Boost your Testosterone with Reflexology (and get a better night's sleep!)

In this essay, ICR Director, Lee Anthony Taylor, turns his attention to the male reproductive system and, in particular, focuses on the link between good sleep and healthy testosterone levels.

Getting a good night's sleep is beneficial for our health. But it's not just about the quality but the quantity of the sleep that is important to us.
Our bodies undergo renewal during these quiet hours and all our systems, including blood, hormones, enzymes, hair and skin, are replenished and primed for another busy day ahead. The resting period needs to be as calm and settled for as long as possible, to allow this regeneration to happen successfully.

One particular hormone which benefits from long, restful and deep sleep is testosterone. The majority of the testosterone used every day is replenished at night. It is the primary androgenic hormone and is stimulated through secretion of luteinizing hormone (LH) and follicle-stimulating hormone (FSH). The amount of testosterone synthesized is regulated by the hypothalamic-pituitary-gonadal (HPG) axis – a biofeedback mechanism where those body parts communicate specifically with each other – and this occurs during sleep.

Studies have shown that both the quantity and quality of sleep affect testosterone levels. Patients with reduced deep sleep time, increased night-time awakenings and fragmented sleep can develop a low testosterone level. Equally important, researchers have observed that as testosterone goes down, the hormone cortisol increases. Cortisol contributes to wakefulness, resulting in shallower and shorter sleep, as mentioned in the February 2012 review in the journal *Sleep*. (*Note: we fall asleep by lowering our cortisol levels and raising our melatonin (found in the pineal gland) with the aid of the cerebral spinal fluid.)*

During the day, testosterone levels vary in a circadian rhythm, higher on waking and decreasing to a low point at the end of the day. Added to this there are little burst-like increases in testosterone production that occur every 90 minutes. Hormone levels begin to increase with the onset of sleep and the sustained production of testosterone is dependent on deeper sleep, generally reaching its peak during the first three hours of uninterrupted sleep. Interestingly, it has also been shown, at least in young men, that the sleep-dependent increase in testosterone occurs irrespective of whether the sleep occurs at night or for an equivalent duration during the day.

There are two differing types of sleep: nonrapid eye movement (NREM) and rapid eye movement (REM) sleep. The first two phases of NREM sleep (phases 1 and 2) are light and often alternate with short, waking episodes.
Two deeper phases of NREM sleep (phases 3 and 4) tend to mostly occur in the earlier part of the night and become lighter afterwards. Usually, four to six cycles of REM sleep occur at intervals of around 90 minutes becoming longer and more frequent over the course of the night. From approximately middle-aged onwards, less time is spent in the deeper phases of sleep and there is more stage one sleep and more awakenings. The most nourishing sleep occurs during the REM stages.

So, we can appreciate how better sleep leads to better testosterone production, but why does that matter? There are several reasons why testosterone is important, including:

- its link to healthy libido and to sex drive
- fat metabolism – important for weight loss, especially if the patient has obstructive sleep apnea
- muscle-building and developing strength. It assists in protein synthesis and increases neurotransmitters, which help with muscle tissue growth
- increased bone density and red blood cell production, which leads to less bone breaks with aging
- preserving brain tissue due to aging and it has also been linked to better memory retention in older men.

While testosterone is often exclusively associated with men, the problems associated with low testosterone are not just a male problem. Women can also suffer from lower testosterone levels, bringing about a diminished sex drive, lethargy, and difficulties maintaining muscle mass. Some of this may be menopausal, since testosterone is also produced by the ovaries. Nourishing sleep of a long enough duration can help to counteract the effects of this stage of life.

In conclusion, the benefits that come from healthy testosterone levels make it clear that getting a good night's sleep is important for your body's physical and mental wellbeing – helping to address a whole raft of conditions from sexual dysfunction to tissue repair, increased bone density to better mental acuity.
And obviously, with less stress associated with these conditions, sleep will be improved, and symptoms will ease as hormone levels rise, so starting an upwards spiral towards better health.

Reflexology to aid better sleep – and improve testosterone levels!

With our treatment sessions we can assist in the relaxation process, reducing stress levels and provoking the release of suitable hormones. In addition, we can work the -

- **Adrenal gland reflexes** – to aid with the regulation of cortisol
- **Cervical/Thoracic/Lumbar Spinal reflexes** - The CSF stimulates the pineal gland to release melatonin
- **Phrenic Nerve reflexes** – to assist the mechanism of the diaphragm
- **Thoracic diaphragm/Pelvic diaphragm reflexes** – Correct breathing helps to regulate movement of CSF. When we breathe in, we are pushing the stomach in and the abdomen out. In addition, we are not only lowering the thoracic diaphragm but also lowering the pelvic diaphragm, which pulls on the second sacral vertebrae and the fascia around it and sends cerebral spinal fluid up to the pineal gland to release melatonin!

Bibliography/Sources

Keywords to look out for and type in:
- Sleep Mechanism
- Testosterone and Poor Sleep
- Effects of Low Testosterone

- Read more in the Asian Journal of Andrology, Gary Wittert
  Asian J Androl. 2014 Mar-Apr; 16(2): 262–265.
  Published online 2014 Jan 7. doi: 10.4103/1008-682X.122586