

Appendix 1. Current Procedural Terminology (CPT) Codes Used for Inclusion and Exclusion Criteria

Category 1: Excluded CPT codes

CPT	Description	Reason for exclusion
58943	Oophorectomy, partial or total, unilateral or bilateral; for ovarian, tubal or primary peritoneal malignancy, with para-aortic and pelvic lymph node biopsies, peritoneal washings, peritoneal biopsies, diaphragmatic assessments, with or without salpingectomy(s), with or without omentectomy	Malignancy
58952	Resection (initial) of ovarian, tubal or primary peritoneal malignancy with bilateral salpingo-oophorectomy and omentectomy; with radical dissection for debulking (ie, radical excision or destruction, intra-abdominal or retroperitoneal tumors)	Malignancy
58953	Bilateral salpingo-oophorectomy with omentectomy, total abdominal hysterectomy and radical dissection for debulking;	Hysterectomy/ Malignancy
58954	Bilateral salpingo-oophorectomy with omentectomy, total abdominal hysterectomy and radical dissection for debulking; with pelvic lymphadenectomy and limited para-aortic lymphadenectomy	Hysterectomy/ Malignancy
58956	Bilateral salpingo-oophorectomy with total omentectomy, total abdominal hysterectomy for malignancy	Hysterectomy/ Malignancy

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58958	Resection (tumor debulking) of recurrent ovarian, tubal, primary peritoneal, uterine malignancy (intra-abdominal, retroperitoneal tumors), with omentectomy, if performed; with pelvic lymphadenectomy and limited para-aortic lymphadenectomy	Malignancy
58960	Laparotomy, for staging or restaging of ovarian, tubal, or primary peritoneal malignancy (second look), with or without omentectomy, peritoneal washing, biopsy of abdominal and pelvic peritoneum, diaphragmatic assessment with pelvic and limited para-aortic lymphadenectomy	Malignancy
59120	Surgical treatment of ectopic pregnancy; tubal or ovarian, requiring salpingectomy and/or oophorectomy, abdominal or vaginal approach	Ectopic
59151	Laparoscopic treatment of ectopic pregnancy; with salpingectomy and/or oophorectomy	Ectopic
59820	Treatment of missed abortion, completed surgically; first trimester	Treatment for missed abortion
59840	Induced abortion, by dilation and curettage	Treatment for missed abortion
49220	Staging laparotomy for Hodgkin's disease or lymphoma (includes splenectomy, needle or open biopsies of both liver lobes, possibly also removal of abdominal nodes, abdominal node and/or bone marrow biopsies, ovarian repositioning)	Malignancy
5153	Likely 51530 which is cystotomy; for excision of bladder tumor	Malignancy
38562	Limited lymphadenectomy for staging (separate procedure); pelvic and para-aortic	Malignancy

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38570	Laparoscopy, surgical; with retroperitoneal lymph node sampling (biopsy), single or multiple	Malignancy
38571	Laparoscopy, surgical; with bilateral total pelvic lymphadenectomy	Malignancy
38770	Pelvic lymphadenectomy, including external iliac, hypogastric, and obturator nodes (separate procedure)	Malignancy
38780	Retroperitoneal transabdominal lymphadenectomy, extensive, including pelvic, aortic, and renal nodes (separate procedure)	Malignancy
38900	Intraoperative identification (eg, mapping) of sentinel lymph node(s) includes injection of non-radioactive dye, when performed (List separately in addition to code for primary procedure)	Malignancy
57530	Trachelectomy (cervicectomy), amputation of cervix (separate procedure)	Trachelectomy
57531	Radical trachelectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling biopsy, with or without removal of tube(s), with or without removal of ovary(s)	Trachelectomy
57540	Excision of cervical stump, abdominal approach;	Trachelectomy
57720	Trachelorrhaphy, plastic repair of uterine cervix, vaginal approach	Trachelectomy
58150	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s);	Hysterectomy
58152	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s); with colpo-urethrocytopexy (eg, Marshall-Marchetti-Krantz, Burch)	Hysterectomy

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58180	Supracervical abdominal hysterectomy (subtotal hysterectomy), with or without removal of tube(s), with or without removal of ovary(s)	Hysterectomy
58200	Total abdominal hysterectomy, including partial vaginectomy, with para-aortic and pelvic lymph node sampling, with or without removal of tube(s), with or without removal of ovary(s)	Hysterectomy
58210	Radical abdominal hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy), with or without removal of tube(s), with or without removal of ovary(s)	Hysterectomy
58260	Vaginal hysterectomy, for uterus 250 g or less;	Hysterectomy
58291	Vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Hysterectomy
58541	Laparoscopy, surgical, supracervical hysterectomy, for uterus 250 g or less;	Hysterectomy
58542	Laparoscopy, surgical, supracervical hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Hysterectomy
58548	Laparoscopy, surgical, with radical hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph node sampling (biopsy), with removal of tube(s) and ovary(s), if performed	Hysterectomy
58552	Laparoscopy, surgical, with vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Hysterectomy
58570	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less;	Hysterectomy
58571	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)	Hysterectomy

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58573	Laparoscopy, surgical, with total hysterectomy, for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)	Hysterectomy
58960	Laparotomy, for staging or restaging of ovarian, tubal, or primary peritoneal malignancy (second look), with or without omentectomy, peritoneal washing, biopsy of abdominal and pelvic peritoneum, diaphragmatic assessment with pelvic and limited para-aortic lymphadenectomy	Malignancy
44950	Appendectomy	Bowel surgery
44955	Appendectomy; when done for indicated purpose at time of other major procedure (not as separate procedure) (List separately in addition to code for primary procedure)	Bowel surgery
44970	Laparoscopy, surgical, appendectomy	Bowel surgery
44979	Unlisted laparoscopy procedure, appendix	Bowel surgery
45300	Proctosigmoidoscopy, rigid; diagnostic, with or without collection of specimen(s) by brushing or washing (separate procedure)	Bowel surgery
45341	Sigmoidoscopy, flexible; with endoscopic ultrasound examination	Bowel surgery
45378	Colonoscopy, flexible; diagnostic, including collection of specimen(s) by brushing or washing, when performed (separate procedure)	Bowel surgery
45399	Unlisted procedure, colon	Bowel surgery
45400	Laparoscopy, surgical; proctopexy (for prolapse	Bowel surgery
45990	Anorectal exam, surgical, requiring anesthesia (general, spinal, or epidural), diagnostic	Bowel surgery
47480	Cholecystotomy or cholecystostomy, open, with exploration, drainage, or removal of calculus (separate procedure)	General surgery indication

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47562	Laparoscopy, surgical; cholecystectomy	General surgery indication
47600	Cholecystectomy	General surgery indication
43235	Esophagogastroduodenoscopy, flexible, transoral; diagnostic, including collection of specimen(s) by brushing or washing, when performed (separate procedure)	General surgery indication
43281	Laparoscopy, surgical, repair of paraesophageal hernia, includes fundoplasty, when performed; without implantation of mesh	General surgery indication
43830	Gastrostomy, open; without construction of gastric tube (eg, Stamm procedure) (separate procedure)	General surgery indication
44139	Mobilization (take-down) of splenic flexure performed in conjunction with partial colectomy (List separately in addition to primary procedure)	General surgery indication
44140	Colectomy, partial; with anastomosis	General surgery indication
44180	Laparoscopy, surgical, enterolysis (freeing of intestinal adhesion) (separate procedure)	General surgery indication
44188	Laparoscopy, surgical, colostomy or skin level cecostomy	General surgery indication
44204	Laparoscopy, surgical; colectomy, partial, with anastomosis	General surgery indication
44207	Laparoscopy, surgical; colectomy, partial, with anastomosis, with coloproctostomy (low pelvic anastomosis)	General surgery indication

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44213	Laparoscopy, surgical, mobilization (take-down) of splenic flexure performed in conjunction with partial colectomy (List separately in addition to primary procedure)	General surgery indication
44310	Ileostomy or jejunostomy, non-tube	General surgery indication
44602	Suture of small intestine (enterorrhaphy) for perforated ulcer, diverticulum, wound, injury or rupture; single perforation	General surgery indication
44603	Suture of small intestine (enterorrhaphy) for perforated ulcer, diverticulum, wound, injury or rupture; multiple perforations	General surgery indication
44604	Suture of large intestine (colorrhaphy) for perforated ulcer, diverticulum, wound, injury or rupture (single or multiple perforations); without colostomy	General surgery indication
44800	Excision of Meckel's diverticulum (diverticulectomy) or omphalomesenteric duct	General surgery indication
44850	Suture of mesentery (separate procedure)	General surgery indication
47015	Laparotomy, with aspiration and/or injection of hepatic parasitic (eg, amoebic or echinococcal) cyst(s) or abscess(es)	General surgery indication
49560	Repair initial incisional or ventral hernia; reducible	General surgery indication
49561	Repair initial incisional or ventral hernia; incarcerated or strangulated	General surgery indication
49585	Repair umbilical hernia, age 5 years or older; reducible	General surgery indication

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49587	Repair umbilical hernia, age 5 years or older; incarcerated or strangulated	General surgery indication
49600	Repair of small omphalocele, with primary closure	General surgery indication
49652	Laparoscopy, surgical, repair, ventral, umbilical, spigelian or epigastric hernia (includes mesh insertion, when performed); reducible	General surgery indication
49656	Laparoscopy, surgical, repair, recurrent incisional hernia (includes mesh insertion, when performed); reducible	General surgery indication
49905	Omental flap, intra-abdominal (List separately in addition to code for primary procedure)	General surgery indication
50205	Renal biopsy; by surgical exposure of kidney	General surgery indication
59025	Fetal non-stress test	Possible pregnancy torsion
58545	Laparoscopy, surgical, myomectomy, excision; 1 to 4 intramural myomas with total weight of 250 g or less and/or removal of surface myomas	Pregnancy related
58546	Laparoscopy, surgical, myomectomy, excision; 5 or more intramural myomas and/or intramural myomas with total weight greater than 250 g	Myomectomy
44055	Correction of malrotation by lysis of duodenal bands and/or reduction of midgut volvulus (eg, Ladd procedure)	General surgery indication

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58140	Myomectomy, excision of fibroid tumor(s) of uterus, 1 to 4 intramural myoma(s) with total weight of 250 g or less and/or removal of surface myomas; abdominal approach	Myomectomy
49255	Omentectomy, epiploectomy, resection of omentum (separate procedure)	General surgery indication

Category 2: Oophorectomy CPT Codes

CPT	Description
58720	Salpingo-oophorectomy, complete or partial, unilateral or bilateral (separate procedure)
58940	Oophorectomy, partial or total, unilateral or bilateral;

Category 3: CPT codes eligible for inclusion as either oophorectomy or ovarian conservation; cases not meeting criteria for exclusion (listed above, category 1) or classification as oophorectomy (listed above, category 2) were classified as ovarian conservation

CPT	Description
49203	Excision or destruction, open, intra-abdominal tumors, cysts or endometriomas, 1 or more peritoneal, mesenteric, or retroperitoneal primary or secondary tumors; largest tumor 5 cm diameter or less
49204	Excision or destruction, open, intra-abdominal tumors, cysts or endometriomas, 1 or more peritoneal, mesenteric, or retroperitoneal primary or secondary tumors; largest tumor 5.1-10.0 cm diameter
49205	Excision or destruction, open, intra-abdominal tumors, cysts or endometriomas, 1 or more peritoneal, mesenteric, or retroperitoneal primary or secondary tumors; largest tumor greater than 10.0 cm diameter

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49320	Laparoscopy, abdomen, peritoneum, and omentum, diagnostic, with or without collection of specimen(s) by brushing or washing (separate procedure)
49321	Laparoscopy, surgical; with biopsy (single or multiple)
49322	Laparoscopy, surgical; with aspiration of cavity or cyst (eg, ovarian cyst) (single or multiple)
49323	Laparoscopy, surgical; with drainage of lymphocele to peritoneal cavity
49329	Unlisted laparoscopy procedure, abdomen, peritoneum and omentum
49999	Unlisted procedure, abdomen, peritoneum and omentum
58600	Ligation or transection of fallopian tube(s), abdominal or vaginal approach, unilateral or bilateral
58660	Laparoscopy, surgical; with lysis of adhesions (salpingolysis, ovariolysis) (separate procedure)
58661*	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)
58662	Laparoscopy, surgical; with fulguration or excision of lesions of the ovary, pelvic viscera, or peritoneal surface by any method
58670	Laparoscopy, surgical; with fulguration of oviducts (with or without transection)
58679	Unlisted laparoscopy procedure, oviduct, ovary
58700	Salpingectomy, complete or partial, unilateral or bilateral (separate procedure)
58740	Lysis of adhesions (salpingolysis, ovariolysis)

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58800	Drainage of ovarian cyst(s), unilateral or bilateral (separate procedure); vaginal approach
58805	Drainage of ovarian cyst(s), unilateral or bilateral (separate procedure); abdominal approach
58822	Drainage of ovarian abscess; abdominal approach
58825	Transposition, ovary(s)
58900	Biopsy of ovary, unilateral or bilateral (separate procedure)
58920	Wedge resection or bisection of ovary, unilateral or bilateral
58925	Ovarian cystectomy, unilateral or bilateral

*Patients with the CPT code 58661 were included in the oophorectomy group when their primary ICD code indicated torsion of the ovary (N83.5, N83.51, N83.511, N83.512, N83.519, N83.53), while patients with the CPT code 58661 were included in the conservative management group when their primary ICD code indicated torsion of the fallopian tube but not the ovary (N83.52, N83.521, or N83.522).

Appendix 2. Table of Top Five Principle and Concurrent Current Procedural Terminology (CPT) Codes Among Oophorectomy and Ovarian Conservation Cases

Oophorectomy

CPT	Description	Number of cases with CPT code (%)
58661	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)	780 (62%)
58720	Salpingo-oophorectomy, complete or partial, unilateral or bilateral (separate procedure)	362 (29%)
58940	Oophorectomy, partial or total, unilateral or bilateral;	116 (9%)
58662	Laparoscopy, surgical; with fulguration or excision of lesions of the ovary, pelvic viscera, or peritoneal surface by any method	41 (3%)
58925	Ovarian cystectomy, unilateral or bilateral	20 (2%)

Ovarian conservation

CPT	Description	Number of cases with CPT code (%)
58662	Laparoscopy, surgical; with fulguration or excision of lesions of the ovary, pelvic viscera, or peritoneal surface by any method	181 (33%)
58925	Ovarian cystectomy, unilateral or bilateral	120 (22%)
49322	Laparoscopy, surgical; with aspiration of cavity or cyst (eg, ovarian cyst) (single or multiple)	77 (14%)
58661	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)	66 (12%)
58679	Unlisted laparoscopy procedure, oviduct, ovary	62 (11%)

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Appendix 3. Counts for Number of Oophorectomy Cases and Total Cases per Year

Year	Oophorectomy	Total Cases
2008	15	16
2009	15	17
2010	16	19
2011	16	28
2012	35	45
2013	27	47
2014	48	65
2015	58	86
2016	59	79
2017	176	239
2018	234	317
2019	240	370
2020	310	463
Total Counts	542	1791

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