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WHAT IS CORTISOL?

By ROXANNE FISHER

Did you know that your sleeping cycle, stress levels and metabolism are all controlled by the same hormone? They are all controlled by Cortisol, a steroid hormone released from the brain into the body in response to stress. When you experience stress, cortisol is released from the pituitary gland in your brain. But the release of cortisol isn't a bad thing. It is one of the body's most essential regulation mechanisms. Cortisol is released to wake you up in the morning, setting your diurnal rhythm, the daily cycle of when you are asleep and awake. Your cortisol levels should be highest in the morning and drop gradually throughout the day. But the timing of cortisol releases relates to your daily patterns. So, people who work at night often have conditioned themselves to be nocturnal with their cortisol releasing at night. Almost every cell in the body has receptors for cortisol and so it does many different things. Cortisol is the hormone responsible for regulating your body's stress responses, blood pressure and blood sugar, metabolism, salt and water balance. The regulation of all these things determines your sleep-wake cycle and affects your emotional regulation and stability, as well as your cognitive function and ability to process memories. Healthy or unhealthy sleep, stress and metabolism all either positively or negatively reinforce each other depending on your lifestyle. In addition to daily regulation of the body cortisol is also released in larger quantities during an stressful

situation, such as triggering the birthing process.

WHAT HAPPENS WHEN YOU HAVE A CORTISOL IMBALANCE?

By ROXANNE FISHER

Abnormally high levels of cortisol will cause problems with stress, sleep, metabolism, memory and emotional regulation. They can be caused by abnormal sleep patterns or chronic stress levels. Endocrine disruptors can also cause an unhealthy over-release of cortisol. Endocrine disruptors are natural or man made chemicals which mimic the body's hormones, interfering with the body's normal hormonal patterns. They can be found in everyday products such as cosmetics, food and drink packages, toys, and, especially, pesticides. Abnormally elevated cortisol levels can cause Cushing's Syndrome which is characterized by increased fat on the tummy but very skinny arms and legs.

STUDIES ON CORTISOL

By ROXANNE FISHER

A 2013 study on the effects of stress on post-menopausal women found that chronic stress caused long term oxidative damage. Post-menopausal women with oxidative damage experienced anticipatory stress. Anticipatory stress is the release of cortisol too early in anticipation of the stressful event instead of at the correct time, manifesting in anxiety. The women with moderate to high levels of stress had the most effective cortisol release (much better than both the

women with chronic stress and the women with low levels of stress.) A 2021 study found that exercise can be a good way to improve the effectiveness and timing of the release of cortisol within your body. The release of cortisol during exercise is healthy way to release cortisol that can prevent the over-release of cortisol in response to psychological stressors. For more information on Cortisol please visit the NHS Website or Medline Plus.

ASK YOUR PT: STRESS RELIEF

By LISA FISHER

As humans we have to suppress our stress which is not a bad thing...as we don't want to go around punching people who annoy us, but this stress has to be stored somewhere. Most people hold stress in their necks, but others hold it in their lower back, or even in their pelvis. It's important to get in touch with your own body and to learn where you hold your stress. You can't hold on to it forever! I find many of my patients are so focused on tensing one muscle where they store all their stress that they limit the ability of their other muscles to act. Much of my work as a PT involves helping patients release tension from the tight muscles and strengthen the other muscles that have become weakened from being underutilized. It is very important to become aware of stress and your body's response to stress so that you can find ways of releasing it. One quick hack involves laying down with either your legs straight or knees bent and doing a muscle relaxation exercise to help you relax. Please visit our YouTube channel to follow along with a muscle relaxation exercise:
@littleriverphysicaltherapy.