

Research Project

Functional Aging in Health and Disease - the COMplete Project

Project funded by own resources

Project title Functional Aging in Health and Disease - the COMplete Project

Principal Investigator(s) [Schmidt-Trucksäss, Arno](#) ;

Project Members [Dieterle, Thomas](#) ; [Hanssen, Henner](#) ; [Briel, Matthias](#) ; [Faude, Oliver](#) ;

Organisation / Research unit

Faculty of Medicine

Departement Sport, Bewegung und Gesundheit / Sportmedizin (Schmidt-Trucksäss)

Departement Klinische Forschung

Bereich Medizinische Fächer (Klinik)

Bereich Medizinische Fächer (Klinik) / Allgemeine innere Medizin Liestal (Leuppi)

Project start 01.12.2018

Probable end 28.02.2021

Status Completed

The increasing prevalence of chronic non-communicable diseases and associated risk factors contribute to earlier disability and frailty onset over the course of life in industrialized western countries. This process applies also to diseases of the cardiovascular system, including heart failure, which is a widespread syndrome in middle-aged and older people. Although life expectancy has steadily increased in past decades, the traditional curative way of thinking in medicine is unlikely to compress the disease phase to the final stage of life and thus increase the health span, which is defined as a period of relatively disease-free aging followed by a period of age-related diseases and disabilities. In the period of healthy aging, the function of the organs, including the cardiovascular system, is already deteriorating. To counteract this process and to increase the health span, the preservation or improvement of components of physical fitness (endurance capacity, muscle strength, and neuromuscular function) is thought to be an essential element. The proven, independently predictive value of the single physical fitness components for total and cardiovascular mortality confirms this assumption. However, comprehensive data regarding individual physical fitness characteristics over the course of life are not yet available. Such data is necessary for any targeted prevention program with physical activity and exercise training as crucial pillars. Furthermore, healthy reference values could be used to estimate the adaptive capacity in healthy individuals compared to patients. Therefore, the aims of the COMplete project are: 1. To determine the trajectories of physical fitness components of healthy aging by measurement of endurance capacity, muscular strength and neuromuscular coordination in a healthy population sample between 20 and 100 years (COMplete-Health) and 2. To determine the health distance between healthy individuals (COMplete-Health) and heart failure patients (COMplete-Heart) on the basis of different physical fitness components (endurance capacity, muscular strength and neuromuscular coordination). We anticipate that, for the first time, a basis for targeted prevention programs will be created through better and comprehensive knowledge of the individual physical fitness to improve the health span. In addition, we are convinced that by calculating the health distance between healthy and heart failure patients, we are laying the foundation for more individual exercise therapy. The COMplete project could be the starting point for strengthening the in-depth diagnostics of physical fitness as a component of preventative health care.

Financed by

University funds

Other funds

Add publication

Add documents

Specify cooperation partners