

Science City Davos

With the cycle to success

How cycle-based training supports the HCD Ladies



HCD Ladies on the ice: Cycle-based training for improved performance and well-being. Image: Hockey Club Davos

The menstrual cycle affects the female body in many ways—including sports, as numerous studies have shown. Based on these findings, the sports science research team from SRISM and Davos Sports & Health launched a study with the HCD Ladies. The goal was to determine whether cycle-based training could improve the players' performance and well-being. The idea was to adjust training during phases with strong symptoms while still enabling the desired performance improvements.

The study explored the following questions: Do athletes feel a higher strain during certain phases? Are there measurable differences in resilience? Can training adjustments during symptom-heavy phases make training overall more comfortable?

At the beginning, the focus was on precisely tracking the cycle and its effects on the athletes' well-being. All players with a natural cycle tracked their menstrual cycle using ovulation test strips (LH test strips) and daily temperature measurements. Each day, they completed a short questionnaire, noting their symptoms, mood, and preferred training intensity. Additionally, actual training load was measured, and a weekly performance test with Counter Movement Jumps was conducted. The results showed that symptoms were significantly more frequent and intense during the menstrual phase compared to the follicular and luteal phases.

Cycle-based summer training leads to more comfortable workouts

Based on the collected data, the summer training was then individually adjusted to each player's cycle. During phases when athletes experienced more symptoms, training intensity was reduced. More intense sessions were shifted to symptom-free phases. The players reported that cycle-based training felt more comfortable, and they were better able to manage the intense training phases while considering their physical well-being.

Another effect: The players' awareness of their own cycle and its impact on training significantly increased. Although there were no statistical differences in performance between the cycle-based training group and the regular summer training group, the players felt their training was better tailored and more enjoyable.

Challenges and outlook

Integrating daily data collection and cycle-based training into a team sport setting was challenging. However, the project helped raise awareness about the cycle and its symptoms. In the future, more individualized training plans could be implemented to better address each athlete's cycle and needs.

On December 3, 2024, Eva Jäger from SRISM and Davos Sports & Health will be a guest at Academia Raetica's Researchers Beer, where she will present the project and discuss the findings.

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Swiss Research Institute for Sports Medicine (SRISM)

Davos plays a crucial role in research on elite sports and asthma. SRISM is an independent, translational sports medicine research institute affiliated with Davos Hospital (Davos Sports & Health) and SIAF. It focuses on sports immunology and collaborates with Swiss Olympic, HC Davos, and Swiss Ski. More information: www.sportsmed-research.ch