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Sex hormones—used, with care, to masculinise, feminise or manage menopause—steal the show when it comes to column inches devoted to hormone therapy. However, hormones are also prescribed to treat everything from asthma to acne, and even to bring about a baby's birth. Being your body's very own version of text messaging, as they communicate commands and post prompts, hormones are life-giving, vital chemicals; several feature on the World Health Organization's List of Essential Medicines.

## Bringing balance

Whether it's your body pH or blood pressure, your sugar or your salt levels, hormones strive to maintain [sameness](#) [4] within, since deviation, in either direction, can lead to disease.

In diabetes, the body lacks insulin (the pancreatic hormone that controls blood glucose levels) or is resistant to it. Symptoms of high sugar levels include thirst and weight loss and also long-term damage to your heart, kidneys, eyes or feet. According to David Matthews, Professor of Diabetes Medicine at Oxford University, [insulin therapy](#) [5] “relieves symptoms such as insatiable thirst and constant urination by lowering sugar levels, returns body strength by promoting muscle development and allows the regain of normal fat stores (important in unpredicted fasts) by promoting the storage of calories as fat.”

In a much rarer and completely different condition known as [diabetes insipidus](#) [6], a brain hormone called ADH, which helps your body retain water, is lacking. In severe cases, you can pass more than 20 litres of urine in a day, and the resulting dehydration can be deadly. Hormone replacement is via tablets, injections, or a nasal spray. Interestingly, alcohol can also affect this hormone—that's why you pee a lot after a night of drinking.

Taking a tiny white tablet to top up your thyroid hormone (when deficient) can bring balance back to your whole body; leaving it lacking can lead to exhaustion, weight gain, dry hair and skin, constipation, feeling cold, swollen skin and irregular periods, since this hormone affects nearly every organ—and even [your mood](#) [7].

## Suppressing swelling

Two small glands above the kidneys, called the adrenals, secrete steroid hormones. Essential for life, these hormones need supplementing if in short supply. John F Kennedy suffered from Addison's disease, a deficiency of steroids caused by a disorder of the adrenal glands. [Jane Austen's](#) [8] death was once thought to be due to Addison's, though this is now disputed: perhaps it was instead [lupus](#) [9].

*"Essential for life, steroid hormones need supplementing if in short supply"*

On prescription, at higher doses than your body normally produces, steroids suppress swelling, be it in the bowel (inflammatory bowel disease, including Crohn's and ulcerative colitis), or around [brain tumours](#) [10], relieving symptoms, especially pain. They cause side-effects and should be taken exactly as instructed by your doctor.

Steroids also suppress your immune system—helpful when it has gone into overdrive in conditions such as rheumatoid arthritis, [lupus](#) [11], or severe allergic reaction. True multi-taskers, steroids are used in [cancer](#) [12] to treat the tumour itself, reduce rejection after a bone marrow transplant, control sickness and improve appetite.

## Promoting pregnancy and bringing about birth

For women struggling to conceive, thyroid tablets may help, since low levels of thyroid hormone can interfere with ovulation. Another approach is to prescribe "[fertility drugs](#) [13]", which cause the pea-sized pituitary gland in your brain to release more hormones, which act on the ovary to trigger the release of an egg.

Oxytocin is a hormone released by the same gland, acting on the breasts and uterus to allow breastfeeding and the birthing process (hence its nickname, "the mother hormone"). Man-made oxytocin can be given, with caution, to induce labour, or strengthen contractions and speed delivery, if medically advised. More importantly, the hormone may be prescribed to help the uterus contract and prevent excessive blood loss after birth. So-called [postpartum haemorrhage](#) [14] is the leading cause of maternal death worldwide, causing around 100,000 deaths each year.

## Alleviating asthma and acne

Steroids, with their anti-inflammatory effects on the airways, are effective in asthma, whether inhaled, or taken as tablets. Regular use of a [steroid inhaler](#) [15] reduces the risk of an asthma attack.

*"Regular use of a steroid inhaler reduces the risk of an asthma attack"*

One treatment for acne is cyproterone acetate (CPA), a hormone pill that combats the effects of testosterone. Present in men and women (though at very different levels), testosterone triggers acne by making the skin oily. Effective also as an oral contraceptive and as a treatment for [prostate cancer](#) [16], this anti-testosterone treatment was discovered in 1961 and has stood the test of time.

## Building bones

If you are deficient in growth hormone as a child, it can be administered to help you grow. What's less well known is that, even in adulthood, when you've stopped growing, growth hormone strengthens muscles, burns fat and raises blood sugar levels, and it may even improve [your mood](#) [17]. Adult growth hormone deficiency, because of problems with your [pituitary](#) [18], can leave you weak, tired, anxious and depressed, and so the hormone may be prescribed to improve your quality of life.

Using growth hormone to improve [athletic performance](#) [19], through its effects on muscles, is banned—and medically questionable, with studies showing side-effects such as fluid retention and fatigue, without gains in strength. Whether the hormone is safe and effective in alleviating the [ageing process](#) [20] through its positive effects on brain, muscle and bone, remains under review, with some scientists warning of an increased risk of cancer. Diet and exercise—and your DNA—play a much more important part in healthy ageing.

## The great pretender

Morphine is not a hormone—but mimics your body's pain-relieving, pleasure-producing hormones, known as endorphins. Blocking pain signals as they travel along nerves to the brain, morphine is prescribed to treat pain that is acute, chronic or associated with cancer, surgery or heart attack. At much smaller doses, it can relieve the breathlessness of advanced cancer, [chronic obstructive pulmonary disease \(COPD\)](#) [21] and heart failure.

*"Laughter, sunshine, singing, sex, exercise, eating good food and engaging in meditation can boost endorphin levels"*

When your pain isn't serious enough to merit a prescription for morphine, you can trigger release of endorphins, your body's own morphine, to relieve pain and reduce stress. Laughter, sunshine, singing, sex, exercise, eating good food and [engaging in meditation](#) [22] can boost endorphin levels—and your sense of wellbeing.



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