UNIVERSIDAD DE GRANADA

EFFECTS (CTS-262)
Evaluación funcional y fisiología del ejercicio

Role of metabolic flexibility in energy homeostasis and health



Our goal is to generate evidence to identify effective strategies to improve metabolic flexibility, thus favoring a more efficient and resilient metabolism in the face of energy challenges, with applications in both disease prevention and optimization of performance and general health.

What is our research?

Our line of research focuses on understanding the role of metabolic flexibility as a key factor in the regulation of energy homeostasis and metabolic health. We investigate how the body's ability to efficiently switch between the use of lipids and carbohydrates as energy sources, according to physiological demand, influences body weight control, insulin sensitivity, physical performance and metabolic disease prevention.

We analyzed the cellular and molecular determinants of metabolic flexibility, including mitochondrial function, insulin signaling and the expression of genes related to substrate oxidation. We also study how factors such as physical exercise, different dietary patterns (such as intermittent fasting or low-carbohydrate diets), and training status influence this adaptive capacity.

Projects

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Relevant recent publications

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Key collaborations and stakeholders

Our work is enriched by a strong network of collaborations, both internal at the UGR and with other institutions.

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