagnosis, the case will be deleted from the cohort.

To capture outpatient breast cancer surgeries, 2013 Current Procedure Technology (CPT) codes (Table 1) were identified that corresponded to cancer-directed operations for breast malignancies. These codes were then tested using actual data and subsequently vetted by experts.

1. The CPT coding manual was examined to identify codes related to the malignancies of interest.
2. The codes were reviewed with specialists to ensure that codes reflected cancer-directed surgeries.
3. All the codes in the literature review document were assessed for inclusion. Some of these codes were included, but many of the codes included in prior research studies were determined by the research team to be inconsistent with the goals of this project.

- American College of Surgeons National Surgical Quality Improvement Program data were used to ensure that relevant CPT codes were not missed. ICD-10 diagnosis codes were selected for the malignancies of interest. Frequencies of the most common CPT codes coded were then run to ensure that common CPT codes for these cancers were included in our lists.

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Table 1: ICD-10 diagnosis, procedure and CPT procedure codes

Cancer	Code	Brief text
Bladder		
Diagnosis	C67.0	Malignant neoplasm of trigone of bladder
	C67.1	Malignant neoplasm of dome of bladder
	C67.2	Malignant neoplasm of lateral wall of bladder
	C67.3	Malignant neoplasm of anterior wall of bladder
	C67.4	Malignant neoplasm of posterior wall of bladder
	C67.5	Malignant neoplasm of bladder neck
	C67.6	Malignant neoplasm of ureteric orifice
	C67.7	Malignant neoplasm of urachus
	C67.8	Malignant neoplasm of overlapping sites of bladder
	C67.9	Malignant neoplasm of bladder, unspecified
Procedure	ODTNOZZ	Resection of sigmoid colon, open approach
	ODTPOZZ	Resection of rectum, open approach
	OTBB0ZZ	Excision of bladder, open approach
	OTBB3ZZ	Excision of bladder, percutaneous approach
	OTBB4ZZ	Excision of bladder, percutaneous endoscopic approach
	OTTB0ZZ	Resection of bladder, open approach
	OTTB4ZZ	Resection of bladder, percutaneous endoscopic approach
	OTTB7ZZ	Resection of bladder, via natural or artificial open
	OTTB8ZZ	Resection of bladder, via natural or artificial opening endoscopic
	OTTD0ZZ	Resection of urethra, open approach
	OTTD4ZZ	Resection of urethra, percutaneous endoscopic approach
	OTTD7ZZ	Resection of urethra, via natural or artificial opening
	OTTD8ZZ	Resection of urethra, via natural or artificial opening endoscopic
	OUT20ZZ	Resection of bilateral ovaries, open approach
	OUT70ZZ	Resection of bilateral fallopian tubes, open approach
	OUT90ZZ	Resection of uterus, open approach
	OUTCOZZ	Resection of cervix, open approach
	OUTGOZZ	Resection of vagina, open approach
	OVT00ZZ	Resection of prostate, open approach
	OVT04ZZ	Resection of prostate, percutaneous endoscopic approach
	OVT07ZZ	Resection of prostate, via natural or artificial opening
	OVT08ZZ	Resection of prostate, via natural or artificial opening endoscopic
	OVT30ZZ	Resection of bilateral seminal vesicles, open approach
	OVT34ZZ	Resection of bilateral seminal vesicles, percutaneous endoscopic approach

	8E0W0CZ	Robotic assisted procedure of trunk region, open approach
	8E0W4CZ	Robotic assisted procedure of trunk region, percutaneous endoscopic approach
Brain		
Diagnosis	C71.0 C71.1 C71.2 C71.3 C71.4 C71.5 C71.6 C71.7 C71.8 C71.9 C79.31	Malignant neoplasm of cerebrum, except lobes and ventricles Malignant neoplasm of frontal lobe Malignant neoplasm of temporal lobe Malignant neoplasm of parietal lobe Malignant neoplasm of occipital lobe Malignant neoplasm of cerebral ventricle Malignant neoplasm of cerebellum Malignant neoplasm of brain stem Malignant neoplasm of overlapping sites of brain Malignant neoplasm of brain, unspecified Secondary malignant neoplasm of brain
Procedure	00500ZZ 00503ZZ 00504ZZ 00B00ZX 00B00ZZ 00B04ZZ 00B10ZX 00B10ZZ 00B20ZX 00B20ZZ 00B60ZX 00B60ZZ 00B70ZX 00B70ZZ 00B74ZZ 00BC0ZX 00BC0ZZ 00C70ZZ 00T70ZZ 00T73ZZ 00T74ZZ	Destruction of brain, open approach Destruction of brain, percutaneous approach Destruction of brain, percutaneous endoscopic approach Excision of brain, open approach, diagnostic Excision of brain, open approach Excision of brain, percutaneous endoscopic approach Excision of cerebral meninges, open approach, diagnostic Excision of cerebral meninges, open approach Excision of dura mater, open approach, diagnostic Excision of dura mater, open approach Excision of cerebral ventricle, open approach, diagnostic Excision of cerebral ventricle, open approach Excision of cerebral hemisphere, open approach, diagnostic Excision of cerebral hemisphere, open approach Excision of cerebral hemisphere, percutaneous endoscopic approach Excision of cerebellum, open approach, diagnostic Excision of cerebellum, open approach Extirpation of matter from cerebral hemisphere, open approach Resection of cerebral hemisphere, open approach Resection of cerebral hemisphere, percutaneous approach Resection of cerebral hemisphere, percutaneous endoscopic approach
Breast		
Diagnosis	C50.011 C50.012 C50.019 C50.029 C50.111 C50.112 C50.119 C50.129 C50.211 C50.212 C50.219	Malignant neoplasm of nipple and areola, right female breast Malignant neoplasm of nipple and areola, left female breast Malignant neoplasm of nipple and areola, unspecified female breast Malignant neoplasm of nipple and areola, unspecified male breast Malignant neoplasm of central portion of right female breast Malignant neoplasm of central portion of left female breast Malignant neoplasm of central portion of unspecified female breast Malignant neoplasm of central portion of unspecified male breast Malignant neoplasm of upper-inner quadrant of right female breast Malignant neoplasm of upper-inner quadrant of left female breast Malignant neoplasm of upper-inner quadrant of unspecified female breast

	C50.229	Malignant neoplasm of upper-inner quadrant of unspecified male breast
	C50.311	Malignant neoplasm of lower-inner quadrant of right female breast
	C50.312	Malignant neoplasm of lower-inner quadrant of left female breast
	C50.319	Malignant neoplasm of lower-inner quadrant of unspecified female breast
	C50.329	Malignant neoplasm of lower-inner quadrant of unspecified male breast
	C50.411	Malignant neoplasm of upper-outer quadrant of right female breast
	C50.412	Malignant neoplasm of upper-outer quadrant of left female breast
	C50.419	Malignant neoplasm of upper-outer quadrant of unspecified female breast
	C50.429	Malignant neoplasm of upper-outer quadrant of unspecified male breast
	C50.511	Malignant neoplasm of lower-outer quadrant of right female breast
	C50.512	Malignant neoplasm of lower-outer quadrant of left female breast
	C50.519	Malignant neoplasm of lower-outer quadrant of unspecified female breast
	C50.529	Malignant neoplasm of lower-outer quadrant of unspecified male breast
	C50.611	Malignant neoplasm of axillary tail of right female breast
	C50.612	Malignant neoplasm of axillary tail of left female breast
	C50.619	Malignant neoplasm of axillary tail of unspecified female breast
	C50.629	Malignant neoplasm of axillary tail of unspecified male breast
	C50.811	Malignant neoplasm of overlapping sites of right female breast
	C50.812	Malignant neoplasm of overlapping sites of left female breast
	C50.819	Malignant neoplasm of overlapping sites of unspecified female breast
	C50.829	Malignant neoplasm of overlapping sites of unspecified male breast
	C50.911	Malignant neoplasm of unspecified site of right female breast
	C50.912	Malignant neoplasm of unspecified site of left female breast
	C50.919	Malignant neoplasm of unspecified site of unspecified female breast
	C50.921	Malignant neoplasm of unspecified site of right male breast
	C50.929	Malignant neoplasm of unspecified site of unspecified male breast
	D05.00	Lobular carcinoma in situ of unspecified breast
	D05.01	Lobular carcinoma in situ of right breast
	D05.02	Lobular carcinoma in situ of left breast
	D05.10	Intraductal carcinoma in situ of unspecified breast
	D05.11	Intraductal carcinoma in situ of right breast
	D05.12	Intraductal carcinoma in situ of left breast
	D05.80	Other specified type of carcinoma in situ of unspecified breast
	D05.81	Other specified type of carcinoma in situ of right breast
	D05.82	Other specified type of carcinoma in situ of left breast
	D05.90	Unspecified type of carcinoma in situ of unspecified breast
	D05.91	Unspecified type of carcinoma in situ of right breast
	D05.92	Unspecified type of carcinoma in situ of left breast
Procedure (ICD-10)	07T50ZZ	Resection of right axillary lymphatic, open approach
	07T60ZZ	Resection of left axillary lymphatic, open approach
	07T70ZZ	Resection of thorax lymphatic, via natural or artificial opening
	07T80ZZ	Resection of right internal mammary lymphatic, open approach
	07T90ZZ	Resection of left internal mammary lymphatic, open approach
	0H5T0ZZ	Destruction of right breast, open approach
	0H5T3ZZ	Destruction of right breast, percutaneous approach
	0H5T7ZZ	Destruction of right breast, via natural or artificial opening
	0H5T8ZZ	Destruction of right breast, via natural or artificial opening endoscopic

	0H5TXZZ 0H5U0ZZ 0H5U3ZZ 0H5U7ZZ 0H5U8ZZ 0H5UXZZ 0H5V0ZZ 0H5V3ZZ 0H5V7ZZ 0H5V8ZZ 0H5VXZZ 0HBT0ZZ 0HBT3ZZ 0HBT7ZZ 0HBT8ZZ 0HBTXZZ 0HBU0ZZ 0HBU3ZZ 0HBU7ZZ 0HBU8ZZ 0HBUXZZ 0HBV0ZZ 0HBV3ZZ 0HBV7ZZ 0HBV8ZZ 0HBVXZZ 0HTT0ZZ 0HTU0ZZ 0HTV0ZZ 0KTH0ZZ 0KTJ0ZZ	Destruction of right breast, external approach Destruction of left breast, open approach Destruction of left breast, percutaneous approach Destruction of left breast, via natural or artificial opening Destruction of left breast, via natural or artificial opening endoscopic Destruction of left breast, external approach Destruction of bilateral breast, open approach Destruction of bilateral breast, percutaneous approach Destruction of bilateral breast, via natural or artificial opening Destruction of bilateral breast, via natural or artificial opening endoscopic Destruction of bilateral breast, external approach Excision of right breast, open approach Excision of right breast, percutaneous approach Excision of right breast, via natural or artificial opening Excision of right breast, via natural or artificial opening endoscopic Excision of right breast, external approach Excision of left breast, open approach Excision of left breast, percutaneous approach Excision of left breast, via natural or artificial opening Excision of left breast, via natural or artificial opening endoscopic Excision of left breast, external approach Excision of bilateral breast, open approach Excision of bilateral breast, percutaneous approach Excision of bilateral breast, via natural or artificial opening Excision of bilateral breast, via natural or artificial opening endoscopic Excision of bilateral breast, external approach Resection of right breast, open approach Resection of left breast, open approach Resection of bilateral breast, open approach Resection of right thorax muscle, open approach Resection of left thorax muscle, open approach
Procedure (CPT)	19303 19304 19305 19306 19307 19301 19302 19125	Simple mastectomy Subcutaneous mastectomy Radical mastectomy Radical mastectomy Modified radical mastectomy Partial mastectomy Partial mastectomy with ALND Needle-loc excision
Colon		
Diagnosis	C18.0 C18.1 C18.2 C18.3 C18.4 C18.5 C18.6	Malignant neoplasm of cecum Malignant neoplasm of ascending colon Malignant neoplasm of ascending colon Malignant neoplasm of hepatic flexure Malignant neoplasm of transverse colon Malignant neoplasm of splenic flexure Malignant neoplasm of descending colon

	C18.7 C18.8 C18.9 D01.0	Malignant neoplasm of sigmoid colon Malignant neoplasm of overlapping sites of colon Malignant neoplasm of colon, unspecified Carcinoma in situ of colon
Procedure	ODBE0ZZ ODBE3ZZ ODBE4ZZ ODBE7ZZ ODBE8ZZ ODBF0ZZ ODBF4ZZ ODBF8ZX ODBG0ZZ ODBG4ZZ ODBH0ZX ODBH0ZZ ODBH4ZZ ODBK0ZZ ODBK4ZZ ODBK8ZZ ODBL0ZZ ODBL4ZZ ODBL8ZZ ODBM0ZX ODBM0ZZ ODBM4ZZ ODBM8ZZ ODBN0ZX ODBN0ZZ ODBN4ZZ ODBN8ZZ ODNH4ZZ ODTC0ZZ ODTC4ZZ ODTC7ZZ ODTC8ZZ ODTE0ZZ ODTE4ZZ ODTE7ZZ ODTE8ZZ ODTF0ZZ ODTF4ZZ ODTF7ZZ ODTF8ZZ ODTG0ZZ ODTG4ZZ ODTG7ZZ	Excision of large intestine, open approach Excision of large intestine, percutaneous approach Excision of large intestine, percutaneous endoscopic approach Excision of large intestine, via opening Excision of large intestine, via natural or artificial opening endoscopic Excision of right large intestine, open approach Excision of right large intestine, percutaneous endoscopic approach Excision of right large intestine, via natural or artificial opening endoscopic, diagnostic Excision of left large intestine, open approach Excision of left large intestine, percutaneous endoscopic approach Excision of cecum, open approach, diagnostic Excision of cecum, open approach Excision of cecum, percutaneous endoscopic approach Excision of ascending colon, open approach Excision of ascending colon, percutaneous endoscopic approach Excision of ascending colon, via natural or artificial opening endoscopic Excision of transverse colon, open approach Excision of transverse colon, percutaneous endoscopic approach Excision of transverse colon, via natural or artificial opening endoscopic Excision of descending colon, open approach, diagnostic Excision of descending colon, open approach Excision of descending colon, percutaneous endoscopic approach Excision of descending colon, via natural or artificial opening endoscopic Excision of sigmoid colon, open approach, diagnostic Excision of sigmoid colon, open approach Excision of sigmoid colon, percutaneous endoscopic approach Excision of sigmoid colon, via natural or artificial opening endoscopic Release cecum, percutaneous endoscopic approach Resection of ileocecal valve, open approach Resection of ileocecal valve, percutaneous endoscopic approach Resection of ileocecal valve, via natural or artificial opening Resection of ileocecal valve, via natural or artificial opening endoscopic Resection of large intestine, open approach Resection of large intestine, percutaneous endoscopic approach Resection of large intestine, via natural or artificial opening Resection of large intestine, via natural or artificial opening endoscopic Resection of right large intestine, open approach Resection of right large intestine, percutaneous endoscopic approach Resection of right large intestine, via natural or artificial opening Resection of right large intestine, via natural or artificial opening endoscopic Resection of left large intestine, open approach Resection of left large intestine, percutaneous endoscopic approach Resection of left large intestine, via natural or artificial opening

	ODTG8ZZ ODTH0ZZ ODTH0ZZ ODTH4ZZ ODTH4ZZ ODTH7ZZ ODTH8ZZ ODTK0ZZ ODTK4ZZ ODTL0ZZ ODTL4ZZ ODTL7ZZ ODTL8ZZ ODTM0ZZ ODTM4ZZ ODTN0ZZ ODTN4ZZ ODTN7ZZ ODTN8ZZ 8E0W0CZ 8E0W4CZ	Resection of left large intestine, via natural or artificial opening endoscopic Resection of cecum, open approach Resection of cecum, open approach Resection of cecum, percutaneous endoscopic approach Resection of cecum, percutaneous endoscopic approach Resection of cecum, via natural or artificial opening Resection of cecum via natural or artificial opening endoscopic Resection of ascending colon, open approach Resection of ascending colon, percutaneous endoscopic approach Resection of transverse colon, open approach Resection of transverse colon, percutaneous endoscopic approach Resection of transverse colon, via natural or artificial opening Resection of transverse colon, via natural or artificial opening endoscopic Resection of descending colon, open approach Resection of descending colon, percutaneous endoscopic approach Resection of sigmoid colon, open approach Resection of sigmoid colon, percutaneous endoscopic approach Resection of sigmoid colon, via natural or artificial opening Resection of sigmoid colon, via natural or artificial opening endoscopic Robotic assisted procedure of trunk region, open approach Robotic assisted procedure of trunk region, percutaneous endoscopic approach
Esophagus		
Diagnosis	C15.3 C15.4 C15.5 C15.8 C15.9 C16.0 D00.1	Malignant neoplasm of upper third of esophagus Malignant neoplasm of middle third of esophagus Malignant neoplasm of lower third of esophagus Malignant neoplasm of overlapping sites of esophagus Malignant neoplasm of esophagus, unspecified Malignant neoplasm of cardia Carcinoma in situ of esophagus
Procedure	0D15074 0D15076 0D15079 0D1507A 0D1507B 0D150J4 0D150J6 0D150J9 0D150JA 0D150JB 0D150K4 0D150K6 0D150K9 0D150KA 0D150KB 0D150Z4 0D150Z6 0D150Z9	Bypass esophagus to cutaneous with autologous tissue substitute, open approach Bypass esophagus to stomach with autologous substitute, open approach Bypass esophagus to duodenum with autologous substitute, open approach Bypass esophagus to jejunum with autologous substitute, open approach Bypass esophagus to ileum with autologous substitute, open approach Bypass esophagus to cutaneous with synth substitute, open approach Bypass esophagus to stomach with synth substitute, open approach Bypass esophagus to duodenum with synth substitute, open approach Bypass esophagus to jejunum with synth substitute, open approach Bypass esophagus to ileum with synth substitute, open approach Bypass esophagus to cutaneous with nonautologous tissue substitute, open approach Bypass esophagus to stomach with nonautologous tissue substitute, open approach Bypass esophagus to duodenum with nonautologous tissue substitute, open approach Bypass esophagus to jejunum with nonautologous tissue substitute, open approach Bypass esophagus to ileum with nonautologous tissue substitute, open approach Bypass esophagus to cutaneous, open approach Bypass esophagus to stomach, open approach Bypass esophagus to duodenum, open approach

0D150ZA	Bypass esophagus to jejunum, open approach
0D150ZB	Bypass esophagus to ileum, open approach
0D153J4	Bypass esophagus to cutaneous with synth sub, percutaneous approach
0D15474	Bypass esophagus to cutaneous with autologous substitute, percutaneous endoscopic
0D15476	Bypass esophagus to stomach with autologous substitute, percutaneous endoscopic
0D15479	Bypass esophagus to duodenum with autologous substitute, percutaneous endoscopic
0D1547A	Bypass esophagus to jejunum with autologous substitute, percutaneous endoscopic
0D1547B	Bypass esophagus to ileum with autologous substitute, percutaneous endoscopic
0D154J4	Bypass esophagus to cutaneous with synth sub, percutaneous endoscopic
0D154J6	Bypass esophagus to stomach with synth sub, percutaneous endoscopic
0D154J9	Bypass esophagus to duodenum with synth sub, percutaneous endoscopic
0D154JA	Bypass esophagus to jejunum with synth sub, percutaneous endoscopic
0D154JB	Bypass esophagus to ileum with synth sub, percutaneous endoscopic
0D154K4	Bypass esophagus to cutan with nonautologous substitute, percutaneous endoscopic
0D154K6	Bypass esophagus to stomach with nonautologous substitute, perc endo approach
0D154K9	Bypass esophagus to duodenum with nonaut sub, percutaneous endoscopic approach
0D154KA	Bypass esophagus to jejunum w nonaut sub, percutaneous endoscopic approach
0D154KB	Bypass esophagus to ileum with nonaut sub, percutaneous endoscopic approach
0D154Z4	Bypass esophagus to cutaneous, percutaneous endoscopic approach
0D154Z6	Bypass esophagus to stomach, percutaneous endoscopic approach
0D154Z9	Bypass esophagus to duodenum, percutaneous endoscopic approach
0D154ZA	Bypass esophagus to jejunum, percutaneous endoscopic approach
0D154ZB	Bypass esophagus to ileum, percutaneous endoscopic approach
0D15876	Bypass esophagus to stomach with autologous tissue substitute, endoscopic
0D15879	Bypass esophagus to duodenum with autologous tissue substitute, endoscopic
0D1587A	Bypass esophagus to jejunum with autologous tissue substitute, endoscopic
0D1587B	Bypass esophagus to ileum with autologous tissue substitute, endoscopic
0D158J6	Bypass esophagus to stomach with synthetic substitute
0D158J9	Bypass esophagus to duodenum with synthetic substitute
0D158JA	Bypass esophagus to jejunum with synthetic substitute
0D158JB	Bypass esophagus to ileum with synthetic substitute,
0D158K6	Bypass esophagus to stomach with nonautologous tissue substitute, endoscopic
0D158K9	Bypass esophagus to duodenum with nonautologous tissue substitute, endoscopic
0D158KA	Bypass esophagus to jejunum with nonautologous tissue substitute, endoscopic
0D158KB	Bypass esophagus to ileum with nonautologous tissue substitute, endoscopic
0D158Z6	Bypass esophagus to stomach, via natural or artificial opening endoscopic
0D158Z9	Bypass esophagus to duodenum, via natural or artificial opening endoscopic
0D158ZA	Bypass esophagus to jejunum, via natural or artificial opening endoscopic
0D158ZB	Bypass esophagus to ileum, via natural or artificial opening endoscopic
0DB10ZX	Excision of upper esophagus, open approach, diagnostic
0DB10ZZ	Excision of upper esophagus, open approach
0DB14ZZ	Excision of upper esophagus, percutaneous endoscopic approach
0DB18ZZ	Excision of upper esophagus, via natural or artificial opening endoscopic
0DB20ZX	Excision of middle esophagus, open approach, diagnostic
0DB20ZZ	Excision of middle esophagus, open approach
0DB24ZZ	Excision of middle esophagus, percutaneous endoscopic approach
0DB30ZZ	Excision of lower esophagus, open approach

	0DB34ZZ	Excision of lower esophagus, percutaneous endoscopic approach
	0DB38ZZ	Excision of lower esophagus, via natural or artificial opening endoscopic
	0DB40ZX	Excision of esophagogastric junction, open approach, diagnostic
	0DB40ZZ	Excision of esophagogastric junction, open approach
	0DB43ZZ	Excision of esophagogastric junction, percutaneous approach
	0DB44ZZ	Excision of esophagogastric junction, percutaneous endoscopic approach
	0DB47ZZ	Excision of esophagogastric junction, via natural or artificial opening
	0DB48ZZ	Excision of esophagogastric junction, via natural or artificial opening endoscopic
	0DB50ZZ	Excision of esophagus, open approach
	0DB50ZZ	Excision of esophagus, open approach
	0DB53ZZ	Excision of esophagus, percutaneous approach
	0DB53ZZ	Excision of esophagus, percutaneous approach
	0DB54ZZ	Excision of esophagus, percutaneous endoscopic approach
	0DB57ZZ	Excision of esophagus, via natural or artificial opening
	0DB57ZZ	Excision of esophagus, via natural or artificial opening
	0DB58ZZ	Excision of esophagus, via natural or artificial opening endoscopic
	0DT10ZZ	Resection of upper esophagus, open approach
	0DT14ZZ	Resection of upper esophagus, percutaneous endoscopic approach
	0DT20ZZ	Resection of middle esophagus, open approach
	0DT24ZZ	Resection of middle esophagus, percutaneous endoscopic approach
	0DT30ZZ	Resection of lower esophagus, open approach
	0DT34ZZ	Resection of lower esophagus, percutaneous endoscopic approach
	0DT38ZZ	Resection of lower esophagus, via natural or artificial opening endoscopic
	0DT40ZZ	Resection of esophagogastric junction, open approach
	0DT44ZZ	Resection of esophagogastric junction, percutaneous endoscopic approach
	0DT48ZZ	Resection of esophagogastric junction, via natural or artificial opening endoscopic
	0DT50ZZ	Resection of esophagus, open approach
	0DT54ZZ	Resection of esophagus, percutaneous endoscopic approach
	0DT57ZZ	Resection of esophagus, via natural or artificial opening
	0DT58ZZ	Resection of esophagus, via natural or artificial opening endoscopic
	0DT60ZZ	Resection of stomach, open approach
	0DT64ZZ	Resection of stomach, percutaneous open approach
	0DT67ZZ	Resection of stomach, via natural or artificial opening
	0DT68ZZ	Resection of stomach, via natural or artificial opening endoscopic
	0DX60Z5	Transfer stomach to esophagus, open approach
	0DX64Z5	Transfer stomach to esophagus, percutaneous endoscopic approach
	0DX80Z5	Transfer small intestine to esophagus, open approach
	0DX84Z5	Transfer small intestine to esophagus, percutaneous endoscopic approach
	0DXE0Z5	Transfer large intestine to esophagus, open approach
	0DXE4Z5	Transfer large intestine to esophagus, percutaneous endoscopic approach
Liver		
Diagnosis	C22.0	Liver cell carcinoma
	C22.1	Intrahepatic bile duct carcinoma
	C22.2	Hepatoblastoma
	C22.3	Angiosarcoma of liver
	C22.4	Other sarcomas of liver
	C22.7	Other specified carcinomas of liver

	C22.8 C22.9 C24.0 C24.1 C24.8 C78.7 C7B.02 C80.1 D01.5	Malignant neoplasm of liver, primary, unspecified as to type Malignant neoplasm of liver, not specified as primary or secondary Malignant neoplasm of extrahepatic bile duct Malignant neoplasm of ampulla of vater Malignant neoplasm of overlapping sites of biliary tract Secondary malignant neoplasm of liver and intrahepatic bile duct Secondary carcinoid tumors of liver Malignant (primary) neoplasm, unspecified Carcinoma in situ of liver, gallbladder and bile ducts
Procedure	0FB00ZX 0FB00ZZ 0FB03ZZ 0FB04ZZ 0FB10ZX 0FB10ZZ 0FB14ZZ 0FB20ZX 0FB20ZZ 0FB24ZZ OFT00ZZ OFT10ZZ OFT14ZZ OFT20ZZ OFT24ZZ	Excision of liver, open approach, diagnostic Excision of liver, open approach Excision of liver, percutaneous approach Excision of liver, percutaneous endoscopic approach Excision of right lobe liver, open approach, diagnostic Excision of right lobe liver, open approach Excision of right lobe liver, percutaneous endoscopic approach Excision of left lobe liver, open approach, diagnostic Excision of left lobe liver, open approach Excision of left lobe liver, percutaneous endoscopic approach Resection of liver, open approach Resection of right lobe liver, open approach Resection of right lobe liver, percutaneous endoscopic approach Resection of left lobe liver, open approach Resection of left lobe liver, percutaneous endoscopic approach
Lung		
Diagnosis	C34.10 C34.11 C34.12 C34.2 C34.30 C34.31 C34.32 C34.80 C34.81 C34.82 C34.90 C34.91 C34.92 D02.20	Malignant neoplasm of upper lobe, unspecified bronchus or lung Malignant neoplasm of upper lobe, right bronchus or lung Malignant neoplasm of upper lobe, left bronchus or lung Malignant neoplasm of middle lobe, bronchus or lung Malignant neoplasm of lower lobe, unspecified bronchus or lung Malignant neoplasm of lower lobe, right bronchus or lung Malignant neoplasm of lower lobe, left bronchus or lung Malignant neoplasm of overlapping sites of unspecified bronchus and lung Malignant neoplasm of overlapping sites of right bronchus and lung Malignant neoplasm of overlapping sites of left bronchus and lung Malignant neoplasm of unspecified part of unspecified bronchus or lung Malignant neoplasm of unspecified part of right bronchus or lung Malignant neoplasm of unspecified part of left bronchus or lung Carcinoma in situ of unspecified bronchus and lung
Procedure	01B30ZZ 01BL0ZZ 0B5K0ZZ 0B5K3ZZ 0B5K7ZZ 0B5L0ZZ 0B5L3ZZ 0B5L7ZZ	Excision of brachial plexus, open approach Excision of thoracic sympathetic nerve, open approach Destruction of right lung, open approach Destruction of right lung, percutaneous approach Destruction of right lung, via natural or artificial Destruction of left lung, open approach Destruction of left lung, percutaneous approach Destruction of left lung, via natural or artificial

OB5M0ZZ	Destruction of bilateral lungs, open approach
OB5M3ZZ	Destruction of bilateral lungs, percutaneous approach
OB5M7ZZ	Destruction of bilateral lungs, via natural or artificial opening
0BB38ZZ	Excision of right main bronchus, via natural or artificial opening endoscopic
0BB40ZZ	Excision of right upper lobe bronchus, open approach
0BB44ZZ	Excision of right upper lobe bronchus, percutaneous endoscopic approach
0BB64ZZ	Excision of right lower lobe bronchus, percutaneous endoscopic approach
0BB78ZZ	Excision of left main bronchus, via natural or artificial opening endoscopic
0BB80ZZ	Excision of left upper lobe bronchus, open approach
0BB84ZZ	Excision of left upper lobe bronchus, percutaneous endoscopic approach
0BBC0ZZ	Excision of right upper lung lobe, open approach
0BBC4ZZ	Excision of right upper lung lobe, percutaneous endoscopic approach
0BBD0ZZ	Excision of right middle lung lobe, open approach
0BBD4ZZ	Excision of right middle lung lobe, percutaneous endoscopic approach
0BBF0ZZ	Excision of right lower lung lobe, open approach
0BBF4ZZ	Excision of right lower lung lobe, percutaneous endoscopic approach
0BBG0ZZ	Excision of left upper lung lobe, open approach
0BBG4ZZ	Excision of left upper lung lobe, percutaneous endoscopic approach
0BBH4ZZ	Excision of lung lingula, percutaneous endoscopic approach
0BBJ0ZZ	Excision of left lower lung lobe, open approach
0BBJ4ZZ	Excision of left lower lung lobe, percutaneous endoscopic approach
0BBK0ZZ	Excision of right lung, open approach
0BBK3ZZ	Excision of right lung, percutaneous approach
0BBK4ZZ	Excision of right lung, percutaneous endoscopic approach
0BBK7ZZ	Excision of right lung, via natural or artificial op
0BBL0ZZ	Excision of left lung, open approach
0BBL3ZZ	Excision of left lung, percutaneous approach
0BBL4ZZ	Excision of left lung, percutaneous endoscopic approach
0BBL7ZZ	Excision of left lung, via natural or artificial opening
0BBM0ZZ	Excision of bilateral lungs, open approach
0BBM3ZZ	Excision of bilateral lungs, percutaneous approach
0BBM7ZZ	Excision of bilateral lungs, via opening
0BT40ZZ	Resection of right upper lobe bronchus, open approach
0BT44ZZ	Resection of right upper lobe bronchus, percutaneous endoscopic approach
0BT54ZZ	Resection of right middle lobe bronchus, percutaneous endoscopic approach
0BT64ZZ	Resection of right lower lobe bronchus, percutaneous endoscopic approach
0BT84ZZ	Resection of left upper lobe bronchus, percutaneous endoscopic approach
0BTB4ZZ	Resection of left lower lobe bronchus, percutaneous endoscopic approach
0BTC0ZZ	Resection of right upper lung lobe, open approach
0BTC4ZZ	Resection of right upper lung lobe, percutaneous endoscopic approach
0BTD0ZZ	Resection of right middle lung lobe, open approach
0BTD4ZZ	Resection of right middle lung lobe, percutaneous endoscopic approach
0BTF0ZZ	Resection of right lower lung lobe, open approach
0BTF4ZZ	Resection of right lower lung lobe, percutaneous endoscopic approach
0BTG0ZZ	Resection of left upper lung lobe, open approach
0BTG4ZZ	Resection of left upper lung lobe, percutaneous endoscopic approach
0BTH0ZZ	Resection of lung lingula, open approach

	<p>OBTH4ZZ OBTH4ZZ OBTJ0ZZ OBTJ4ZZ OBTK0ZZ OBTK4ZZ OBTLOZZ OBTL4ZZ OBTMOZZ OBTM4ZZ OPB10ZZ OPB20ZZ 8E0W4CZ</p>	<p>Resection of lung lingula lobe, percutaneous endoscopic approach Resection of lung lingula, percutaneous endoscopic a Resection of left lower lung lobe, open approach Resection of left lower lung lobe, percutaneous endoscopic approach Resection of right lung, open approach Resection of right lung, percutaneous endoscopic app Resection of left lung, open approach Resection of left lung, percutaneous endoscopic approach Resection of bilateral lungs, open approach Resection of bilateral lungs, percutaneous endoscopic approach Excision of right rib, open approach Excision of left rib, open approach Robotic assisted procedure of trunk, percutaneous endoscopic approach</p>
Pancreas		
Diagnosis	<p>C25.0 C25.1 C25.2 C25.3 C25.4 C25.7 C25.8 C25.9</p>	<p>Malignant neoplasm of head of pancreas Malignant neoplasm of body of pancreas Malignant neoplasm of tail of pancreas Malignant neoplasm of pancreatic duct Malignant neoplasm of endocrine pancreas Malignant neoplasm of other parts of pancreas Malignant neoplasm of overlapping sites of pancreas Malignant neoplasm of pancreas, unspecified</p>
Procedure	<p>OD1607A OD160JA OD160KA OD160ZA ODB90ZZ ODB93ZZ ODB94ZZ ODB97ZZ ODB98ZZ ODT90ZZ ODT94ZZ ODT97ZZ ODT98ZZ OF190Z3 OF1G0ZB OFB90ZZ OFBC8ZX OFBG0ZX OFBG0ZZ OFBG3ZZ OFBG4ZZ OFTG0ZZ OFTG4ZZ 8E0W0CZ 8E0W4CZ</p>	<p>Bypass stomach to jejunum with autologous substitute, open approach Bypass stomach to jejunum with synth sub, open approach Bypass stomach to jejunum with nonautologous substitute, open approach Bypass stomach to jejunum, open approach Excision of duodenum, open approach Excision of duodenum, percutaneous approach Excision of duodenum, percutaneous endoscopic approach Excision of duodenum, via natural or artificial open Excision of duodenum, via natural or artificial opening endoscopic Resection of duodenum, open approach Resection of duodenum, percutaneous endoscopic approach Resection of duodenum, via natural or artificial opening Resection of duodenum, via natural or artificial opening endoscopic Bypass common bile duct to duodenum, open approach Bypass pancreas to small intestine, open approach Excision of common bile duct, open approach Excision of ampulla of vater, via natural or artificial opening endoscopic, diagnostic Excision of pancreas, open approach, diagnostic Excision of pancreas, open approach Excision of pancreas, percutaneous approach Excision of pancreas, percutaneous endoscopic approach Resection of pancreas, open approach Resection of pancreas, percutaneous endoscopic approach Robotic assisted procedure of trunk region, open approach Robotic assisted procedure of trunk, percutaneous endoscopic approach</p>

Prostate		
Diagnosis	C61 D07.5	Malignant neoplasm of prostate Carcinoma in situ of prostate
Procedure	0TTB0ZZ 0TTB4ZZ 0TTB7ZZ 0TTB8ZZ 0TTD0ZZ 0TTD4ZZ 0TTD7ZZ 0TTD8ZZ 0V508ZZ 0VB00ZZ 0VB04ZZ 0VB07ZZ 0VB08ZZ 0VT00ZZ 0VT04ZZ 0VT07ZZ 0VT08ZZ 0VT30ZZ 0VT34ZZ 8E0W0CZ 8E0W4CZ	Resection of bladder, open approach Resection of bladder, percutaneous endoscopic approach Resection of bladder, via natural or artificial open Resection of bladder, via natural or artificial opening endoscopic Resection of urethra, open approach Resection of urethra, percutaneous endoscopic approach Resection of urethra, via natural or artificial open Resection of urethra, via natural or artificial opening endoscopic Destruction of prostate, via natural or artificial opening endoscopic Excision of prostate, open approach Excision of prostate, percutaneous endoscopic approach Excision of prostate, via natural or artificial opening Excision of prostate, via natural or artificial opening endoscopic Resection of prostate, open approach Resection of prostate, percutaneous endoscopic approach Resection of prostate, via natural or artificial opening Resection of prostate, via natural or artificial opening endoscopic Resection of bilateral seminal vesicles, open approach Resection of bilateral seminal vesicles, percutaneous endoscopic approach Robotic assisted procedure of trunk region, open approach Robotic assisted procedure of trunk, percutaneous endoscopic approach
Rectum		
Diagnosis	C19 C20 C21.8 D01.2	Malignant neoplasm of rectosigmoid junction Malignant neoplasm of rectum Carcinoma in situ of rectum Malignant neoplasm of overlapping sites of rectum, anus and anal canal
Procedure	0D1N0Z4 0D1N4Z4 0DBP0ZX 0DBP0ZZ 0DBP4ZZ 0DBP7ZZ 0DBP8ZX 0DBP8ZZ 0DTN0ZZ 0DTN4ZZ 0DTP0ZZ 0DTP4ZZ 0DTP7ZZ 0DTP8ZZ 0TTB0ZZ 0TTD0ZZ 0UT20ZZ 0UT70ZZ	Bypass sigmoid colon to cutaneous, open approach Bypass sigmoid colon to cutaneous, percutaneous endoscopic approach Excision of rectum, open approach, diagnostic Excision of rectum, open approach Excision of rectum, percutaneous endoscopic approach Excision of rectum, via natural or artificial opening Excision of rectum, via natural or artificial opening endoscopic, diagnostic Excision of rectum, via natural or artificial opening endoscopic Resection of sigmoid colon, open approach Resection of sigmoid colon, percutaneous endoscopic Resection of rectum, open approach Resection of rectum, percutaneous endoscopic approach Resection of rectum, via natural or artificial opening Resection of rectum, via natural or artificial opening endoscopic Resection of bladder, open approach Resection of urethra, open approach Resection of bilateral ovaries, open approach Resection of bilateral fallopian tubes, open approach

	<p>0UT90ZZ 0UTC0ZZ 0OUTGOZZ 8E0W0CZ 8E0W4CZ</p>	<p>Resection of uterus, open approach Resection of cervix, open approach Resection of vagina, open approach Robotic assisted procedure of trunk region, open approach Robotic assisted procedure of trunk, percutaneous endoscopic approach</p>
Stomach		
Diagnosis	<p>C16.0 C16.1 C16.2 C16.3 C16.4 C16.5 C16.6 C16.8 C16.9 C7A.092 D00.2</p>	<p>Malignant neoplasm of cardia Malignant neoplasm of fundus of stomach Malignant neoplasm of body of stomach Malignant neoplasm of pyloric antrum Malignant neoplasm of pylorus Malignant neoplasm of lesser curvature of stomach, unspecified Malignant neoplasm of greater curvature of stomach, unspecified Malignant neoplasm of overlapping sites of stomach Malignant neoplasm of stomach, unspecified Malignant carcinoid tumor of the stomach Carcinoma in situ of stomach</p>
Procedure	<p>0D13079 0D1307A 0D1307B 0D160ZA 0D164ZA 0D168ZA 0DB40ZZ 0DB43ZZ 0DB44ZZ 0DB47ZZ 0DB48ZZ 0DB60ZZ 0DB63ZZ 0DB64Z3 0DB64Z3 0DB64ZZ 0DB67ZZ 0DB68ZZ 0DB70ZZ 0DB74ZZ 0DB78ZX 0DT40ZZ 0DT44ZZ 0DT47ZZ 0DT48ZZ 0DT60ZZ 0DT64ZZ 0DT67ZZ 0DT68ZZ 0DT70ZZ</p>	<p>Bypass low esophagus to duodenum with autologous tissue substitute, open approach Bypass Low esophagus to jejunum with autologous tissue substitute, open approach Bypass Low esophagus to ileum with autologous tissue substitute, open approach Bypass stomach to jejunum, open approach Bypass stomach to jejunum, percutaneous endoscopic approach Bypass Stomach to Jejunum, via natural or artificial opening endoscopic Excision of esophagogastric junction, open approach Excision of esophagogastric junction, percutaneous approach Excision of esophagogastric junction, percutaneous endoscopic approach Excision of esophagogastric junction, via natural or artificial opening Excision of esophagogastric junction, via natural or artificial opening endoscopic Excision of stomach, open approach Excision of stomach, percutaneous approach Excision of stomach, percutaneous endoscopic approach Excision of stomach, percutaneous endoscopic approach, vertical Excision of stomach, percutaneous endoscopic approach Excision of stomach, via natural or artificial opening Excision of stomach, via natural or artificial opening endoscopic Excision of stomach, pylorus, open approach Excision of stomach, pylorus, percutaneous endoscopic approach Excision of stomach, pylorus, via natural or artificial opening endoscopic, diagnostic Resection of esophagogastric junction, open approach Resection of esophagogastric junction, percutaneous endoscopic approach Resection of esophagogastric junction, via natural or artificial opening Resection of esophagogastric junction, via natural or artificial opening endoscopic Resection of stomach, open approach Resection of stomach, percutaneous endoscopic approach Resection of stomach, via natural or artificial opening Resection of stomach, via natural or artificial opening endoscopic Resection of stomach, pylorus, open approach</p>

	0DT74ZZ	Resection of stomach, pylorus, percutaneous endoscopic approach
	0DT77ZZ	Resection of stomach, pylorus, via natural or artificial opening
	0DT78ZZ	Resection of stomach, pylorus, via natural or artificial opening endoscopic
	8E0W0CZ	Robotic assisted procedure of trunk region, open approach
	8E0W4CZ	Robotic assisted procedure of trunk, percutaneous endoscopic approach