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Digesting rest: meal quality and timing linked with better sleep in female AFL players

Limiting food intake before bedtime could be the answer to achieving a good night's sleep for elite female athletes, according to new research published today in [Nutrition & Dietetics](#).

The research conducted by Dr. Dominique Condo, Lecturer in Sports Nutrition at Deakin University, Accredited Practising Dietitian (APD) and Accredited Sports Dietitian, highlights the impact nutrient intake, quality and timing of meals has on sleep duration and quality in Australian Football League Women's (AFLW) players.

Over 10 consecutive days during pre-season training, 36 AFLW players from two Victorian teams tracked their sleep and food intake through monitoring devices and self-reporting measures.

Players who had a longer period between their last meal and bedtime, tended to wake less after going to bed – resulting in a better night's sleep. Daily intake of iron, calcium and magnesium was also associated with improved sleep quality. On the flip side, consuming more carbohydrates at dinnertime (after 6pm) was associated with a more restless sleep.

“Despite eating and sleeping being an integral part of our everyday routine, there is limited data on the relationship between food and sleep in athletes. This was the first study to investigate the influence of food on sleep in AFLW players,” said Dominique.

“AFLW players have a high training load which requires strong technical skills and this can be quite demanding on the body. Optimal nutrition and sleep is vital for physical and mental recovery, and understanding how food and sleep are connected can help us improve player outcomes.”

While the optimal number of hours left between the last meal and bedtime still needs to be determined, Dominique highlights that the impact training may have on influencing this connection.

“When we conducted a similar study in male players, eating a meal close to bedtime was associated with less waking after going to sleep. This difference between genders may be due to the different training times of the male and female teams – and it will be interesting to see the influence of training on the food-sleep relationship,” said Dominique.

When examining the impact of micronutrients on sleep (consumed either from food or supplements), daily iron intake was associated with a longer sleep time. Daily intake of magnesium and calcium were both linked with an easier ability to fall asleep.

“These findings highlight the importance of eating a nutrient rich diet, particularly as women have higher requirements for some nutrients like iron. Helping athletes meet their daily intake needs for these minerals may assist with sleep, and in turn, aid recovery and performance,” Dominique said.

While these findings are for elite female athletes, healthy active women can draw inspiration from these too.

“More generally, these findings provide further encouragement to eat a variety of nutritious foods to not only look after your health, but help promote better sleep. It can also suggest that for some, not eating close to bed time may help provide a more restful sleep, but many factors are likely to influence this,” said Dominique.

With AFLW wrapped up for 2020, and only 8 weeks of the AFL season remaining, Dominique looks with interest to conduct further research in this area.

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“We’re looking forward to conducting intervention-based research, to better understand how we can optimise nutrition to support quality sleep, and in turn, improve performance,” said Dominique.

In lieu of the face to face Dietitians Australia National Conference for 2020, the Journal of Dietitians Australia, [Nutrition & Dietetics](#) has published Dominique’s research as one of more than 240 abstracts to showcase emerging research in the field.

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For media enquiries and interviews, contact Pattie King, Dietitians Australia 0409 661 920

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