- Menstruation

COMMENT

THE MENSTRUAL CYCLE COULD BE THE KEY THAT UNLOCKS A NEW ERA IN WOMEN'S SPORT

Clues to better training and performance could be found in the menstrual cycle

While many of us may think there are just two phases in the menstrual cycle (ovulation and menstruation), it is, in fact, much more sophisticated. It involves a complex network of hormones and understanding hormonal fluctuations is becoming increasingly important in optimising female athletic performance.

To fully grasp this, we first have to look at all the phases of the menstrual cycle.

1. Menstruation The first phase is menstruation, when you have a period. The length of this phase can vary significantly – for some women it can last only two days, while for others it's more like a week to 10 days.

On the first day of the period, the brain signals to the ovaries to prepare for ovulation. To do this, follicle-stimulating hormone (FSH) increases and triggers the ovaries to form little sacs, called follicles, containing immature eggs.

2. Follicular phase At the same time as FSH increases, the lining of the womb, which is shed during the period, starts to rebuild. This phase is therefore known as the follicular or proliferative phase. As this phase continues, oestrogen released from the developing eggs increases.

3. Ovulation phase Rising oestrogen stimulates a surge in luteinising hormone (LH), which has the sole purpose of triggering ovulation – the release of the mature egg from the dominant follicle. This ovulation phase lasts approximately 24 hours.

4. Luteal phase Next is the luteal phase when the remaining follicle becomes a mass of cells called the corpus luteum. This structure starts secreting progesterone and oestrogen, hormones crucial for keeping the uterine lining ready for a fertilised egg.

If there's no fertilisation of the egg, the corpus luteum shrinks and is reabsorbed by the body, consequently lowering your progesterone and oestrogen levels. The decrease in progesterone reduces the blood supply to the uterine lining, which then breaks down and sheds, resulting in a period.

This takes you back to the beginning of the cycle when the brain signals to prepare for ovulation once again.

Every menstrual cycle is different. Not only in length, duration and heaviness of the period, but also through the different changes and needs of the body throughout the cycle – differences largely due to the fluctuations of hormones.

During the late luteal phase and at the beginning of your period, when oestrogen and progesterone are relatively low, it's common to experience abdominal and pelvic pain, cramps, breast enlargement and tenderness, headaches, bloating and weight gain.

At the same time, you may be more tired and find it harder to sleep, and experience mood changes, but also have an increased ability to focus and improved mental capabilities. Conversely, you might feel more energised and motivated when the follicular phase progresses and ovulation is about to occur when oestrogen levels are high.

Multiple changes in hormones occur throughout the menstrual cycle, including fluctuations in testosterone and serotonin. This also gives rise to variations in wellness and performance.

All this is hugely important in sports where marginal gains can be the difference between winning and losing. Researchers are reviewing typical performance factors, such as strength, speed and power, with regard to different phases of an athlete's menstrual cycle.

Understanding the role of specific hormones, for example, oestrogen, on different elements, such as muscle activation, tendon stiffness and metabolism, is crucial in optimising performance in training and at competition, as well as helping to prevent injury and reduce recovery time.

Athletes, including UEFA (Union of European Football Associations) footballers, have now started monitoring their menstrual cycles to understand how their performance varies across the cycle. They're also looking to 'hack' their training by knowing when and how best to train, recover, eat and sleep.

As Michele Kang, owner of the Washington Spirit, Olympique Lyon Féminin and London City Lionesses women's football clubs says, we need to "train women as women" in sport and the menstrual cycle is key to this.

Clumsy outdated beliefs persist around the menstrual cycle. But through research, we're understanding more about the complexity and opportunity that lies within a female body that experiences such incredible phases.

It's imperative not only that future research informs a woman's individual cycle and experience, but that individuals are tracking themselves and not relying on a one-size-fits-all approach, to athletic training and menstrual cycles.



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