Medical Xpress

One more 'player' on the pitch thanks to a new training method

March 7 2012

Top footballers experienced an increase in their oxygen intake by 8.6 percent. Credit: Christopher Johnson

"Mr Oxygen", as it is known by researchers at the Norwegian University of Science and Technology, is the "extra player" that is gained on the pitch thanks to their new system designed for elite footballers. The programme has been published in the *Journal of Sports Medicine* and has enjoyed the involvement of F.C. Barcelona's medical team. It claims to improve the players' sprint, jump and endurance.

"With our new training system, the improved combined fitness of players is the equivalent of having an extra member on the pitch. We call this player "Mr Oxygen", states SINC Jan Helgerud, lecturer at the Norwegian University of Science and Technology (the NTNU in Norwegian) and lead author of the new training method that has been

tested by elite football players.

The programme consists of a 10 minute warm-up followed by interval aerobic exercises. There is then a 15 minute break followed by a training session at maximum effort. The researcher explains that the "latter consists of repeating four sets of half squats (bending the knee at a 90º angle) while using a bar and weights. The players have a three minute rest between each set," explains the researcher.

The training session with 21 footballers lasted an hour and took place twice a week in the morning for 8 weeks during the preseason. In addition, the programme was included during a normal week in season with six sessions lasting 1.5 hours followed by a kick-about in which emphasis was placed on technique and tactics.

The expert points out that "previous studies on this type of training lack direct tests on elite football teams at an international level. What is more, top trainers often fear that such training may cause their players an injury, fatigue or loss of training ability".

Gil Rodas from the medical team at F.C. Barcelona and co-author of the study adds: "A training model of high intensity and short duration can improve the energetic, aerobic and anaerobic systems. This has been widely proven but not at a practical level and, more specifically, not on professional footballers.

The results of the study show that after the programme, top footballers experienced an increase in their oxygen intake by 8.6%, they were able to jump 3 centimetres higher and improved upon their sprint time by 0.06 seconds. The physiotherapists who took part in the study did not report any negative secondary effect during the eight week period of intense training.

Helgerud outlines that "the study on top footballers is vital as trainers are not prepared to transfer the results that have been obtained by studying players from lower divisions."

The physical training programme is designed to last a whole year, not just the preseason. "We have worked directly with various teams that have incorporated the programme. However, we would like to see it applied to teams across the entire world. We are convinced that the scientific method is the path to take to lead us into the future," says Helgerud.

The authors still have to examine whether benefits in physical output can be achieved by applying this method throughout the entire season. As Rodas concludes, "we have also started studying whether it lessens the chance of injury."

More information: J. Helgerud, G. Rodas, O. J. Kemi , J. Hoff, "Strength and Endurance in Elite Football Players", *Journal of Sports Medicine* 32(9): 677-682, 2011.

Provided by FECYT - Spanish Foundation for Science and Technology

Citation: One more 'player' on the pitch thanks to a new training method (2012, March 7) retrieved 25 April 2024 from https://medicalxpress.com/news/2012-03-player-pitch-method.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.