

# HORMONES, WHAT HAPPENS TO THEM?

Hormones are your body's chemical messengers and travel in your bloodstream to tissues or organs.

Hormones play a significant role in the normal functioning of the body. When our hormones are depleted during perimenopause and menopause, it can lead to conditions such as osteoporosis, heart disease, obesity, and depression. When hormone levels begin to decline, every system that has these hormone receptors registers the change, including our brain. This change in hormone levels during this time can have a troubling effect on our emotions and psychological well-being.

## OESTROGEN

Promotes the growth and health of the female reproductive organs. Oestrogen supports collagen through its receptors in the skin. Oestrogen has numerous other functions, including stimulating the growth of breast tissue and the lining of the uterus during the menstrual cycle, maintaining vaginal blood flow and moisture, maintaining blood cholesterol levels, and preserving bone mineral density.

Genitourinary syndrome of menopause (GSM) is a new term that is used to describe the symptoms that women experience due to a lack of oestrogen. During the perimenopause or menopause, you may experience genital symptoms such as dryness and irritation, sexual dysfunction, and irritative bladder symptoms. In contrast to vasomotor symptoms that normally improve over time, genito-urinary symptoms are chronic and tend to progress rather than resolve unless treatment is initiated. The primary goal of treating GSM is to relieve symptoms. Low-dose vaginal oestrogen can ease vaginal symptoms of menopause, such as dryness, itching, burning, and discomfort with intercourse.

Non-hormonal treatments can increase the effect of oestrogen, such as vaginal lubricants and moisturisers. MHT fails to resolve vaginal symptoms in 10-15% of patients, and additional topical oestrogen may be required.

## PROGESTERONE

Also known as the 'pregnancy' hormone, this is a female hormone produced and released by the ovaries in the second half of the cycle after ovulation. Changing progesterone levels can contribute to abnormal uterine bleeding and menopausal symptoms. Progesterone is also necessary for maintaining the fertilised egg in the endometrium and for ongoing pregnancy.

The role of progesterone after menopause is to negate the stimulatory effect of oestrogen on the lining of the uterus (endometrium), which may result in abnormal uterine bleeding as it thickens or other serious health issues. Some women even find that certain types of progesterone help with sleep.

## TESTOSTERONE

In men, the testicles primarily make testosterone; in women, it is produced in the ovaries (adrenal glands and fat tissue) in much smaller amounts. Testosterone blood levels in women tend to peak during their 20s. This is followed by a gradual decline with age. Testosterone may be important to a woman's sexual wellbeing. The decline in testosterone begins before perimenopause and is solely age-related and not due to menopause. Testosterone can enhance sexual wellbeing for **postmenopausal** women with hypoactive sexual desire dysfunction (HSDD). 'Testosterone deficiency' has not been identified in women as a specific entity, and there is no blood level that can be used as a cut-off to 'diagnose' low testosterone in women.

## VITAMIN D

This is classified as a hormone. Our bodies produce vitamin D naturally when it are directly exposed to sunlight, and we absorb it from certain foods and supplements. Vitamin D is a fat-soluble vitamin that has long been known to help the body absorb and retain calcium and phosphorus, which are critical for building bones. It also helps with the intestinal absorption of magnesium.

Vitamin D is essential for a range of bodily functions, such as bone, muscle, and immune health. Studies have also shown that vitamin D can reduce cancer cell growth, reduce inflammation, and improve resistance to certain diseases. Many of the body's organs and tissues have receptors for vitamin D. A deficiency can result in muscle and joint pain and lead to a loss of bone density, which can increase the risk of fractures and the development of osteoporosis. The recommended daily dose is 400-800 IU (10-20 mcg).

Oestrogen plays a role in activating vitamin D, which suggests that oestrogen deficiency could exacerbate vitamin D deficiency.

### CORTISOL

This steroid hormone is produced by the adrenal glands and then released into the bloodstream. Cortisol regulates a wide range of vital processes throughout the body, including metabolism, mental function, immune responses, and feelings of stress. Almost every cell contains cortisol receptors.

Cortisol plays an important role in mobilising responses to psychological load. The daily pattern of cortisol is linked to sleep-wake patterns, eating, physical activity, and challenges in life. Beginning in the third decade of your life, cortisol levels and variability in the circadian (body clock) pattern increase gradually with age. Overnight cortisol levels have been noted to increase as women transition to menopause.