

## HYSTERECTOMY AND THE MENOPAUSE

If you have your ovaries removed at the time of your hysterectomy then you will have an immediate menopause, regardless of your age. If you have a hysterectomy and your ovaries are left intact then you have up to a 50% chance of your ovaries failing within five years of your hysterectomy <sup>1</sup>, this may be because the blood supply to the uterus has been cut off <sup>2</sup>.

Radiation treatment following hysterectomy for cancer may also cause the ovaries to fail prematurely <sup>3</sup>. Even after a natural menopause the ovaries continue to play a part in a woman's health as they continue to produce a small amount of oestrogen and a more significant amount of testosterone for up to 12 years. Therefore there are indications that women having a hysterectomy should be offered the supplementation of testosterone as well as oestrogen<sup>4</sup>.

The term menopause is defined as the final bleed a woman will have <sup>5</sup>. It is an entirely natural event and every woman will experience it, if she lives long enough. The word "menopause" is often used to define the period of time that leads up to a woman's final period, although this is strictly a period of time called the "peri-menopause". The final menstrual period takes place, usually between the ages of 45 and 55, although it can be earlier or later, the peri-menopause can begin as early as ten years before the final bleed and is caused when the two ovarian hormones, oestrogen and progesterone are no longer stimulating the endometrium to prepare for eggs.

The term "peri-menopause" or "menopause" is usually used to define the symptoms that lead up to the final bleed due to the reduction in the number of egg cells that a woman has. , Therefore the age at which a woman has her final bleed will be dependent upon the number of eggs her body has produced. The menopause then, has three phases to it:

- peri-menopause
- menopause
- post-menopause

The whole of this period can be referred to as "the climacteric" from the Greek "klimakterikos" which means rung of a ladder <sup>6</sup>.

### Menopausal Symptoms

Strictly speaking, the symptoms of the menopause are those that identify the time leading up to the final bleed and this is usually called the peri-menopause. Symptoms can be physical and psychological in nature.

Some of the symptoms are described as "acute" which are those that will occur immediately there is a reduction in the production of oestrogen, these include hot flushes, night sweats, dry vagina, dry hair and skin, insomnia, bladder problems and

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moodiness. The remainder are described as "chronic" and take place over a longer period of time, these include irregular periods, breast changes and other psychological symptoms. All women that have a hysterectomy that removes their ovaries will begin to experience acute symptoms, even as early as 24 hours following surgery. Women whose operation has left their ovaries intact have a 50% chance of experiencing acute symptoms within five years of their surgery. If you have had surgery that leaves your ovaries intact and you begin to experience some of the symptoms described below you should make an appointment to see your GP or gynaecologist to have a simple blood test to measure the level of oestrogen in your blood.

Physical symptoms may include

- Hot and cold flushes (flashes), sweating during the day and at night and palpitations are all known as Vasomotor symptoms. Exact causes of the vasomotor symptoms are unknown but it is thought probable that the hypothalamus, which regulates body temperature, is affected by the decrease in oestrogen production and this in turn dilates the blood vessels when it affects the sympathetic nervous system<sup>7</sup>. It is thought that up to 80% of women will experience vasomotor symptoms<sup>8</sup>.
- Insomnia and headaches are secondary vasomotor symptoms and can occur as a result of night sweats which result in loss of sleep.
- Changes in the vagina include a shortening, weakening of the skin, diminishing blood supply, changes in the acidity levels and dryness due to the reduction in secretions from the mucous glands. All of these can lead to pain on sex and increase the risk of bleeding and infection.
- The bladder and urethra are also affected as the linings become thin and weak and stress incontinence can occur as they atrophy. This increases the risk of infection and bleeding.
- Breast changes are as a direct result of the reduction in production of oestrogen. The breasts may become smaller and less elastic and the skin will become thinner and dryer.
- The skin and hair become dryer and the elasticity of the skin reduces which increases the appearance of wrinkles. The changes in the skin are due to damaging effects on the connective tissue, collagen, when oestrogen production reduces.

Psychological Symptoms are similar to those experienced with Pre-Menstrual Syndrome and may include:

- Mood swings, irritability, anxiety, poor concentration, poor memory, loss of energy and depression. It cannot be confirmed at present whether these symptoms are caused by oestrogen deprivation or whether they are as a result of other physical symptoms, such as lack of sleep. However, some sleep disorders are helped by

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hormone replacement therapy, so there appears to be a link with oestrogen deficiency and some of the psychological symptoms.

## **Osteoporosis**

Osteoporosis is defined as "the wasting away of bone" <sup>9</sup> and the term literally means "porous bones". It is often called the silent epidemic as many people can be unaware of its onset and the first indication of the disease can be falling and breaking a bone. It has been considered a natural part of aging although with treatment it is largely preventable. Dr Frederick S Kaplan, a professor of orthopaedic surgery at the University of Pennsylvania describes osteoporosis in the following way:

*"if hypertension is a silent killer, osteoporosis is a silent thief. It insidiously robs the skeleton of its banked resources, often for decades, until the bone is weak enough to sustain a spontaneous fracture" <sup>10</sup>*

Osteoporosis is most common in the elderly and in post-menopausal women. It is caused by the loss of calcium from the bones. Bones continue to grow and develop throughout childhood and adolescence and the bones are at their most dense around the age of 30 <sup>11</sup>, after this the bone mass gradually diminishes. The Royal College of Physicians in the United Kingdom has indicated that the incidence of hip fractures has risen by 254% between 1954 and 1983 and has been rising ever since <sup>12</sup>. Dr Sandra Cabot states that the disease currently affects one in every three women in western society <sup>13</sup>.

## **Risk Factors**

Andrew Hampson has identified oestrogen deficiency in women as one of the most important factors in the development of osteoporosis for women <sup>14</sup> and John Studd has stated that women undergoing hysterectomy before they would normally go through the menopause are "more likely to develop osteoporosis" than those in the same age group <sup>15</sup>. Oestrogen deficiency occurs after the onset of the menopause <sup>16</sup>. However, although oestrogen deficiency is a major factor there are others <sup>17, 18</sup> to take into account these include:

- Race, if you are white or Asian you are slightly more at risk
- Build, if you are fine boned you will have a higher risk
- Smoking
- Being Underweight
- Diet consistently low in calcium and high in phosphates
- Excessive Alcohol and Caffeine intake
- Family history of Osteoporosis
- Lack of exercise
- Use of Cortisone-like drugs
- Vitamin Deficiency
- Being a Woman, it is estimated to be six to eight times more common in women than in men as women have a lower bone mass to start with

## Types Of Osteoporosis

There are two types of osteoporosis. Type 1 is caused by a lack of sex hormones and results in loss of the inner layer of bone called the trabecular bone. Type 2 is caused mainly by a lack of calcium and/or vitamin D in the diet, this causes a loss of the outer layer of the bone called the cortical bone <sup>19</sup>.

From the above it is obvious then that a woman who goes through the menopause early, due to having a hysterectomy, will be more at risk of type 1 osteoporosis as she will have longer without oestrogen. Women that have consistently light periods and/or have a time without menstruating at all will also be more at risk from this type of oestrogen.

There are three hormones that control the calcium levels in the blood, they are the parathyroid hormone, 1,25 dihydroxy-vitamin D and calcitonin. They also control the uptake of calcium by the bones. The rate of absorption varies through out your life and is decreased by the risk factors outlined above and increased at times of hormone increase such as during pregnancy. Cells called osteoblasts work on the creation of new bone and cells called osteoclasts work to reabsorb calcium into the blood, it is this reabsorption into the blood stream that causes osteoporosis.

## Prevention

It has been recommended that all women have a bone mineral density (BMD) test before they undergo a hysterectomy, this will determine how strong your bones are to start with and will provide a point of reference for later on. After the menopause, if you do not wish to take Hormone Replacement Therapy, it would be advisable to have regular BMD tests to ensure your continued health.

Regular blood tests to determine your levels of oestrogen are also recommended, particularly if you have a hysterectomy that leaves your ovaries intact. Your GP or gynaecologist should be able to arrange both of these procedures for you.

The most common way to prevent osteoporosis due to poor oestrogen levels is to boost the levels with Hormone Replacement Therapy. Hormone Replacement Therapy (HRT) puts oestrogen back into the body, that would normally have been produced by the ovaries. HRT has been shown to retard, stop and even reverse bone loss after the menopause <sup>20</sup>. It is recommended that HRT is taken for a period of not less than ten years, if it is taken after a natural menopause, to give a maximum effect of prevention <sup>21</sup>.

Exercise is also recommended as this helps to strengthen bones and keep them strong. However, the type of exercise is very important, it should be regular and it should be weight bearing. Weight bearing exercises include any type of exercise that involves upright movement so that pressure is exerted through the spine, pelvis and legs and includes walking, jogging, aerobics and yoga.

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Your diet is also particularly important, it should contain high levels of calcium and vitamin D (Vitamin can also be obtained from being out in the sunshine) and should be low in fat and high in fibre.

### **Other Sources Of Information**

There are many good books about osteoporosis and its prevention, your local library will have a selection of them. Some of the best are supported by the National Osteoporosis Society. You can also check the resources section of this site for other links and books.

The National Osteoporosis Society works towards eradicating osteoporosis through education and information. It is a charitable organisation that is independent, unbiased and has a panel of specialist medical advisors. If you would like information about their telephone help lines please check out their details on the Organisations page.

National Osteoporosis Foundation WWW site.  
European Foundation for Osteoporosis WWW site.  
Missouri Osteoporosis Foundation WWW site.

### **Heart Disease**

Around 45% of British women will suffer from heart disease or a stroke and it is the biggest single cause of death in the UK in post-menopausal women<sup>22, 23</sup>. According to David Morris, "coronary heart disease is the principal cause of death in North American women over the age of 50". Up to the time of the menopause, women appear to have a natural immunity to heart disease unlike their male counterparts, it appears that the incidence of heart disease is around a third of the level of men's'. However, after the age of menopause the incidence gradually increases to come into line with men at around the age of 75. According to John Studd, hysterectomy in pre-menopausal women is associated with a three-fold increased risk of coronary heart disease and this is the case even when the ovaries are left intact<sup>24</sup>.

We can also assume that if a woman has a hysterectomy and consequently goes through the menopause early, the age at which she comes into line with male incidence of heart disease will be correspondingly lower.

### **Risk Factors**

Oestrogen affects the blood cholesterol levels and also regulates the circulation of LDL (low-density lipoproteins - "bad" cholesterol) and HDL (high density lipoproteins - "good" cholesterol). After the menopause the blood cholesterol and LDL levels go up and the HDL levels drop, this encourages an increase in the hardening of arteries and is particularly pronounced in women that smoke, are overweight and do not take regular exercise.

In addition to heart disease, insulin resistance also increases following menopause, this in turn can lead to an increased risk of heart disease itself. Insulin resistance can lead to

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type II diabetes, the link between insulin resistance and heart disease is due to high levels of LDL and low levels of HDL.

Particularly at risk are the following groups:

- Smokers
- People that are overweight
- Families with a history of heart disease
- High levels of cholesterol before your operation
- People that do not take regular exercise.

### **Prevention**

Most people dislike the idea of taking any form of medication for a long time, but one of the major benefits of taking HRT is that it is probably the single most effective way of preventing heart disease as it returns the body to it's pre-menopause state. According to Dr Sandra Cabot "the risk of cardiovascular disease can be reduced by 50% by taking oestrogen at or soon after the menopause"<sup>25</sup>

The Framlingham Heart study looked at 48,000 nurses and found that after 10 years there were half as many deaths from cardiovascular disease amongst those women that took oestrogen only HRT after their menopause as opposed to those that did not take any form of HRT<sup>26, 27</sup>. David Morris also states that the protective effect of oestrogen only hormone replacement therapy is also found in those women that already have the disease<sup>28</sup>.

Fortunately women that have had a menopause do not need to take progesterone as well as oestrogen in their HRT. This is fortunate because there seems to be some indication that progesterone has the effect of reducing the benefits of oestrogen as well as having a possibly detrimental effect on the endometrium.

If you do not wish to take Hormone Replacement Therapy there is much that you can do to help yourself. You will need to take regular exercise and also reduce the number of fats that are present in your diet. An increase in the amount of fruit and vegetables will also be of benefit. Try taking vitamins A, C and E as these are the anti-oxidant vitamins which can help to strengthen your immune system. For further information check out the Alternatives to Hormone Replacement Therapy page.

### **Other Sources Of Information**

If you would like to use other resources on the WWW, the American Heart Association provides information on prevention of heart disease, together with other useful links.

As always your GP and local library can help to locate specific items of information and your GP will be able to perform a simple blood test to measure the amount of oestrogen in your blood to determine what your risk may be.

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**Books**

- Dr Sandra Cabot; The Menopause Handbook
- Caroline Hawkrige, Gerard Conway; The Menopause, HRT and You
- Linda Kearns ; Eat to Beat Menopause
- Maryon Stewart; Cruising Through the Menopause
- Leslie Kenton; 10 Steps to a Natural Menopause
- Kitty Campion; Menopause Naturally

**Web Sites**

- Menopause Online - <http://www.menopause-online.com/>

A site set up and managed by Michael O'Reilly, and Obstetrics and Gynaecology doctor. The site is upbeat and includes information on symptoms, treatments, osteoporosis, heart disease. It also has a bulletin board, chat room and personalised tests.

- The North American Menopause Society - <http://www.menopause.org/>

The North American Menopause Society provides general information about menopause related issues at it's web site. All consumers, including healthcare professionals are invited to visit their site for current, accurate, unbiased information from the menopause experts.

- Doctors Guide to the Internet - <http://www.pslgroup.com/MENOPAUSE.HTM>
- The MenoTimes - <http://web.aimnet.com/~hyperion/meno/menotimes.index.html>
- The Australasian Menopause Society - <http://www.menopause.org.au/>

**UK Organisations**

The Amarant Trust  
11 – 13 Charterhouse Buildings, London, EC1M 7AN  
0891 660 620

Womens Nutritional Advisory Service  
PO Box 268, Lewes, BN7 2QN  
01273 487 366

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