

Future plans

What next for exercise metabolism research?

The group will explore timing and composition of protein ingestion on synthesis rates of selected myofibrillar and mitochondrial proteins in the period following exercise, in an attempt to identify exercise modes and post-exercise nutrition strategies leading to optimal sports specific adaptation (sport and ageing applications).

Health research will focus on mechanisms by which obesity and ageing lead to the increased risk for the development of insulin resistance, the metabolic syndrome, and vascular ageing.

Exercise programs will be implemented to identify unknown steps in the biochemical mechanisms by which endurance and resistance exercise counteract insulin resistance and improve vascular health. Immunofluorescence microscopy and molecular biology techniques have been developed to approach these questions.

Mass Spectrometry methods are being developed to measure nitrosylation of endothelial proteins and lipoproteins, processes that play a role in vascular ageing and atherosclerosis.

Recently developed ³¹P-MRS methods will be used to investigate whether defects in endothelial metabolism limit muscle perfusion and are limiting ATP turnover in skeletal muscle of patients with the metabolic syndrome.