

# How to combine 'leg day' with running

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Credit: Paul Brennan/public domain

James Cook University scientists in Australia say they have the solution for a problem gym-goers have when they combine endurance and weight training.

JCU's Dr. Kenji Doma led the review paper. He said his own work and those of other scientists had previously discovered that [resistance training](#), such as weight lifting, may harm performance in [endurance training](#), such as running, when the two are combined on the same or separate days.

The practice of combining the two is commonly referred to as 'concurrent [training](#)'.

"Based on previous evidence, we suspect that if appropriate recovery is not accounted for between each training mode, it may impair [endurance](#) development," he said.

Dr. Doma said the physiological stress caused by a typical resistance training bout of 40 to 60 minutes can continue for several days post-exercise, as opposed to a full recovery within 24 hours following a typical endurance training bout.

"We wanted to increase the awareness of

resistance training-induced fatigue in the hope of encouraging coaches to think about aspects such as the order of the training, the recovery period, training intensity, etc. With this new work, we think we now have a roadmap for them to follow," said Dr. Doma.

He said the team think there are several training variables that may influence the way in which resistance training impacts the quality of endurance training.

They include the intensity of resistance and endurance training sessions, the volume of resistance training, the speed in which resistance training is performed, the [recovery period](#) between resistance and endurance training, and the order of resistance and endurance training sessions.

"By understanding the influence these variables have, it means that both resistance and endurance training can be prescribed in such a way that minimises fatigue between modes of training, which could optimise the quality of endurance training sessions," said Dr. Doma.

The researchers have produced flowcharts providing practical guides for improving concurrent training and optimising endurance development.

Dr. Doma said it was important that fatigue be monitored between the different training types and different periods of rest enforced after different levels of either endurance or resistance training.

"One of the easiest recommendations to follow is that if the performance of resistance and endurance training sessions on the same day is unavoidable, endurance training sessions should be done prior to [resistance](#) training irrespective of the intensity of either, with at least half a day of recovery in-between training sessions," he said.

Dr. Doma said the findings were made freely available in the published paper with the hope that coaches and both amateur and professional

endurance athletes undertaking concurrent training could use them to increase performance.

**More information:** Kenji Doma et al, Training Considerations for Optimising Endurance Development: An Alternate Concurrent Training Perspective, *Sports Medicine* (2019). [DOI: 10.1007/s40279-019-01072-2](https://doi.org/10.1007/s40279-019-01072-2)

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