



# Medical Coverage Policy

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## Prophylactic Oophorectomy or Salpingo-oophorectomy With or Without Hysterectomy

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### Related Coverage Resources

- [Colorectal Cancer Screening and Surveillance](#)
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- [Genetic Testing for Hereditary and Multifactorial Conditions](#)
- [Prophylactic Mastectomy](#)

#### INSTRUCTIONS FOR USE

The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

### Coverage Policy

**Prophylactic oophorectomy or salpingo-oophorectomy is considered medically necessary when ANY of the following criteria is met:**

- genetic mutation confirmed by molecular testing for breast and ovarian cancer susceptibility genes (BRCA1 or BRCA2)
- personal premenopausal history of steroid hormone receptor-positive breast cancer
- personal history of breast cancer and **one** first-degree\* relative with a history of ovarian cancer
- two or more first-degree\* relatives with early onset ovarian and/or breast cancer
- known familial cancer syndrome associated with increased risk of ovarian cancer (e.g., hereditary nonpolyposis colorectal cancer [HNPCC], also known as Lynch syndrome)

\*A first-degree relative is defined as a blood relative with whom an individual shares approximately 50% of his/her genes, including the individual's parents, full siblings, and children.

**Prophylactic hysterectomy is considered medically necessary when performed with bilateral oophorectomy for those who have been diagnosed with HNPCC, found to be carriers of HNPCC**

associated mutations, or are members of HNPCC families as determined by a pattern of occurrence of HNPCC-related cancers.

## Overview

This Coverage Policy addresses prophylactic oophorectomy, also referred to as risk-reducing salpingo-oophorectomy, performed to decrease the risk of ovarian and/or breast cancer occurrence in women who are at increased risk (e.g., those with BRCA mutations).

## General Background

Ovarian cancer is the fifth leading cause of cancer death among women in the United States and has the highest mortality rate of all gynecologic cancers. Ovarian and breast cancer are components of several inherited cancer syndromes including familial site-specific ovarian cancer; hereditary breast/ovarian cancer; and Lynch syndrome, which is a combination of breast, ovarian, endometrial, gastrointestinal, and genitourinary cancers. For the general population of women, the lifetime risk of developing ovarian cancer is 1.3%; the lifetime risk of dying from ovarian cancer is 0.97%. Reproductive, demographic, and lifestyle factors affect the risk of ovarian cancer however, the greatest ovarian cancer risk factor is a family history of the disease. Most hereditary breast and ovarian cancers are caused by inherited mutations in the BRCA1 or BRCA2 genes, which lead to an increased risk of developing ovarian cancer. When the family history indicates a sporadic case of ovarian cancer the risk of developing ovarian cancer is increased and when there is a hereditary cancer syndrome (eg, breast-ovarian cancer syndrome usually associated with a BRCA1/BRCA2 mutation, Lynch syndrome, or other syndromes) the risk is substantially greater. In these hereditary cancer syndromes, ovarian cancer typically occurs in a first- or second-degree relative at age under 50 years, or relatives in two or more generations who had ovarian or related cancers (Carlson, 2018; National Cancer Institute [NCI], 2018c; NCI 2018d). Women with a family history of cancer of the breast, uterus, colon, or rectum may also have an increased risk of ovarian cancer. According to the NCI, features of hereditary cancer include the following (NCI, 2018a):

In the individual patient:

- multiple primary tumors in the same organ
- multiple primary tumors in different organs
- bilateral primary tumors in paired organs
- multifocality within a single organ (e.g., multiple tumors in the same breast all of which have arisen from one original tumor)
- younger-than-usual age at tumor diagnosis
- tumors with rare histology
- tumors occurring in the sex not usually affected (e.g., breast cancer in men)
- tumors associated with other genetic traits; congenital defects; an inherited precursor lesion; or another rare disease;
- tumors associated with cutaneous lesions known to be related to cancer susceptibility disorders (e.g., the genodermatoses)

In the patient's family:

- one first-degree relative with the same or a related tumor and one of the individual features listed
- two or more first-degree relatives with tumors of the same site
- two or more first-degree relatives with tumor types belonging to a known familial cancer syndrome
- two or more first-degree relatives with rare tumors
- three or more relatives in two generations with tumors of the same site or etiologically related sites

Clinical examination (i.e., bimanual pelvic examination) lacks the sensitivity needed to reliably identify early ovarian cancer, and there continues to be a lack of effective ovarian cancer detection methods. Prophylactic oophorectomy, the surgical removal of the ovaries, is a surgical option to reduce the risk of developing both

ovarian and breast cancer in high-risk women (e.g., those with BRCA mutations, site-specific ovarian cancer syndrome, or Lynch Syndrome). Although not technically the same, the term risk-reducing salpingo-oophorectomy (RRSO), which includes removal of the ovaries and fallopian tubes, is used interchangeably with prophylactic oophorectomy. RRSO has been shown to reduce the risk of ovarian cancer, fallopian tube cancer, and peritoneal cancer by approximately 80% in women with known mutations in BRCA1 or BRCA2. In addition, RRSO has been shown to decrease overall mortality in women with a BRCA1 or BRCA2 mutation. The procedure has also been shown to reduce the risk of breast cancer by 37–100%. This protection likely occurs only if patients are premenopausal at the time of risk-reducing salpingo-oophorectomy (American College of Obstetricians and Gynecologists [ACOG], 2017). The degree of risk for ovarian or breast cancer, potential morbidity and mortality of surgery and the risks associated with early menopause should be taken into account when considering prophylactic oophorectomy for high-risk women.

### **Literature Review**

Numerous studies have found that women at inherited risk of breast and ovarian cancer have a decreased risk of ovarian cancer following prophylactic oophorectomy. The available evidence evaluating the impact of prophylactic oophorectomy on individuals at high risk for ovarian cancer includes systematic reviews, case-control and cohort studies. Studies have primarily evaluated women with inherited mutations in BRCA1 or BRCA2. A Hayes Medical Technology Directory report evaluated prophylactic oophorectomy for the prevention of ovarian cancer. The review included observational studies (n=14 studies) with patient populations ranging from 324–42004 and follow-up through 29.5 years. Studies compared prophylactic oophorectomy performed with hysterectomy to hysterectomy alone, or prophylactic oophorectomy to ovarian conservation. It was concluded that low quality evidence indicates prophylactic oophorectomy may reduce the risk of developing ovarian cancer in women with increased risk of breast or ovarian cancer due to family history or the presence of a BRCA1 mutation. Studies identified in a 2017 update of the Hayes Medical Technology Directory report did not change this conclusion (Hayes, 2013; 2017).

A systematic review (n=18 studies) by Bermejo-Pérez and colleagues (2007) assessed the effectiveness of preventive intervention strategies (i.e., prophylactic surgery, intensive cancer screening, and chemoprevention) implemented in women carrying mutations in BRCA1 or BRCA2 genes, in terms of reducing breast and gynecological cancer incidence and/or mortality. Although methodological flaws were identified in all the studies examined, overall, study results indicated that compared to surveillance, oophorectomy or salpingo-oophorectomy led to a reduction in breast cancer incidence in carriers of BRCA mutations.

Case-control and cohort studies (n=170–1828) with median follow-up through 25 years have demonstrated that prophylactic oophorectomy is associated with a significant reduction in the risk of both ovarian and breast cancer (Domchek, et al., 2006; Finch, et al.; 2006; Rocca, et al., 2006; Rebbeck, et al., 2002; Kauff, et al., 2002).

### **Hysterectomy Performed with Prophylactic Oophorectomy**

Hereditary nonpolyposis colorectal cancer (HNPCC), also known as Lynch syndrome, is an autosomal-dominant condition caused by mutation of one of several deoxyribonucleic acid (DNA) mismatch repair (MMR) genes. HNPCC accounts for about 3% of all newly diagnosed colorectal cancer cases. Individuals with an HNPCC gene mutation have an estimated 50%–70% lifetime risk of developing colon or rectal cancer (NCI, 2018b). Genetic testing can identify the majority of individuals with HNPCC before they develop cancer. The characteristics of HNPCC include early onset of colorectal cancer (average age at diagnosis is 45 years) and an increased risk of other cancers, predominantly those of the ovary, uterus, stomach and small bowel. Indications of an HNPCC family include multiple relatives with colon cancers, or a colon and endometrial cancer, and clusters of colorectal and other cancers of the gastrointestinal (e.g., stomach, small intestine, pancreas), urinary or female reproductive system. Ovarian cancer risk is reported to be 3.5 times higher in HNPCC families than in the general population. For premenopausal women with Lynch syndrome who have completed childbearing, RRBSO rather than ovarian cancer screening or chemoprevention is suggested. Women with Lynch syndrome should also undergo hysterectomy due to their markedly increased risk of endometrial cancer (Muto, 2017).

**Literature Review:** There is limited evidence in the form of controlled studies demonstrating the effectiveness of prophylactic surgery in at-risk HNPCC mutation carriers, and it is unlikely that randomized controlled studies will be performed, given the rarity and nature of this condition. A systematic review of observational studies by Lindor et al. (2006) provided recommendations for the clinical management of those with an inherited predisposition to

Lynch syndrome. The authors found fair evidence supporting the efficacy of prophylactic hysterectomy and oophorectomy as an option for women age 35 or older who do not want to preserve fertility (Lindor, et al., 2006).

A retrospective study by Schmeler et al. (2006) compared women who had undergone prophylactic hysterectomy (n=61) and those who had undergone prophylactic hysterectomy and bilateral salpingo-oophorectomy (n=47) to mutation-positive women who had not undergone prophylactic procedures (n=210). No endometrial, ovarian, or primary peritoneal cancers developed among the women who had undergone prophylactic surgery, while in the control group, endometrial and ovarian cancers were diagnosed in 69 (33%), and 12 (5%) women respectively.

Burke et al. (1997) reported conclusions of the Cancer Genetics Studies Consortium. It was stated that although no data were available on the efficacy of hysterectomy combined with oophorectomy in the management of HNPCC, the two surgeries should be offered as a combined option for preventing endometrial and ovarian cancer in women known to have HNPCC or to be carriers of HNPCC-associated mutations (Burke, et al., 1997). Despite the lack of robust evidence, available studies in addition to recommendations based upon expert opinion support consideration of prophylactic oophorectomy with hysterectomy for the management of HNPCC.

### **Professional Societies/Organizations**

**American College of Obstetricians and Gynecologists (ACOG):** The 2015 ACOG committee opinion on salpingectomy for ovarian cancer prevention included the following recommendations based on the current understanding of ovarian carcinogenesis and the safety of salpingectomy (ACOG, 2015; reaffirmed 2017):

1. The surgeon and patient should discuss the potential benefits of the removal of the fallopian tubes during a hysterectomy in women at population risk of ovarian cancer who are not having an oophorectomy.
2. Prophylactic salpingectomy may offer clinicians the opportunity to prevent ovarian cancer in their patients.
3. Randomized controlled trials are needed to support the validity of this approach to reduce the incidence of ovarian cancer.

**American College of Obstetricians and Gynecologists (ACOG) and Society of Gynecologic Oncology (SGO):** According to the joint ACOG/SGO practice bulletin on hereditary breast and ovarian cancer syndrome, a risk-reducing salpingo-oophorectomy (RRSO) should be offered to women with BRCA1 or BRCA2 mutations or another mutation predisposing to ovarian cancer. The timing of risk-reducing bilateral salpingo-oophorectomy can be individualized based on the particular genetic mutation, the patient's desires for future childbearing and family history. The RRSO is typically recommended for BRCA1 carriers with the highest lifetime risk of ovarian cancer at age 35–40 years. Women with BRCA2 may consider delaying until age 40–45 years because of later onset of ovarian cancer (ACOG, 2017).

In 2014, the ACOG/SGO published a joint practice bulletin on Lynch syndrome (HNPCC). The bulletin stated that a risk-reducing option for women with Lynch syndrome who have completed childbearing is a prophylactic hysterectomy and bilateral salpingo-oophorectomy. A risk-reducing hysterectomy and salpingo-oophorectomy should be discussed with the patient by their early to mid-40s.

**National Cancer Institute (NCI):** According to the NCI guidelines on ovarian, fallopian tube, and primary peritoneal cancer prevention and the genetics of breast and gynecologic cancers, risk-reducing bilateral salpingo-oophorectomy is associated with a decreased risk of developing ovarian cancer and an increased overall survival for women with an inherited risk of breast and ovarian cancer (e.g., mutations in BRCA1, BRCA2, or Lynch syndrome-associated genes). Risk-reducing surgery for the prevention of gynecologic cancers in Lynch syndrome families is an effective strategy to prevent endometrial and ovarian cancer (NCI, 2018b; NCI, 2018d).

**National Comprehensive Cancer Network® (NCCN):** The NCCN guidelines for genetic/familial high-risk assessment: breast and ovarian cancer stated that RRSO has been reported to reduce the risk of both breast

and ovarian cancers. The NCCN panel recommends RRSO for women with a known BRCA1 or BRCA2 mutation, typically between ages of 35 and 40 and upon completion of childbearing (NCCN, 2018d).

The NCCN guidelines for genetic/familial high-risk assessment: colorectal stated that prophylactic total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH/BSO) may be considered as a risk-reducing option for women with HNPCC. According to the NCCN, timing of a BSO should be individualized and based on childbearing or menopause status, comorbidities, family history and Lynch syndrome gene (NCCN, 2018a).

**U.S. Preventive Services Task Force (USPSTF):** The USPSTF recommendations included screening women whose family history may be associated with an increased risk for potentially harmful BRCA mutations. The family history that is associated with an increased risk includes breast cancer diagnosis before age 50 years, bilateral breast cancer, presence of breast and ovarian cancer, presence of breast cancer in one or more male family members, multiple cases of breast cancer in the family, one or more family members with two primary types of BRCA-related cancer and Ashkenazi Jewish ethnicity. Women with positive screening results should receive genetic counseling and, if indicated after counseling, BRCA testing. The interventions that may reduce risk for cancer or cancer-related death in women who are BRCA mutation carriers include earlier, more frequent, or intensive cancer screening; risk-reducing medications (for example, tamoxifen or raloxifene); and risk-reducing surgery (for example, mastectomy or salpingo oophorectomy) (USPSTF, 2013).

### **Use Outside of the US**

The Society of Obstetricians and Gynaecologists of Canada (SOGC) published clinical guidelines on the management of hereditary breast and ovarian cancer. The guidelines stated that the only proven way to reduce mortality in women with a genetic predisposition to ovarian cancer is risk reducing surgery. BRCA1 carriers between 35 and 40 years of age and BRCA2 carriers between 40 and 45 years should be offered risk-reducing salpingo-oophorectomy for ovarian/tubal/peritoneal carcinoma risk reduction. Furthermore, risk-reducing salpingo-oophorectomy should be considered for breast cancer risk reduction in BRCA2 mutation carriers under 50 years of age (Jacobson, et al., 2018).

The Scottish Intercollegiate Guidelines Network (SIGN) guideline on the management of women with epithelial ovarian cancer states that women with genetic mutations of BRCA1 or BRCA2 genes should be offered prophylactic oophorectomy.

According to SIGN, family history can be used to define women who are at increased risk. A woman is at high risk for ovarian cancer if she meets one of the below criteria (SIGN, 2018):

- she is a known carrier of relevant cancer gene mutations (e.g., BRCA1, BRCA2, mismatch repair genes)
- she is an untested first degree relative with a mutation in BRCA1, BRCA2, RAD51C, RAD51D or mismatch repair genes
- she is an untested second degree relative, through an unaffected man, of an individual with a mutation in BRCA1, BRCA2, RAD51C, RAD51D or mismatch repair genes
- she has a first degree relative (mother, father, sister, brother, daughter or son) affected by cancer within a family that meets one of the following criteria:
  - two or more individuals with ovarian cancer, who are first degree relatives of each other
  - one individual with ovarian cancer at any age, and one with breast cancer diagnosed under age 50 years, who are first degree relatives of each other
  - one relative with ovarian cancer at any age, and two with breast cancer diagnosed under 60 years, who are connected by first degree relationships
  - three or more family members with colon cancer, or two with colon cancer and one with stomach, ovarian, endometrial, urinary tract or small bowel cancer in two generations; one of these cancers must be diagnosed under age 50 years and affected relatives should be first degree relatives of each other
  - an individual with both breast and ovarian cancer

Individuals meeting the criteria listed above may be eligible for prophylactic salpingo-oophorectomy by age 40 years of age and breast screening or, in some, prophylactic mastectomy

## Coding/Billing Information

- Note:** 1) This list of codes may not be all-inclusive.  
 2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

### Prophylactic Oophorectomy or Salpingo-Oophorectomy

**Considered Medically Necessary when criteria in the applicable policy statements listed above are met:**

CPT®* Codes	Description
58661	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)
58720	Salpingo-oophorectomy, complete or partial, unilateral or bilateral (separate procedure)
58940	Oophorectomy, partial or total, unilateral or bilateral

### Prophylactic Hysterectomy when performed with Bilateral Oophorectomy

**Considered Medically Necessary when criteria in the applicable policy statements listed above are met:**

CPT®* Codes	Description
58150	Total abdominal hysterectomy (corpus and cervix), with or without removal of tube(s), with or without removal of ovary(s)
58180	Supracervical abdominal hysterectomy (subtotal hysterectomy), with or without removal of tube(s), with or without removal of ovary(s)
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)
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)
58262	Vaginal hysterectomy for uterus 250 g or less; with removal of tube(s), and/or ovary(s)
58291	Vaginal hysterectomy for uterus greater than 250 g; with removal of tubes(s), and/or ovary(s)
58542	Laparoscopy, surgical, supracervical hysterectomy for uterus 250 g or less; with removal of tube(s) and/or ovary(s)
58544	Laparoscopy, surgical, supracervical hysterectomy for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)
58548	Laparoscopy, surgical, with radical hysterectomy, with bilateral total pelvic lymphadenectomy and para-aortic lymph nodes sampling(biopsy) with removal of tube(s) and ovary(s), if performed
58552	Laparoscopy surgical, with vaginal hysterectomy, for uterus 250 g or less; with removal of tube(s), and/or ovary(s)
58554	Laparoscopy, surgical, with vaginal hysterectomy, for uterus greater than 250 g; with removal of tube(s), and/or ovary(s)
58571	Laparoscopy, surgical, with total hysterectomy, for uterus 250 g or less; with removal of tube(s) and/or ovary(s)
58573	Laparoscopy, surgical, with hysterectomy for uterus greater than 250 g; with removal of tube(s) and/or ovary(s)
58661	Laparoscopy, surgical; with removal of adnexal structures (partial or total oophorectomy and/or salpingectomy)

**\*Current Procedural Terminology (CPT®) ©2018 American Medical Association: Chicago, IL.**

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