

CHARLES UNIVERSITY
FACULTY OF PHARMACY IN HRADEC KRALOVE

Department: LBLV Master's degree program in Pharmacy

Opponent's review of Master's thesis

Student's name: Michaela Bažantová

Mentor of the thesis: Prof. PharmD. Petr Nachtigal, PhD.

Year of the thesis
defense: 2018

Opponent of the thesis: Assoc. Prof. PharmD. Miloslav Hronek, PhD.

Title of the thesis:
Exercise as Medicine
Growth Hormone Response to High-intensity Interval Training

Formal comments: number of pages: 69, number of figures: 17, number of tables: 0, number of references: 92.

Type of work: Experimental work

- a) The aim of the thesis is: Fulfilled
- b) Language and graphic level: Excellent
- c) Processing of the theory: Excellent
- d) Methods description: Excellent
- e) Results description: Excellent
- f) Discussion and conclusions: Excellent

I recommend Diploma thesis for the recognition as Rigorous thesis .

Opponent's comments: Michaela Bazantova's diploma thesis is interesting and brings new partial knowledge how the growth hormone has responded to increased exercise intensity. In the theoretical part has correctly written a review of basic knowledge about the benefits and risks of regular physical activity and exercise, the body composition and effect of growth hormone on body physiology. It has been written with a relatively small number of errors (e.g. on p. 7 in programmes, p.8 behaviour, p.10 practising physical exercise). Many time has been used e.g. on p. 140,12...“It can be said” is not well for academic thesis, it can be used e.g. in a lecture. Some tables are named as figures (e.g. 1, 2), it is confusing, because are tables. You have described and not well concluded, “Based on the knowledge about lipolytic effect of GH, we can assume that high intensity interval training can improve body composition by means of reducing fat tissue.” For this meaning is necessary indirect calorimetry measurement for determination not only energy expenditure but also fat oxidation. It can be assumed the energy expenditure will be increased by contribution of carbohydrate oxidation although the level of growth hormone with its lipolytic effect is increased, typical for intensive type exercises. In conclusion, the mistakes do not reduce quality of work. The diploma thesis fulfilled all the requirements and I recommend it for the defense.

Questions:

1. You have written on p.15, "Another term which is used for fat-free mass is total lean tissue." It is not true, could you explain what is difference between FFM (fat free mass) a LTM (lean tissue mass)?
2. Do you know beyond the intense exercise and medicals other ways to increase the level of the growth hormone in the body?

Evaluation of Master's thesis: Excellent

Recommendations for the thesis defense: Recommended

In Hradec Kralove 21.5.2018

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Opponent's signature