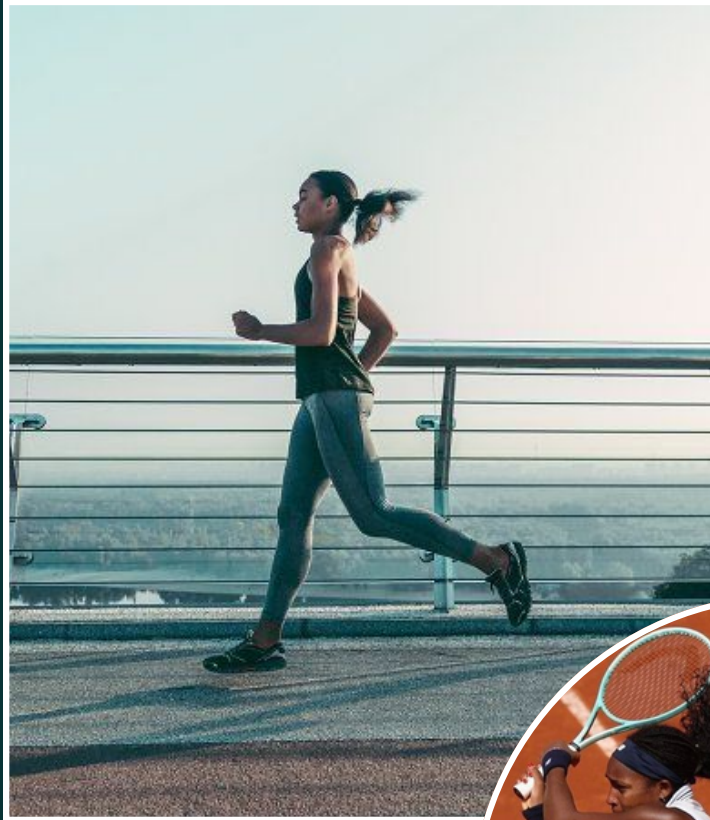




DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS

TRAINING
AROUND YOUR
MENSTRUAL
CYCLE: FACT OR
FICTION?Do you know?

Low iron levels can cost a female athlete up to 10% of her stamina (VO2max), that's a huge chunk of performance being lost to something as fixable as diet and iron levels.



Does your period affect how well you play sports? Science says: we don't fully know yet, and a lot of what we "know" is guesswork, not proof. Hormones do go up and down during the month, and in theory that could change how the body performs, but right now, studies don't agree with each other, so nobody can say for sure if periods actually change performance.

Every month, millions of women experience hormonal changes during their menstrual cycle. On social media, we often hear advice like "lift heavy during ovulation" or "avoid intense workouts during your period." But is this advice backed by science?

Researchers are now studying how the menstrual cycle affects exercise and sports performance. The answer is simple: it depends on the individual. Some women feel stronger at certain times of the month, while others notice very little difference. Instead of following fixed rules, experts now encourage women to understand their own bodies and train accordingly

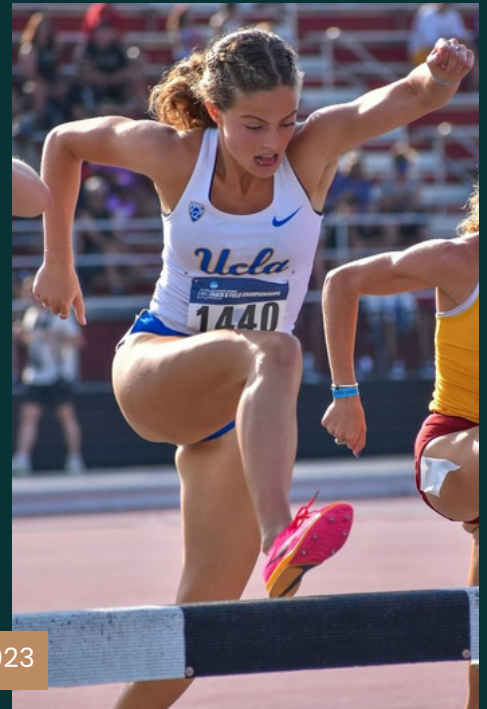


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DOES IT GET HARDER TO BREATHE OR FEEL HOTTER DURING CERTAIN PHASES?

There's a real physical reason some women feel like exercise is "harder" in the second half of their cycle, even if raw performance is the same.

- One study found that breathing rate at rest and during running was higher in the mid-luteal phase (after ovulation, before your period) compared to the early follicular phase.
- Some studies report higher cardiovascular strain (like heart working harder) during exercise in the mid-luteal phase, even though oxygen use itself usually stays about the same.



~ Trained Women — Research Quarterly for Exercise and Sport, 2023

IRON DEFICIENCY — PROBABLY THE MOST IMPORTANT "HIDDEN" ISSUE FOR FEMALE ATHLETES

Q FOR INDIA SPECIFICALLY ×

According to India's National Family Health Survey (2019–21), 57% of Indian women aged 15–49 are anemic, this is a much higher rate than the global average, meaning Indian female athletes may be starting from a bigger disadvantage before training even factors in.

Screening female athletes for iron levels could matter more than any cycle-based training plan.

INSIGHTS FOR SPORTS NUTRITION — EUROPEAN SOCIETY OF MEDICINE

- The WHO estimates about 30% of women aged 15–49 worldwide have iron deficiency anemia, and menstrual blood loss is a major reason women are more affected than men.
- Iron deficiency affects nearly 30% of young female athletes and can quietly hurt performance without obvious symptoms, in some athlete groups this number rises as high as 70%.
- Low iron can reduce how much oxygen reaches working muscles, costing some female athletes up to 10% of their VO2max and slowing race times by minutes.
- Research on college athletes found that heavier menstrual bleeding was directly linked to lower iron (ferritin) levels in the blood.

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DOES YOUR PERIOD AFFECT YOUR
ENDURANCE AND BREATHING ($VO_2\text{max}$)?

- Some early research found that both $VO_2\text{max}$ (a measure of how well your body uses oxygen during exercise) and endurance were lower during the period itself and in the follicular phase, in a study of 45 young women.
- But better-designed studies on trained athletes found the opposite in a study of trained women, there was no meaningful difference in aerobic capacity, anaerobic capacity, strength, or endurance between the early-cycle and late-cycle phases

- A more recent, more careful study on endurance athletes found no group-level difference in peak oxygen use, running efficiency, or power output between cycle phases, though individual women varied a lot, meaning some may genuinely be affected while others aren't.

~PUBMED, MEDRXIV

DO YOU KNOW?

In one survey of 300 elite athletes, 99% said they had competed on their period during an international competition, and 75% said they were afraid of leaking while playing. That's almost every single athlete, which shows how normal and how quietly managed this really is.





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INJURY RISK — THE AREA
WITH THE CLEAREST
SIGNAL

A meta-analysis of nearly 69,000 participants found the luteal phase (after ovulation) was linked to the lowest ACL injury risk in most studies of women not on hormonal birth control.

- Knee ligament looseness: a real risk factor for ACL tears, was measured as significantly higher during ovulation than during the late follicular phase just before it.

Menstrual Cycle Phase and Running Economy — PUBMED

PERIOD STIGMA IN
INDIA**At school :**

6 out of 10 women in India skip school during their period, and a 2019 report found that 23 million girls drop out of school every year in India mainly because of poor menstrual hygiene facilities.

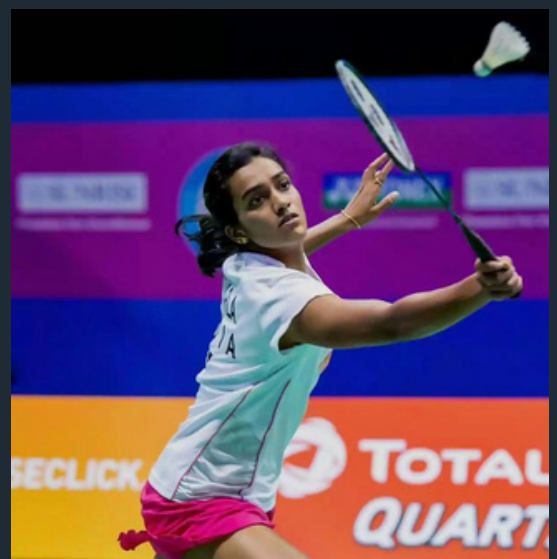
In sports specifically :

Around 1 in 4 Indian female athletes say they feel uncomfortable even talking about their period, and shame around menstruation is something most menstruating women and girls in India experience in some form.

Access and Poverty :

A 2005 study found 90% of Indian women used unhygienic cloth during their period instead of pads, and only about 1 in 10 used proper sanitary pads.

In India, the real barrier often isn't biology, it's silence. A girl can't get help managing something nobody will let her talk about.



The average woman will have around 450 periods in her lifetime — that's roughly 2,280 days, or about 6.25 years of her life spent menstruating

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The biggest barrier to Indian sportswomen isn't their period, it's the silence around it

In India, the problem isn't just "does the period affect performance", it's that athletes are often too embarrassed to even mention it to their coach, so nobody adjusts training sensibly, and nobody catches warning signs like RED-S early. Silence, not biology, may be the bigger obstacle.

RED-S stands for Relative Energy Deficiency in Sport, a condition where an athlete's energy intake is insufficient to meet the demands of training and normal physiological functions



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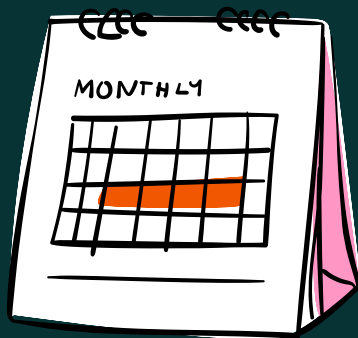
Many young Indian athletes in training academies almost never discuss their period openly. For many, the hardest part isn't the pain, it's not knowing how to explain it to a male coach in a culture where periods just aren't talked about.

Bihar became India's first state to give women paid period leave two days a month, way back in 1992, after female government employees campaigned for it



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MYTHS AND FACTS

**MYTH: "Girls play worse during their period."**

FACT: Not proven. Scientists still argue about this, and many older studies never even checked hormone levels properly — they just guessed which day of the cycle someone was on.

~American Physiological Society

MYTH: "You must plan your whole training schedule around your cycle."

FACT: Right now, there's no solid proof that changing your workout plan based on your cycle actually makes you stronger or fitter than just training normally.

~Lippincott Williams & Wilkins

**MYTH: "If your period stops because you train a lot, that's a good sign, it means you're very fit."**

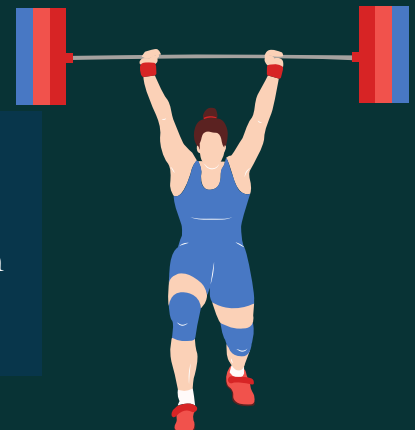
FACT: This is actually dangerous. Doctors call this RED-S (Relative Energy Deficiency in Sport) — it happens when the body isn't getting enough food for how much it's training, and it can hurt bone strength, immunity, and heart health, not just periods. A missing period is a warning sign, not an achievement.

~ Human Kinetics

MYTH: "Lifting weights is harder or less effective on certain days of the month."

FACT: A large review of many studies found no real difference in strength or muscle gains at different points in the cycle.

~Frontiers





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ATHLETES WHO BROKE THE SILENCE

**Fu Yuanhui**

After her swim team placed fourth, this Olympic swimmer told reporters on live TV that her period had started the night before and that she felt weak because of it, and it was reportedly the first time many people in China realized it was even possible to swim while on your period. It became a huge, mostly positive, talking point across Chinese social media.

Mary Kom

Has publicly spoken out against period stigma in India, using her platform as one of the country's most successful athletes to challenge silence around the topic.

**Anju Bobby George**

She has spoken about competing at the Commonwealth Games while on her period, feeling weaker but pushing through anyway and said that afterward people criticized her performance without knowing what she was actually dealing with.

**Heather Watson**

Openly said "girl things" affected her performance after a first-round loss, and got public support from other athletes for speaking up, a rare moment of honesty in professional tennis.





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Does your period make you weaker?	Not proven, evidence is mixed
Should training change based on cycle phase?	Not enough evidence to say yes
Is knee injury risk higher at some points in the cycle?	Yes, likely higher around ovulation
Can periods affect iron levels and stamina?	Yes, this is one of the best-supported effects
Is a missing period from training "normal and fine"?	No, it's a warning sign (RED-S)

SO - FACT OR FICTION?

The truth is somewhere in between, and that's actually the more useful answer. Science hasn't proven that your period makes you weaker, and there's no solid evidence that you need to completely redesign your training around your cycle.

But a few things are real: knee injuries may be slightly more likely around ovulation, low iron from menstrual blood loss can genuinely drain your stamina, and ignoring a missing period during heavy training is a warning sign, not a badge of honour.

In India, though, the bigger obstacle often isn't the biology at all, it's the silence. Millions of girls miss school, hide their pain, and avoid talking to coaches simply because periods are still treated as something shameful rather than something normal. The real takeaway is simple: don't build training plans around myths, but do build a culture where athletes feel safe enough to talk about what's actually going on in their bodies. That one change could matter more than any cycle-based training hack ever could.