

HYSTERECTOMY AND HRT

Hormone Replacement Therapy is the substitution of naturally occurring hormones in the human body with those that are manufactured. In the case of women that have had a hysterectomy we are talking about oestrogen and possibly testosterone replacement therapy. When a woman has had a hysterectomy that removes her ovaries she will no longer produce oestrogen from her ovaries although she will continue to produce small amounts of oestrogen from the adrenal glands and fatty tissues ^{1, 2}. However, this will not be enough to counteract the possible effects of oestrogen deficiency that we see begin with the onset of menopausal symptoms. If a woman has a hysterectomy that leaves her ovaries in place, she has a 50% chance of suffering ovarian failure within five years of surgery. This is not age dependent.

There are many things that women need to consider when they are faced with an surgical menopause and one of the major issues is whether or not to take Hormone Replacement Therapy (HRT). HRT can be beneficial in alleviating the symptoms of the climacteric. Women should also consider the fact that they will be longer without the female sex hormones than their age related peers and that some of the natural protections that are offered by the sex hormones are lost, these include protection against Heart Disease and Osteoporosis.

Some early studies have also indicated that oestrogen supplementation in the form of HRT may also help to delay the onset and risk of developing Alzheimer's Disease ³. A study based in New York found that women who had taken oestrogen, after a natural menopause, for more than ten years were between 30 - 40% less likely to develop the disease than those women who had never taken HRT. The effects of HRT may be due to oestrogen regulating neurochemical transmitters and thus positively affecting neuronal atrophy ⁴.

There seems to be some consensus that women who have an early menopause through surgery should take HRT at least until the age that they would naturally have gone through the menopause, this is so that they reduce the risk of suffering from age related conditions earlier than they would have done. Women naturally produce oestrogen up to the age of the menopause and it would appear to be sensible to replace what would be there naturally. What a woman decides to do after the age of 50ish will be determined by looking at the same factors that affect all women and will again be a matter of choice. At the very least women who still have ovaries after surgery should be having regular blood tests to check the amount of oestrogen they are producing so that they can make an informed choice. There seems to be little argument that HRT taken for up to ten years after a natural menopause does not adversely affect the body and there seems to be some evidence that women who do develop breast cancer have a better prognosis if they have taken HRT than if they had not ⁵, although this may of course be related to the type of cancer that they have.

Women should take into account a number of factors: In favour of taking HRT are:

- family history of osteoporosis
- high risk category related to osteoporosis
- family history of heart disease
- high risk category related to heart disease

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- fear of Alzheimer's disease
- severe climacteric symptoms

You may consider not taking HRT for the following reasons:

- history of breast cancer
- family history of breast cancer
- high risk category related to breast cancer
- history of thrombosis
- family history of thrombosis
- high risk category of thrombosis

Types of Hormone Replacement Therapy

The types of drugs listed here are those most commonly prescribed in the UK, there may be other types that are available in other areas of the world. All Hormone Replacement Therapy (HRT) for women that have had a hysterectomy consists of oestrogen only although you may also receive additional treatment to replace testosterone. When you begin taking HRT some side effects may occur, these include possible weight gain, breast tenderness, headaches - the symptoms are very similar to those you may have experienced prior to your period every month.

The usual method of administering HRT is to start with the lowest dose and to gradually increase it until the menopausal symptoms are relieved. However, this may not provide enough oestrogen to protect the bones and heart. Women that have their hysterectomies before the age of 40 will need more oestrogen as they will have been producing more before their operation.

Not all types of HRT will suit all women and it is important to work with your GP to find the most suitable form of treatment for your own particular circumstances.

Tablets

The most common way to administer HRT is by using tablets which must be taken every day. With tablets, the amount of oestrogen is increased as they will pass through the liver before being absorbed into the blood stream, the liver then inactivates 35 - 50% of the absorbed oestrogen, this is known as the first-pass effect ⁶. It is also common for the blood oestrogen levels to fluctuate during the day, the levels of oestrogen being at their highest about 4 - 8 hours after taking the drug ⁷.

Patches

To ensure that the maximum effect is obtained from patches and to ensure that they do not fall off, they should be applied to clean, dry skin and they should have pressure applied by the palm of the hand for at least 30 seconds so that the heat can help the adhesive to work. Most are re-applied every three to four days, although there is one product - FemSeven, produced by Merck, that is designed to be replaced on a weekly basis. As the oestrogen is not passing through the liver, much smaller doses can be used that achieve the same hormonal effects.

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Implants

An implant of oestrogen is placed underneath the skin in the area of the abdomen. The implant is small, about the size of an apple pip and it is inserted under local anaesthetic. This implant can last for up to six months and you will know when you need to have another one because you will begin to experience some menopausal symptoms, such as hot flushes and night sweats. The implant has advantages over other forms of administration as it avoids the liver and does not cause skin irritation as patches can. Because the oestrogen is not passing through the liver, the amount of oestrogen in the implant can be reduced.

However, the implant is not without its own possible side effect. Approximately 3% of implant users experience ⁸ a syndrome called tachyphylaxis, which means that the dosage needs to be increased to obtain the same effect even though the levels of blood oestrogen are high enough. This usually happens when a new implant is inserted before the last one has finished completely. This side effect has led to claims that HRT is addictive, which is not strictly the case and by careful monitoring a GP can allow patients to continue to use other forms of HRT to allow the body to settle down.

Creams, Gels and Pessaries

Oestrogen Gel has recently been released in the UK although it has been used in Europe for some time, Oestrogen cream has been used for some time. The cream or gel is rubbed onto the skin of the upper arm or inner thigh every day, making sure it is fully absorbed. The irritation that may be experienced with patches is avoided with the creams and gels. Again smaller doses can be administered as the oestrogen is not passing through the liver first.

Pessaries are inserted high into the vagina and absorbed through the skin of the vagina into the blood stream as with creams and gels. Some women have reported an increase in libido when using pessaries and they do help to prevent vaginal dryness.

Oestrogen

Oestrogen is a powerful female sex hormone that regulates many aspects of our lives. Initially it makes girls develop into women at puberty by stimulating breast growth, laying down fatty deposits, thickening the vagina and causing it to secrete mucous. It affects how our skin looks, whether our bones are strong and healthy and it can protect us against heart disease. It also regulates our menstrual cycle. At the beginning of our cycle about 30 egg follicles will start to ripen and produce oestrogen. When levels of oestrogen in the blood are highest the hypothalamus in the brain releases hormones that make a follicle release an egg, therefore if you are not producing enough oestrogen you will not ovulate.

Oestrogen can also affect your mood and it is thought that pre-menstrual syndrome, post-natal depression and menopausal depression are caused by falling levels of oestrogen. Your exposure to oestrogen may also have an effect on your risk of developing breast cancer as it attaches itself to receptors in the breast on the surface of cells and stimulates them to divide in anticipation of producing milk, it is this division of cells that is thought to cause the risk.

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There are at least three forms of oestrogen produced by the human body, Oestrone (E1), Oestradiol (E2) and Oestriol (E3) ¹. The first two oestrogens, E1 and E2, are the most powerful they easily relieve menopausal symptoms and help the body stay healthy, however they may also be the cause of an increased risk of breast cancer and other side effects if they are given in high doses over a long period of time. The third form of oestrogen, E3 is made from a combination of E1 and E2 and is less potent. Therefore Hormone Replacement Therapy made from E3 may be more appropriate for those women who are concerned about taking HRT for health reasons.

There is no standard as far as the production of oestrogen naturally is concerned. Women vary in their needs during their lifetime. When a woman has a hysterectomy that removes her ovaries, she will no longer produce oestrogen from them. She will continue to produce oestrogen in the adrenal gland and in fatty tissues but these are only very small amounts and are not enough even to prevent climacteric symptoms.

Oestrogen is the main form of Hormone Replacement Therapy that is taken by women who have had a hysterectomy. It can be taken in many different forms and although called natural, it is manufactured. The term "natural" is used because the hormones that are produced are identical to those produced by the human body.

Testosterone

Testosterone is a male hormone but women still produce small amounts. Testosterone is produced by the ovaries and helps to regulate sex drive (libido), energy and mental state ⁹. Following a natural menopause testosterone will continue to be produced by the ovaries in significant amounts for approximately twelve years ¹⁰, therefore a woman that has a surgical menopause that removes her ovaries will no longer produce testosterone and this may be responsible for a poor libido, depression and lack of energy following surgery. Testosterone may also have a role to play in conserving bone after menopause and may be more suitable for women that are unable to take oestrogen supplements who have an increased risk of osteoporosis.

However testosterone should not be taken orally, in the form of tablets as it can damage the liver. The usual form of administration is by implant or by injection at regular intervals.

Thrombosis

As far as Hormone Replacement Therapy is concerned, thrombosis refers to deep vein thrombosis. These are blood clots that can form that can partially or completely block a blood vessel. The condition occurs most frequently in the legs but it can occur almost anywhere from the lower abdomen down. On average, deep vein thrombosis is fairly rare and affects about 1 person in 1700. People who are particularly susceptible are the elderly, those that are overweight and those who have a condition called polycythaemia (inability to control the rise in numbers of red blood cells ^{11, 12}).

Deep vein thrombosis can cause pulmonary embolism which is potentially fatal. A pulmonary embolism happens when pieces of a blood clot break away and becomes lodged in an artery in the lungs thus reducing the amount of oxygenated blood going to the heart.

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The incidence of deep vein thrombosis appears to be increased two - four folds in HRT users, according to John Studd, the risk seems to be higher when treatment is started and reduces significantly in long term users ¹³. In a woman that is categorised as low risk, this may mean an increase of 1:5000. Any woman that already has a history of deep vein thrombosis or pulmonary embolism should avoid taking HRT, unless the thrombosis was as a result of surgery, accident, pregnancy or childbirth in which case there should not be an increased risk ¹⁴.

Breast Cancer

Perhaps the most significant worry about taking Hormone Replacement Therapy (HRT) is that of a possible increased risk of breast cancer. Breast cancer is an oestrogen dependent cancer and constitutes approximately 25% of all female cancers ¹⁵, therefore any woman who has an early menopause and does not take any oestrogen supplementation will actually reduce her risk of developing breast cancer in later life.

Currently about one woman in thirteen will develop breast cancer before the age of 75 and if there is a family history (sister or mother with the disease) the risk is increased to one in eight ¹⁶. Much of the initial data about the link with breast cancer and oestrogen supplementation has been taken from trials and studies based around the contraceptive pill. To date there have been over forty studies looking at the link between HRT and breast cancer and there has been no consensus about the results. However, meta-analysis of the studies estimates that there is no increase in risk when HRT is taken for up to five to ten years. If the length of treatment is extended to eight to fifteen years the increase appears to be about 25 - 30% ¹⁷.

Despite the worries over an increase in risk, it should be noted that these studies have taken place looking at women who had taken HRT following a natural menopause. Women who have an early surgical menopause would have naturally been producing oestrogen and its' supplementation is simply replacing what they would normally produce.

Studies have also indicated that those women that do develop breast cancer whilst using HRT have a better prognosis and there is a decrease in the death rate compared to those that have not taken the supplements ¹⁸, however, this could be due to the fact that the women and their GP's are more aware and will be more vigilant about checking their breasts regularly.

Factors to consider include:

- previous history of oestrogen dependent cancers
- family history of cancer
- starting menstruation before the age of eleven
- not having a child or having your first child after the age of 30
- being overweight
- women who have diets high in fat and low in fibre also have a higher levels of oestrogen in the blood

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The Million Women Study, is currently taking place across the UK and is looking to recruit 1,000,000 women to complete a questionnaire about their health when they have their next mammogram.

Books

- Marilyn Glenville; Natural Alternatives to HRT
- Linda Kearns; Eat to Beat Menopause
- Leslie Kenton; 10 Steps to a Natural Menopause
- Kitty Campion; Menopause Naturally

Web Sites

- Hormone Replacement Therapy
– <http://www.meriter.com/meriter/living/library/women/hormone/index.htm>
- Administration on Aging
– <http://www.aoa.dhhs.gov/aoa/pages/agepages/hormone.html>
- National Cancer Institute - <http://www.graylab.ac.uk/cancernet/600310.html>

UK Organisations

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References

1. Womens Health Leaflets; HRT; p 1
2. Wilson, Dr R; Understanding HRT and the Menopause; p 19
3. Boulton A; Hormone Therapy may protect against Alzheimers Disease; British Medical Journal; 313; p442
4. Tang, MX et al; Effect of oestrogen during menopause on risk and age at onset of Alzheimers disease; The Lancet; 348; pp 429 - 432
5. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
6. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
7. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
8. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
9. Cabot, Dr S; The Menopause Handbook; p 75
10. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
11. Cabot, Dr S; The Menopause Handbook; p 13
12. Smith, Dr T (ed); The New Macmillan Guide to Family Health; p 416
13. Smith, Dr T (ed); The New Macmillan Guide to Family Health; p 440
14. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
15. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997
16. European Menopause Journal Symposium Report - State of the Art Practical HRT; 3(2):71-73, 1996.
17. Cabot, Dr S; The Menopause Handbook; p 109
18. Khastigir, G and John Studd; Hysterectomy and HRT; Martin Dunitz; 1997