

Sample Abstract Guidelines:

1. Abstract Content should be in English
2. The maximum word count should be 250-300 words
3. If your title includes scientific notation, Greek letters, bold, italics, or other special characters/symbols, do make sure they appear correctly.
4. Corresponding details of corresponding author should be correct which will be used for further communication.
5. Abstracts should highlight the major points of your research and should not include tables, figures and references.

Format

Presentation title: Interval Nature of Human Body: HIIT improves and maintains the NMJ adaptations and Performance more than Endurance Training

Corresponding Author name: Ali Gorzi

Affiliation: University of Zanjan

Ph. No: +98-9123373080

Email ID's: Ali_gorzi@znu.ac.ir ; Aligorzi1982@gmail.com

WhatsApp No: For conference updates +98-9123373080

Any alternative number:

Other Authors if any: Fatemeh Jafari, Nasrin Allahmoradi, Ahmad Rahmani, Walter Krause Neto

Presentation type: (Oral presentation/ Poster presentation) Oral

Abstract (250-300 words):

It seems that the human body has an interval nature; work to rest, awakens to sleep, systole to diastole, depolarization to repolarization, and the neuromuscular junction is more responsive to intermittent activities. Neuromuscular adaptations are essential for improving athletic performance. However, little is known about the effect of different endurance training protocols and their subsequent detraining on gene expression of critical factors for neuromuscular synaptic transmission. Therefore, this study investigated the effects of endurance training (high-intensity interval training [HIIT], continuous [cEND], mixed interval [Mix], and all protocols combined [Comb]) and detraining on performance and gene expression (GE) of the alpha-1a, synaptotagmin II (Syt-II), synaptobrevin II (Vamp2), and acetylcholinesterase (AChE) in the gastrocnemius and soleus of



Wistar rats. Eighty rodents were randomly divided into control, HIIT, cEND, Mix, Comb, and detraining groups. The rodents trained for six weeks (5x/week), followed by two weeks of detraining. Performance improved in all training groups and decreased following detraining ($p < 0.05$), except HIIT. In the gastrocnemius, alpha-1a GE was upregulated in the Mix. Syt-II and AChE GE were upregulated in HIIT, Mix, and Comb. Vamp2 GE was upregulated in all groups. In the soleus, alpha-1a GE was upregulated in HIIT, Mix, and Comb. Syt-II and Vamp2 GE were upregulated in all groups. AChE GE was upregulated in cEND, Mix, and Comb. Detraining down-regulated mostly gene-expression in skeletal muscles. We conclude that training intensity appears to be a key factor for the up-regulation of molecules involved in neuromuscular synaptic transmission. Such changes occur to be involved in improving running performance. On the other hand, detraining negatively affects synaptic transmission and performance but with no decreases following HIIT. These findings are consistent with the interval nature of the human body.

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Biography (150-200 words):

Dr. Ali Gorzi is a specialist in cellular and molecular science of training. As a body conditioning coach of soccer and swimming national teams, his researches are applied and in accordance with his goals in the field. With a postdoc experience in Karolinska Institutet (Sweden), now he is researching in international levels with senior researchers around the world.