

Improving flexibility in substrate metabolism

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PROPOSITIONS

Belonging to the thesis

Improving flexibility in substrate metabolism: A pharmacological and lifestyle approach

1. Dapagliflozin treatment for two weeks improves *ex vivo* skeletal muscle mitochondrial oxidative capacity upon a lipid-like substrate in individuals with prediabetes (*This thesis*)
2. Acutely prolonging the overnight fast reduces carbohydrate oxidation and increases fat oxidation during the night in both, individuals with non-alcoholic fatty liver and healthy lean individuals (*This thesis*)
3. Three weeks of time-restricted eating improves fasting and 24 hour glucose levels in individuals with type 2 diabetes (*This thesis*)
4. The major characteristic that determines nocturnal fat oxidation is BMI (*This thesis*)
5. Medication and lifestyle interventions are promising strategies to stimulate dynamics in liver glycogen, thereby improving metabolic health in individuals with obesity and related diseases (*This thesis, impact paragraph*)
6. Insulin resistance is a key component of metabolic inflexibility (*Goodpaster & Sparks, Cell Metab., 2017*)
7. Maintaining energy homeostasis requires substrate sensing, trafficking, storage, and utilization, dependent on substrate availability and energy requirement (*Smith, Endocr Rev., 2018*)
8. We should not accept a prediabetic state but should actually try to convert prediabetes to a normal glucose state (*Tuso, Perm J., 2014*)
9. The strength of the team is each individual member. The strength of each member is the team (*Phil Jackson*)
10. Everywhere is within walking distance if you have the time (*Steven Wright*)

Anna Veelen, 25 January 2023