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| Book Name: | [**Medical Science: Trends and Innovations**](https://www.bookpi.org/bookstore/product/medical-science-trends-and-innovations-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4612** |
| Title of the Manuscript:  | **Muscle Adaptations to Cardiovascular, Lactate, ATP-PC, and Power Training: The Principle of Myoplasticity** |
| Type of the Article | **Book Chapter** |

**Special note:**

**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

**Source Article:**

**This chapter is an extended version of the article published by the same author(s) in the following journal.**

**MOJ Sports Medicine, 1(4): 85-88, 2017.**

**DOI: 10.15406/mojsm.2017.01.00020**

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| PART 1: Comments |
|  | Reviewer’s comment**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | **The mechanisms of muscle adaptation to various loads are described in the manuscript. The different neuromuscular, metabolic, and structural mechanisms have been discussed. All of these mechanisms are summarized, and a wide spectrum of skeletal muscle myoplasticity is clearly described. This is important for students and practical coaches.** |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | **There should be no abbreviation in the title. The term 'ATP-PC Training' is not commonly used in the scientific literature. There are also some doubts about the definition of 'Lactate Training.' An alternative title could be 'Muscle Adaptations to Aerobic, Anaerobic, and Power Training: The Principle of Myoplasticity' or 'Muscle Adaptations to Low-Intensity, High-Intensity, Sprint Training, and Power Training: The Principle of Myoplasticity.** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **It remains unclear what the authors mean by 'physical adaptations' of the muscles, as adaptation is a biological, not physical, process. The concept of physical adaptation is not mentioned in the 'Results' section of the abstract.****The 'Methods' section should be improved by providing a more detailed description of the principles, methods, keywords, and the inclusion and exclusion criteria for the literary sources analysis.****The 'Results' section does not present any scientifically significant results; instead, it contains a description of the research purpose.****The last sentence, 'The present study identifies each adaptation specific to,' appears to be incomplete.** |  |
| **Is the manuscript scientifically, correct? Please write here.**  | **Some terminology issues are subject to discussion, such as 'ATP-PC Training' and 'Lactate Training.' The difference between 'ATP-PC Training' and 'Power Training' is not well defined.****The sentence 'Cardiovascular training on a structural level elicits a significant increase in activation frequency of motor units and a slight increase in oppositional load against motor units' seems partly true but unclear. First, cardiovascular (aerobic) training generally improves neuromuscular efficiency, but it does not significantly increase the activation frequency of motor units. Second, if 'oppositional load' refers to resistance against muscle contraction, endurance training does not significantly increase external load (as weight training does).****The adaptation to lactate training is not well described; there are only three paragraphs in the text addressing this issue.****The sentence 'Connections made between the spinal cord (motor neurons) and the motor units to synchronize contraction leads to the muscle’s ability to produce more force' is unclear.****It is likely incorrect to refer to fluid buildup from blood plasma in the interstitial and intercellular spaces immediately after power training as 'hypertrophy.'****The title 'The Evaluation of Power Training on Working Skeletal Muscle' is mostly understandable but requires improvement.****The description of power training effects is too brief. If there is no significant difference between the mechanisms of adaptation under 'ATP-PC Training' and 'Power Training,' it may not be appropriate to separate them in the title and the text of the manuscript** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | **References are not recent, the newest one is 2015, the oldest – 1971 (?).** |  |
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| Is the language/English quality of the article suitable for scholarly communications? | The language could be improved. For example, the title of the section 'Skeletal Muscle under the Presence of Cardiovascular Training' contains the phrase 'under the presence of,' which is somewhat awkward and not commonly used in scientific writing. There are numerous other examples of sentences and terminology that need to be improved. |  |
| Optional/General comments | Some improvements would help readers better understand the manuscript. An analysis of recent references would significantly increase its scientific value. |  |

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| **PART 2:**  |
|  | Reviewer’s comment | Author’s comment *(if agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?**  |  |  |

**Reviewer details:**

**L.Vovkanych, University in Lviv, Ukraine**