

Surgery to Reduce the Risk of Ovarian Cancer

*Information for Women
at Increased Risk*

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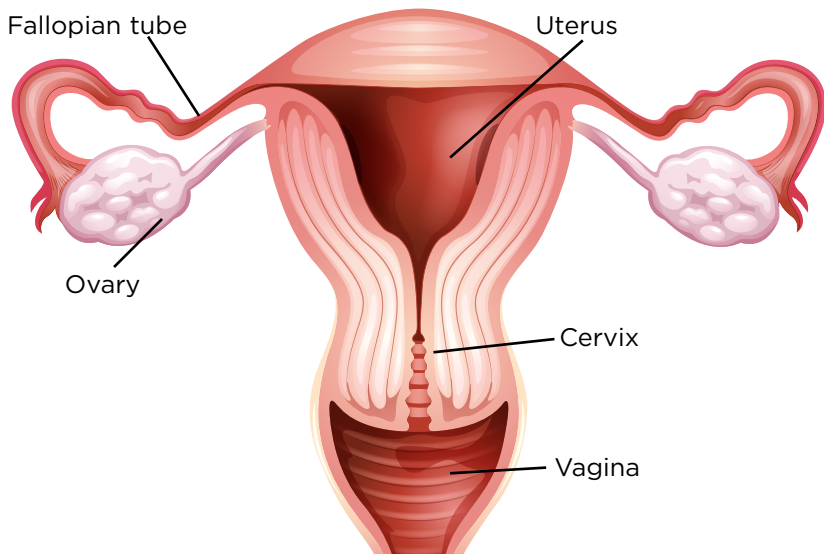
INTRODUCTION

This booklet is for women who have an increased chance of developing ovarian cancer and would like to know more about surgery to reduce their risk.

Each woman should seek advice about the risk of cancer prior to making decisions about surgery. If you are unsure about your ovarian cancer risk or would like to discuss any of the information in this booklet, you may contact:

- Your family doctor
- Family cancer clinic or genetic counselling service
- Gynaecologist.

The female reproductive organs



About Ovarian Cancer

Ovarian cancer is a disease where cancerous cells are found in the ovary. Some 'ovarian-like' cancers may arise from the fallopian tube or the lining of the wall in the abdomen (the peritoneum).

Unfortunately, most ovarian cancers are found when they have already spread. This is why women with ovarian cancer have low survival rates.

RISK FACTORS

Factors that may increase a woman's chance of getting ovarian cancer:

- Age: getting older is the biggest risk factor for ovarian cancer
- Family history and genetic factors (see page 8)
- Endometriosis: leads to a small increase in some types of ovarian cancer

Factors that may decrease a woman's chance of getting ovarian cancer:

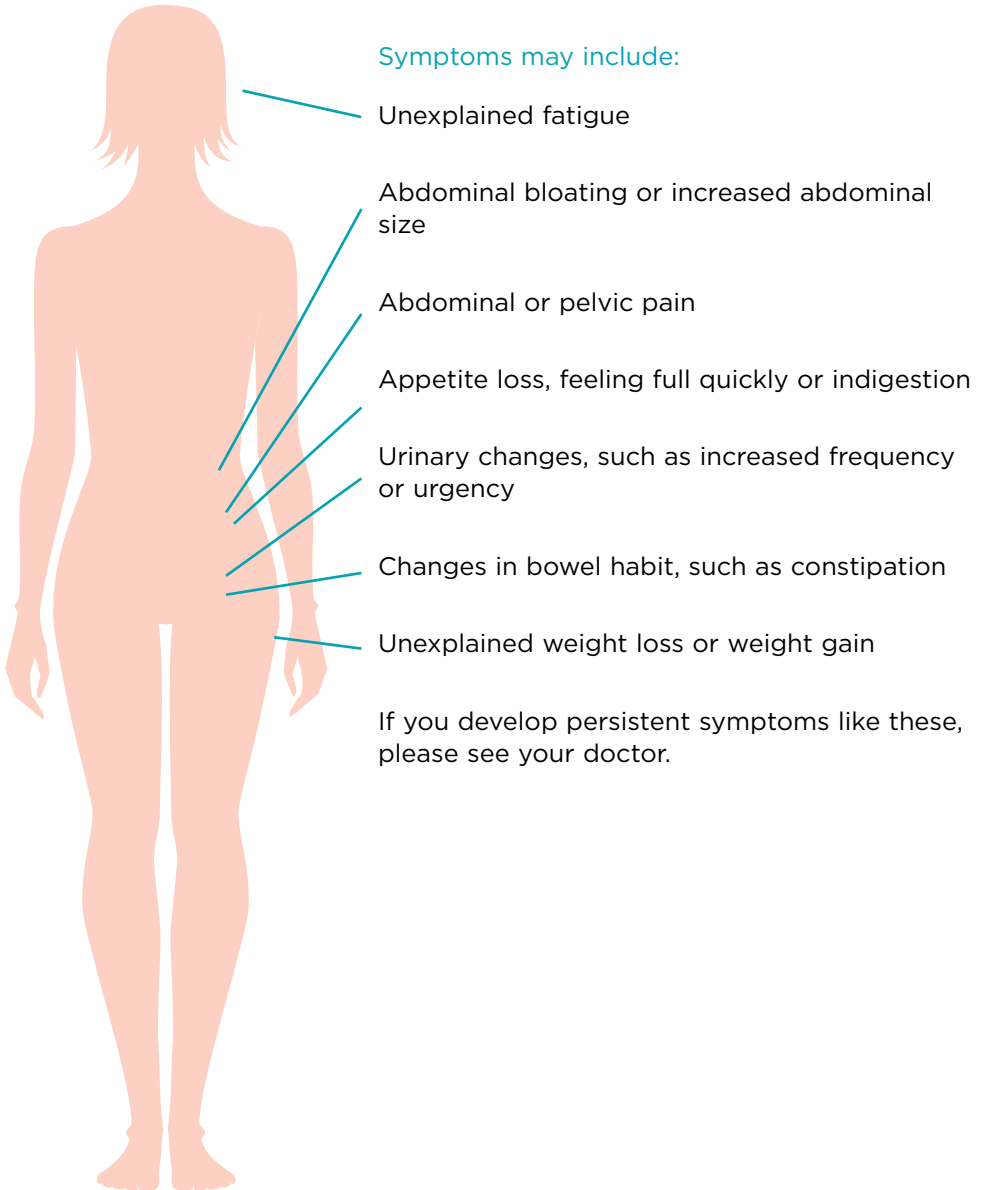
- Pregnancy and oral contraceptive pill use
- Having tubes tied (tubal ligation)
- [Risk reducing surgery: the best way to reduce the chance of ovarian cancer is to remove the ovaries and fallopian tubes.](#) This type of surgery is called Risk Reducing Salpingo-Oophorectomy (RRSO).



In Australia,
1 in 81 women
will develop
ovarian cancer
by age 85¹

SYMPTOMS

The symptoms for ovarian cancer are often vague or similar to other common medical problems. Doctors sometimes do not recognise them as ovarian cancer.



DIAGNOSIS AND SCREENING

If a woman has signs of ovarian cancer, the following tests may be used:

- A blood test to measure an ovarian protein called CA125
- An ultrasound through the vagina (transvaginal ultrasound, TVUS)

These tests aim to find cancer if a woman has symptoms. They are not advised as a screening check for well women because:

- They do not always detect cancer when it is present
- They can detect non-cancerous changes. This can cause unnecessary worry and further testing
- Studies show that regular screening does not improve the survival of women who are diagnosed with ovarian cancer.

At present,
there is no
effective
screening to
detect ovarian
cancer at an
early stage²



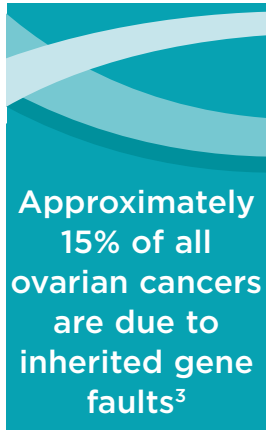
FAMILY HISTORY AND OVARIAN CANCER

Having a family history of ovarian cancer and faults in some high risk genes are important risk factors for women. In up to 15% of women with ovarian cancer, genetic testing is able to find a genetic cause. In this case, relatives may also have genetic testing to find out if they are at increased risk. In other cases, genetic testing may not be useful and a woman may have a higher chance of developing ovarian cancer simply because of her family history.

The graph opposite shows the chance of a woman developing ovarian cancer based on whether she has:

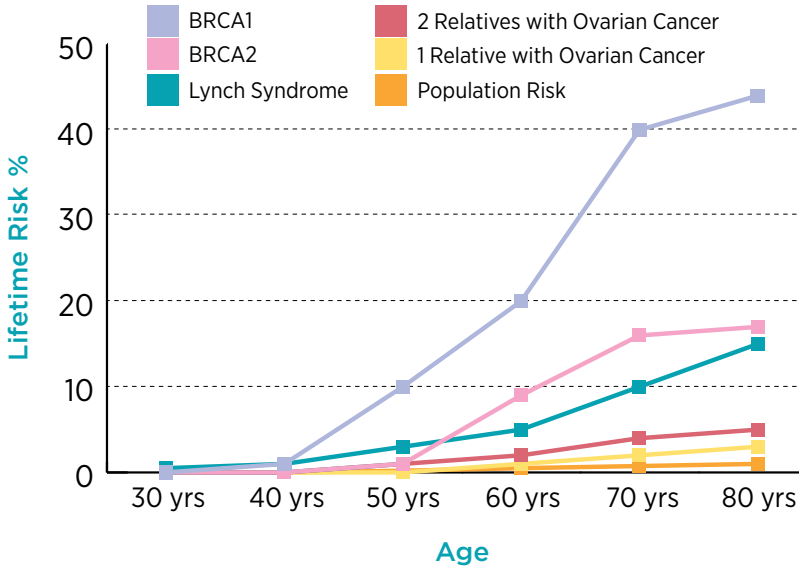
- A family history of ovarian cancer
- A fault in a breast and ovarian cancer gene (BRCA1 and BRCA2): Women with faults in these genes are at increased risk of both breast and ovarian cancer
- Lynch Syndrome: Lynch syndrome is caused by a fault in either the MLH1, MSH2, MSH6 or PMS2 genes. Women with Lynch Syndrome have an increased risk of developing cancers in the bowel, the lining of the uterus (endometrium) and ovaries.

The risks in the graph are averages^{4,5,6}. Your chances may be higher or lower based on your family history. Remember that if a woman has a faulty gene, it does not mean she will definitely develop ovarian cancer. [If you need further information about your risk of cancer, please contact a family cancer clinic \(see p17\).](#)



Approximately
15% of all
ovarian cancers
are due to
inherited gene
faults³

Lifetime Risk of Ovarian Cancer



At what age does ovarian cancer occur?

In Australia, the average age of ovarian cancer diagnosis is 64 years¹. The average age of diagnosis is younger for women with a gene fault however most ovarian cancer still occurs after age 40.

TYPES OF OVARIAN CANCER

Not all cancers in the ovaries are the same. The treatment and prognosis for ovarian cancer can be different depending on what type of cell the cancer started from. Some cancer types are also associated with specific gene faults. Ovarian cancers that are due to BRCA1 and BRCA2 gene faults are more often fast-growing and hard to detect early compared to ovarian cancer in Lynch syndrome.

Risk reducing surgery

Screening tests cannot reliably detect ovarian cancer, especially at an early stage. Although the oral contraceptive pill and having tubes tied are associated with a lower chance of ovarian cancer in the average population, they do not reduce the risk enough for women at high risk.

Risk reducing bilateral salpingo-oophorectomy (RRSO) is removal of both (= bilateral) fallopian tubes (= salpingo) and ovaries (= oophorectomy) before an ovarian cancer has occurred.

RRSO is the most effective way to reduce the risk of ovarian and fallopian tube cancer. It is advised for women with BRCA gene faults, Lynch Syndrome or other women at high risk. After RRSO, there is still a small (up to 2%) chance of cancer arising in the nearby peritoneal tissue⁷.

Does having RRSO impact my risk of other cancers?

Premenopausal RRSO alters a woman's hormone levels so may have some effect on cancer risks. Some studies have shown a lower risk of breast cancer after RRSO but more research is needed to confirm and clarify these findings. Having RRSO after natural menopause does not impact the risk of other cancers.

RRSO: Things to consider

- **Type of surgery:** There are different ways the surgery can be performed which may also include hysterectomy (see page 12)
- **Surgical menopause:** RRSO can have a big impact on women who are premenopausal at the time of surgery. Surgical menopause is caused by the sudden change in hormones after RRSO and may lead to a range of physical and emotional changes. Hormone replacement therapy is usually used to prevent the symptoms of surgical menopause. (see page 14)
- **Fertility:** A woman's fertility slowly declines from puberty until menopause. The loss of fertility can be an emotional issue for some women, even if they do not want a pregnancy in the future. Most ovarian cancer occurs after age 40, so RRSO is done after childbearing is complete.
- **Possible out of pocket costs and small medical risks:** Discuss these with your gynaecologist.

TYPES OF SURGERY

There are two main types of RRSO surgery: laparoscopy and laparotomy. Some women will also have a hysterectomy. All are carried out under general anaesthetic. After surgery, the ovaries, tubes and a sample of fluid are sent to the laboratory and checked for any signs of cancer. As with any surgery, there is a small risk of problems such as infection or bleeding.

Some types of surgery will be appropriate for some women and not others. You will need to discuss with your doctor which will best suit you.

Laparoscopy

Known as 'keyhole' surgery, most RRSOs are done this way. Small cuts are made in the navel and pelvic area for the laparoscope and surgical instruments. Gas is used to make space and the ovaries and tubes may be removed without a large incision. After up to 2 nights in hospital, it usually takes about 2 weeks to return to normal activity.

Most women who have laparoscopy will have some degree of cramping, pain, being bloated or feeling tired after surgery.

Women who have had complicated previous abdominal surgery may not be able to have laparoscopic RRSO.

Laparotomy

Laparotomy involves removing the ovaries through a cut in the abdomen. A longer hospital stay (3-5 nights) and recovery (4-6 weeks) is usual. Most women who have laparotomy will have some degree of cramping, pain, being bloated or feeling tired after surgery.



RRSO is the most effective way to reduce the risk of ovarian and fallopian tube cancer

Hysterectomy

Hysterectomy means removal of the womb (uterus). It is an option for women to have hysterectomy at the same time as RRSO. This can be done by laparoscopy or laparotomy and will mean a longer recovery time than just removing the ovaries and tubes.

Hysterectomy: things to consider

Reasons why some women choose hysterectomy include:

- Women with Lynch Syndrome are at increased risk of cancer in the lining of the uterus (endometrial cancer). They are advised to undergo hysterectomy for cancer prevention
- Medications such as Tamoxifen can increase the chance of endometrial cancer. Hysterectomy is therefore an option for women who are taking Tamoxifen for breast cancer prevention or treatment
- Whether a woman has had a hysterectomy can impact the type of hormone replacement therapy (HRT) she has. Women who have not had a hysterectomy need both progesterone and oestrogen, while women who have had a hysterectomy can usually take oestrogen alone
- A hysterectomy may suit women with a past history of gynaecological issues for example cervical changes or uterine fibroids.

Salpingectomy

A salpingectomy is removal of the fallopian tubes only. It is thought that many 'ovarian' cancers actually start in the fallopian tubes. It is not known what the risk of cancer is if a woman has salpingectomy and keeps her ovaries, therefore this is not advised as cancer prevention surgery.

SURGICAL MENOPAUSE

The biggest impact of having RRSO is 'surgical menopause'. This usually only affects pre-menopausal women.

Natural menopause vs surgical menopause

Menopause is the time in a woman's life when she stops having periods. The average age for natural menopause is 51, however it can happen anytime from the late 30s. When menopause happens, the ovaries gradually stop making hormones and periods stop.

When a woman has her ovaries removed before menopause, the drop in hormones is sudden. Periods stop straight away and menopausal symptoms usually occur.

If a woman has her ovaries removed soon after her periods have stopped, her menopausal symptoms may become worse.

Symptoms of menopause

Menopausal symptoms vary for every woman. Some symptoms may be very mild and others more severe. In most cases hormone replacement (HRT) can prevent symptoms or lessen their severity. Symptoms may include:

- Hot flushes, with accompanying sweats, usually at night
- Disturbed sleep
- Lower libido
- Tiredness, irritability, or anxiety
- Memory and concentration problems
- Dryness of the vagina
- Joint and muscle pain
- Depression
- Urinary frequency

What other effects does menopause have on the body?

The bones: Oestrogen stops calcium from being lost by the bones, which protects against osteoporosis. Osteoporosis is when the bones become weak and are more likely to get breaks or fractures. Bone density scans are advised for women who go through menopause before age 45 to check for signs of osteoporosis.

The heart and blood vessels: Oestrogen helps to control the levels of cholesterol and other risk factors for cardiovascular disease. After menopause, there is an increased risk of coronary heart disease, especially for women who have natural or surgical menopause before age 45.

Hormone replacement therapy

Hormone Replacement Therapy (HRT) replaces the oestrogen and progesterone hormones after menopause. Some women take HRT for some time after menopause to relieve their symptoms and/or protect against bone and heart disease. It can be used either as combined oestrogen/progesterone or oestrogen alone. . Other options that may help with symptoms include vaginal estrogen creams and natural remedies.

Women who have pre-menopausal RRSO are advised to take HRT for their heart and bone health and to prevent menopausal symptoms. The type of hormones, how they are given (e.g. tablet, patch) and for how long will be tailored to each woman's health, symptoms and personal choice.

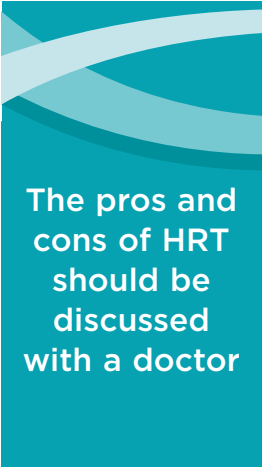
HRT may not be recommended for some women because of other health issues, for example if she has had breast cancer.

HRT AND BREAST CANCER

Studies of women over age 50 found that the risk of breast cancer is higher if HRT is taken after natural menopause. **Post-menopausal women using combined HRT have about twice the risk of breast cancer than the average woman.** The risk drops back down around 2 years after stopping HRT⁸. Oestrogen-only HRT does not increase risk as much as combined oestrogen and progesterone, however it increases the risk of cancer in the lining of the uterus (endometrial cancer). Women over age 50 should regularly review their needs for HRT with respect to their personal breast cancer risk and symptom control.

In pre-menopausal women, taking HRT after RRSO does not increase the risk of breast cancer. This is because the level of hormones in HRT is less than the ovaries would naturally produce.

Women with a past history of breast cancer should discuss HRT use with their cancer specialist.



The pros and
cons of HRT
should be
discussed
with a doctor

HRT: Things to consider

- HRT can relieve most symptoms of natural or surgical menopause
- HRT reduces the risk of osteoporosis and cardiovascular disease
- Using HRT after RRSO before age 50 does not increase the risk of breast cancer
- Taking combined oestrogen + progesterone HRT past age 50 may increase the risk of breast cancer
- Oestrogen only HRT does not greatly impact breast cancer risk but can only be used in women who have had their uterus removed.



Summary

The key things to consider before having RRSO are summarised below. You will also need to take into account your own health, values, lifestyle, and body image and discuss these with your doctor.

For Pre-menopausal women:

- What age to have RRSO, based on the chances of developing ovarian cancer, and how likely it is to occur before menopause
- Plans for future children and coming to terms with the loss of fertility
- Possibly reducing the breast cancer risk by having RRSO prior to menopause
- The effects of surgical menopause
- The use of HRT to prevent menopausal symptoms, bone and heart disease.

For ALL women:

- Timing of RRSO
- Type of surgery, hysterectomy or not
- Costs and risks of having surgery

After RRSO, many women report that:

- They have lower anxiety about ovarian cancer
- There is some emotional adjustment to being menopausal, the loss of fertility or physical symptoms
- HRT can relieve most (but not always all) symptoms of early menopause
- There is overall, a high level of satisfaction with the decision.



Where to get more information

These health care services can provide personalised information to you:

- Your family doctor
- Family cancer clinic or genetic counselling service
- Gynaecologist

Other Resources

Centre for Genetics Education, NSW Health www.genetics.edu.au
(Including family cancer clinic contacts and genetic support groups)

Ovarian Cancer Australia www.ovariancancer.net.au

Cancer Australia www.canceraustralia.gov.au

Australasian Menopause Society www.menopause.org.au

Cancer Council NSW www.cancerCouncil.com.au

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A series of 25 horizontal dotted lines for writing notes and questions.

**Further copies of this
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