# Article information:

Human investigations into the exercise pressor reflex - Secher - 2012 - Experimental Physiology - Wiley Online Library
<https://physoc.onlinelibrary.wiley.com/doi/full/10.1113/expphysiol.2011.057679>

# Article summary:

1. The exercise pressor reflex is activated by mechanical and chemical stimuli associated with muscle contractions, which trigger an increase in the discharge frequency of thin fibre muscle afferents that relate exercise-induced intramuscular changes to the CNS.

2. The exercise pressor reflex stimulates ventilation with concurrent chemoreflex activation and raises blood pressure through signals triggered by muscle pressure, metabolites trapped within muscle, or ischaemia itself.

3. Investigations into the role of the exercise pressor reflex have often used electrically evoked exercise or pharmacological attenuation of neural feedback from the legs to evaluate whether increases in heart rate and blood pressure during exercise are driven by central command or the exercise pressor reflex.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article "Human investigations into the exercise pressor reflex" provides a comprehensive review of the role of the exercise pressor reflex in cardiovascular regulation during whole-body exercise. The article discusses how neural input from skeletal muscles elevates blood pressure during exercise and how this is influenced by factors such as muscle ischaemia, CNS influence, and metabolites trapped within muscle.

One potential bias in the article is that it focuses primarily on studies conducted in healthy individuals, with only brief mention of studies conducted in paraplegic and tetraplegic patients. This may limit the generalizability of the findings to individuals with disabilities or chronic conditions that affect their ability to exercise.

Another potential bias is that the article does not explore counterarguments or alternative explanations for some of the findings presented. For example, while the article suggests that muscle pressure or metabolites trapped within muscle trigger a signal to the CNS and raise blood pressure during exercise, it does not consider other possible mechanisms for this effect.

Additionally, some claims made in the article are unsupported by evidence or are presented without sufficient context. For example, while the article suggests that withdrawal of vagal tone on the heart may be responsible for elevated heart rate during exercise, it does not provide clear evidence to support this claim.

Overall, while "Human investigations into the exercise pressor reflex" provides a useful overview of current research on this topic, readers should approach its findings with caution and seek out additional sources to gain a more complete understanding of cardiovascular regulation during exercise.

# Topics for further research:

* Alternative mechanisms for blood pressure elevation during exercise
* Exercise pressor reflex in individuals with disabilities or chronic conditions
* Role of sympathetic nervous system in cardiovascular regulation during exercise
* Vagal tone and heart rate during exercise
* Metabolites and muscle ischaemia in cardiovascular regulation during exercise
* CNS influence on exercise pressor reflex

# Report location:

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