

# The effects of longterm hormone deficiency

As you head towards menopause, the levels of the hormones oestrogen, progesterone and testosterone produced by your ovaries begin to fluctuate and fall. There's nothing you can do to alter the age at which you reach menopause as this is mostly influenced by genetics, unless of course you've had a surgical menopause following a hysterectomy, or an early menopause because you've been treated for cancer or have an underlying health condition.

All over your body – including your brain, joints and muscles, heart, blood vessels, urinary tract, eyes and vagina – there are receptors which receive these hormones. These receptors have been used to having a regular and reliable supply of oestrogen, testosterone and progesterone, but this changes when you reach the perimenopause and your hormone levels become more unpredictable.

Once the levels of these hormones drop during and after menopause they will never return to their previous levels – unless they are topped up with hormone replacement therapy (HRT).

## What do these hormones do?

**Oestrogen:** This is the hormone that protects the arteries in your heart, keeps your bones strong, boosts your brainpower and memory, regulates your mood, and keeps areas which require moisture (such as your joints, eyes and vagina) well lubricated.

**Testosterone:** Although you might think of it as a male hormone, testosterone is also produced by the ovaries. In fact, women produce three times as much testosterone as oestrogen before the menopause. Testosterone helps to build muscle, boost your sex drive, improve memory and concentration, and give you more energy.

**Progesterone:** This hormone helps to regulate periods, and also plays an important role during pregnancy.

## Health risks linked to the menopause

As life expectancy has increased, you can expect to be post menopausal for at least one third of their lives. This is why it's important to think of the menopause as a longterm female hormone deficiency. Like any other deficiency, this is associated with several health risks.

**Osteoporosis:** This is a condition that weakens the bones and makes them likely to break much more easily. Bone is a living tissue which regenerates throughout our lives, and oestrogen helps to keep your bones strong and healthy. The risk of osteoporosis increases during menopause, when bones begin to break down more quickly than they can be rebuilt. Women can lose up to 10% of their bone strength in the five years after menopause, as a direct result of the drop in oestrogen.

**Cardiovascular disease:** Oestrogen helps to keep your blood vessels healthy, and can also help to control cholesterol levels. This is why low oestrogen can affect the heart and blood vessels, increasing the risk of coronary heart disease, stroke and vascular dementia.

**Diabetes:** Oestrogen is important at maintaining blood sugar levels and low levels of oestrogen can lead to metabolic changes occurring in the body. This can lead to an increased risk of developing type 2 diabetes.

**Dementia and clinical depression:** Oestrogen and testosterone are really important to maintain the function of your brain. The cells in the brain need these hormones to process information and work properly. After the menopause, women are more likely to develop dementia and also clinical depression when the levels of these protective hormones reduce.

**Other diseases:** Research has shown that women who have an early menopause also have an increased risk of lung diseases including asthma, kidney diseases, bowel cancer and irritable bowel syndrome, osteoarthritis and also some auto-immune conditions.

These risks increase if you have an early menopause, but it's important to know that these risks can be reduced if you take hormone treatment such as HRT.