

## **Patient information leaflet**

### **Hormone Replacement Therapy (HRT) after surgical menopause for risk reduction surgery in BRCA 1 and BRCA 2 gene mutation carriers.**

#### **What is surgical menopause?**

Surgical menopause is when both of your ovaries are removed surgically prior to the average age of natural menopause. The removal of both ovaries surgically is called bilateral (both sides) oophorectomy (removal of the ovaries).

#### **What is natural menopause?**

If ovaries are not removed, they would naturally stop producing eggs, followed by a fall in most of the hormones they produce, your monthly eventually period stop. This usually occurs by 50-52 years old. This is called the natural menopause.

#### **What happens if ovaries are removed surgically?**

Removal of both ovaries leads to abrupt decline in the hormones that are normally produced by ovaries (estrogen and progesterone), consequently menopausal symptoms tend to be severe due to sudden loss of hormones.

#### **What happens if levels of estrogen and progesterone fall?**

Estrogen and progesterone play a major role in a wide range of bodily functions. When their levels are low, women might experience any of menopausal symptoms, which include hot flushes, night sweats, reduced sexual desire, dry vagina and painful intercourse, and low mood. Women who have their ovaries removed prior to the natural age of menopause are at increased risk of developing heart disease, dementia, blood clots in the brain, bone fractures due to osteoporosis, with overall increase in death rates.

#### **Why BRCA1 and BRCA2 carriers are offered removal of ovaries prior to natural menopause?**

You might have been offered removal of your ovaries if you carry BRCA 1 or BRCA 2 gene mutation. That is because BRCA 1 gene mutation is associated with 55 to 72% risk of breast cancer and 39- 44 % risk for ovarian cancer by the age 70 years, while BRCA2 gene mutation is associated with 45- 69 % risk of breast cancer and 11-17 % risk for ovarian cancer by the age of 70 years.

Removal of both your ovaries and Fallopian tubes (called bilateral salpingo-oophorectomy) cuts down your breast cancer risk to 50 % and ovarian cancer risk by 80-95%.

#### **I am a BRCA gene mutation carrier. When is it recommended for me to remove my ovaries?**

Removal of both your ovaries and tubes (called Risk reduction surgery: bilateral salpingo-oophorectomy) is recommended after your family is complete. By 35-40 years in BRCA 1 carriers, and by 45 years of age BRCA 2 carriers. That's because ovarian cancer tends to develop at a later age in BRCA 2 than BRCA 1.

#### **Will I be offered hormone replacement therapy after I have risk reduction surgery for BRCA gene mutation?**

The use of hormone replacement therapy is recommended if you are less than 45 years of age and have had both of your ovaries removed and you never had breast cancer previously, up to

the natural age of menopause 51 years. If you are between 45- 51 years, you can still consider use of HRT with your doctor.

**How will HRT help me?**

HRT will replace the natural hormones that your ovaries used to produce, therefore reduce hot flushes, night sweats, and improve low mood. It can also improve vaginal dryness and sexual desire. It prevents osteoporosis. There is limited data on the effect of HRT on dementia.

**Can I still use HRT if I have had breast cancer?**

You will be referred to a menopause specialist to explore the best options for you and tailor your treatment according to your personal situation.

**Will I continue to use hormone replacement therapy beyond age of natural menopause?**

If you are BRCA 1 or 2 carrier, non-hormonal alternatives to HRT are recommended as first line treatment for your symptom control after the age of 51 years. Because HRT use after that age can increase the risk of breast cancer.

**Are there any risks for me if I use HRT after my risk reduction surgery?**

HRT does not increase the risk of breast cancer in women who are menopausal and less than 50 years of age. It increases the risk of developing blood clots in your legs, lungs or stroke, if your BMI is  $>30 \text{ Kg/m}^2$ , you will be prescribed transdermal estrogen preparations to decrease the risk of blood clots.

**What type of hormone replacement therapy will I be offered as BRCA1 or BRCA2 carrier?**

If you had a mastectomy (a surgical procedure where the breasts are excised), and a hysterectomy (a surgical procedure where the womb is removed), you will be offered HRT in the form of estrogen only, that can be in the form of tablets, patch, or gel.

If you had mastectomy but your womb is still in place, you will be offered HRT in the form of estrogen and progesterone. Progesterone will help to protect the womb. It comes in the form of tablets, patch, or coil.

If you have not had mastectomy, Tibolone is recommended as the first line of HRT, as combined (estrogen and progesterone) make mammogram interpretations trickier.

**How soon after my risk reduction surgery can I start Hormone Replacement Surgery?**

you can start HRT immediately after surgery (Provided that during the risk reduction surgery there were no obvious signs to suggest malignancy). In the initial period, you will be offered transdermal estrogen, and if needed, progesterone either as pills or as a coil to protect the lining of your womb. Transdermal estrogen is associated with less risk of blood clots in your legs or lungs which are more common after surgery. After 6 weeks from surgery, you could switch to oral estrogen if you prefer.

**Will I bleed with HRT?**

If you are using HRT cyclically, you will get withdrawal bleeding for few days every month. If you use continuous HRT you might get some bleeding in the first 3 months of use, but not after. If you do, please speak to your doctor immediately.

**Where can I find more information about HRT and surgical menopause?**

RCOG Menopause Hub: [www.rcog.org.uk/en/patients/menopause](http://www.rcog.org.uk/en/patients/menopause) Menopause Matters:  
<https://menopausematters.co.uk>  
Women's Health Concern: [www.womens-health-concern.org/](http://www.womens-health-concern.org/)

## References:

- [Surgical menopause: a toolkit for healthcare professionals, Dr Akanksha Garg and Ms Lynne Robinson in collaboration with the medical advisory council of the British Menopause Society. PUBLICATION DATE: MAY 2021 REVIEW DATE: MAY 2024](#)
- [Gordhanas et al, Hormone replacement therapy after risk reducing salpingo-oophorectomy in patients with \*BRCA1\* or \*BRCA2\* mutations; a systematic review of risks and benefits,](#)
- [Kristyn Manley<sup>1,.</sup>, Neil Ryan<sup>2,3,</sup>, Abigail Jenner<sup>1,4,</sup>, Claire Newton<sup>1,2</sup> and Timothy Hillard. Counselling of path \*BRCA\* carriers who are considering risk-reducing oophorectomy](#)
- [Rebbeck, T.R., Levin, A.M., Eisen, A., Snyder, C., Watson, P., Cannon-Albright, L., Isaacs, C., Olopade, O., Garber, J.E., Godwin, A.K., Daly, M.B., Narod, S.A., Neuhausen, S.L., Lynch, H.T., Weber, B.L., 1999. Breast cancer risk after bilateral prophylac](#)
- [Treatment for symptoms of menopause. RCOG Patient information leaflet.](#)

Roula Elboraei  
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