

# WORLD NEWS

FOLLOWING THE EVOLUTION OF ECCENTRIC RESISTANCE TRAINING

## YOYO<sup>TM</sup> UNILATERAL SQUAT IMPROVES CHANGE OF DIRECTION SPEED IN SOCCER

A recent research study conducted in Spain shows uni-lateral YoYo<sup>TM</sup> Squat training emphasizing eccentric overload, combined with other means improve change of direction (COD) speed – a key performance feature in soccer!

The investigative team employed a novel eccentric overload, including the unilateral YoYo<sup>TM</sup> Squat, and vibration training protocol, and tested the effects COD speed and other performance tests applicable to soccer. Twenty-four players were assigned to this particular program or more conventional plyometric, linear speed and weight loaded training, once weekly for 11 weeks. Interestingly, a group comparison showed very likely to likely better performance for the unilateral Squat trainees in the COD, 30- and 10-m dash speed and average power and jumping height. Based on this “proof-of-principle” study the researchers concluded that this novel exercise paradigm performed once weekly, could serve as a viable adjunct to improve performance tasks specific to soccer.

First author Julio Tous-Fajardo is currently with the Italian National Team after serving both FC

Barcelona and Juventus as the strength conditioning and injury prevention coach. A career long consultant to Rafa Nadal, Dr. Tous-Fajardo was the first leading international expert in the soccer world to acknowledge YoYo<sup>TM</sup> Technology. Since then Julio have had many followers among fellow coaches around the world.

Dr. Gonzalo-Skok is currently strength training coach of the Spanish Basketball Federation.

\*Change of Direction Speed in Soccer Players is Enhanced by Functional Inertial Eccentric Overload and Vibration Training. Tous-Fajardo J, Gonzalo-Skok O, Arjol-Serrano JL, Tesch P. Int J Sports Physiol Perform. 2015 May 1. [Epub ahead of print]



“Picture shows Xavi, some years ago, forcing Scholes to make a change of direction”.

## WORD FROM THE FOUNDER

“We dare to share” – this has been our motto since we set on a journey into space 25 years ago to support NASA astronauts to “lift weights” in space. Our knowledge and information are available to anyone and we are pleased to see more and more athletes, coaches, sports scientists and clinicians around the world choosing our training methods, certainly more than hardware only. We share this information, with the understanding there are followers on the market who profit by portraying association with our technology, products and research and development that we have invested in. Yet, “dare to share” prevails.



Per Tesch, Professor | Founder | nHANCE driven by YoYo<sup>TM</sup> Technology

## WORDS FROM THE EDITOR-IN-CHIEF



Dear reader and nHANCE follower,

Welcome to the June nHANCE Newsletter. From now and on, we will publish montly. The Newsletter will highlight projects, new research and products, conferences and recent events in the world of sports and conditioning. How YoYo<sup>TM</sup> technology enhances speed, power and athletic performance, but also how our unique equipment and knowledge that comes with it, serve to prevent and treat injury.

Thank you for subscribing to the nHANCE driven by YoYo<sup>TM</sup> Technology Newsletter. Don't hesitate to forward any comments you might have – bad or good! Also, please invite friends, professionals and colleagues to sign up for future Newsletters to stay updated on news in the world of eccentrics, and related cutting edge research.

David Perez  
Editor-in-Chief



Andrus Murumets and his company Powerman partner with nHANCE in Estonia. Andrus is a former entrant to the World's Strongest Man contest. He earned numerous top positions in the IFSA World Rankings in years 2005-2009. He also competed in the "Arnold Strongman Classic" 3 times and became the overall champion of the Strongman Champions League in year 2009. Andrus is said to have the strongest grip in the world. He was the world record holder of "Farmer's Walk" at 160 kg per hand on a 50m course, "Timber Carry" (398 kg 12,3 m in 7,35 sec) and the Rolling Thunder one hand deadlift with a lift of nearly 150 kg.

**DON'T MESS WITH ANDRUS, PROBABLY THE WORLD'S STRONGEST COP!**



## WORLD NEWS

### YOYO™ HELPS ASTRONAUTS TO BUILD BOTH

## MUSCLE AND AEROBIC POWER

A recent, very novel research study, sponsored by NASA, was published in the renowned Medicine and Science in Sports and Exercise this Spring. Dr. Josh Cotter (pictured) and associates, including "muscle expert giant" Ken Baldwin, at the University California, Irvine together with Dr. Per Tesch of the Karolinska Institute, Stockholm took on this study to validate brand new YoYo™ technology. A device to help NASA astronauts to perform both strength AND cardiovascular training on Missions to Mars. The paper was chosen and highlighted by the Editor-In-Chief of the MSSE journal as "pick of the month".



**DR. JOSH COTTER**

The study\* examined the effect of a high-intensity concurrent training program using a single patented YoYo™ device in an effort to preserve muscle function and aerobic capacity during 10 days crutch walking (ULLS; a simulation of spaceflight). The research team asked nineteen men and women to perform either 10-d ULLS with or without concurrent aerobic and resistance training. Exercise was performed on the YoYo™ MultiGym adopted for both AE and RE (Resistive and Aerobic Exercise Device; RADTM) with alternating days of interval aerobic rowing and maximal all-out resistance training including Supine Squats. Non-exercisers showed loss of strength and aerobic power. In contrast, the exercisers showed a seven percent increase in aerobic capacity and increased knee extensor and ankle plantar flexor 3RM. In the "wannabee astronauts" there was a shift toward type IIx myosin heavy-chain mRNA of the vastus muscle. This effect was reversed with exercise. Myostatin and atrogen (markers of atrophy) increased with ULLS. This change was mitigated with exercise. These unique results show both aerobic deconditioning and muscle atrophy, which occurs with space-flight, can readily be prevented with one compact piece of exercise equipment (YoYo™ RAD MultiGym). NASA is currently preparing this hardware for manned missions to planets beyond Moon.

\*Concurrent Exercise on a Gravity-Independent Device during Simulated Microgravity. Med Sci Sports Exerc. 2015 May;47(5):990-1000. doi: 10.1249/MSS.0000000000000483.

### nHANCE GOES EAST!

FC Dynamo Moscow is among several Russian teams incorporating YoYo™ Technology to enhance performance and prevent injury.

Picture shows Sergey Alexeev of FC Dynamo's awarding nHANCE founder Per Tesch the club jersey.



### FROM THE ARCHIVE "PETER THE GREAT"



A then young Peter Forsberg later world-, Olympic and Stanley Cup champion, building hockey specific force and power on the very first YoYo™ Leg Press. "Peter the Great" displayed here in the Colorado Avalanche jersey.

**PETER FORSBERG**



## YOYO™ IN CONGRESS

May is always a busy month to keep up with the latest in the sports science including research on eccentric training using YoYo™ Technology! Below are three major cities, hosting congresses where results from YoYo™ research for health promotion, sports performance enhancement and injury prevention, were presented.

**Sevilla, Spain** II Congreso Internacional en Optimización del Entrenamiento Readaptación Físico y Deportiva, NSCA Spain at Universidad de Sevilla, May 14-16.

**Copenhagen, Denmark** 8th World Congress on Science & Football, International Council of Sport Science and Physical Education, May 20-23

**San Diego, CA** The 62nd Annual American College of Sports Medicine (ACSM) Meeting and the 6th World Congress on Exercise is Medicine® and World Congress on the Basic Science of Exercise Fatigue, May 26-30.

## CONGRATS FC BARCELONA TO THE TRIPLE

As we reported in the spring issue, 7 out of 8 clubs in the quarterfinals competing for the Champions League title were loyal nHANCE users.

FC Barcelona being one of those teams brought home the title to complete the mission of going for the triple. Congratulations to FC Barcelona!



nHANCE

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