

Mind your clocks! The role of the biological clock in human metabolic health

Citation for published version (APA):

Hansen, J. (2017). *Mind your clocks! The role of the biological clock in human metabolic health*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20171115jh>

Document status and date:

Published: 01/01/2017

DOI:

[10.26481/dis.20171115jh](https://doi.org/10.26481/dis.20171115jh)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

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Stellingen

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Mind your clocks! The role of the biological clock in human metabolic health

1. The core components of the skeletal muscle molecular clock are rhythmic in human primary myotubes from healthy and type 2 diabetes donors (this thesis)
2. Metabolic regulators of the molecular clock have a dampened amplitude in human primary myotubes from type 2 diabetes patients (this thesis)
3. Human skeletal muscle mitochondrial capacity displays a day-night rhythm (this thesis)
4. Short-term 12h day-night shift leads to metabolic disturbances that can be detected at the molecular level in human skeletal muscle (this thesis)
5. The increasing prevalence of T2D can be attributed to dramatic lifestyle changes in response to the industrialization of modern society that may not be limited to changes in our diet and physical activity (Qian J, 2016. *Circadian System and Glucose Metabolism: Implications for Physiology and Disease*. Trends Endocrinol Metab 27(5):282-293.)
6. Personalized chronotherapy will undoubtedly emerge as a critical component of personalized medicine's future, as it holds great promise for disease treatment (Dyar KA, 2017. *Circadian Metabolomics in Time and Space*. Front Neurosci 11 (369.)
7. Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (part of the current preamble of the WHO constitution)
8. If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health (Hippocrates)
9. The best time to plant a tree was 20 years ago. The second-best time is now. (Chinese Proverb)
10. "No fair! You changed the outcome by measuring it!" Prof. Hubert J. Farnsworth, Futurama

Jan Hansen, Maastricht 15th November 2017