

UNIVERSITÀ DEGLI STUDI DI MILANO



Esercizio fisico e salute: possibile ruolo di "percorsi" caratterizzati dal punto di vista cardiovascolare e metabolico

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Cardiovascular disease



✓ heart disease
✓ stroke
✓ hypertension

Heart disease and stroke: two of the leading causes of death in the world, major causes of disability and the principal causes of cardiovascular death





Risk factors for cardiovascular disease

✓ high blood pressure

🗸 diabetes

✓ high levels of low-density lipoprotein (LDL-cholesterol)





Unhealthy behaviors:

✓ tobacco use

✓ poor diet

 \checkmark physical inactivity

✓ obesity

✓ alcohol abuse





Plus:

family history of cardiovascular disease share common environments and risk factors that increase their likelihood of having a heart attack or stroke







General benefits of physical exercise:

- ✓ scientific link between regular physical activity and various measures of cardiovascular health;
- ✓ more active or fit individuals tend to develop less coronary heart disease (CHD) than their sedentary counterparts do;
- ✓ if CHD develops in active or fit individuals, it occurs at a later age and tends to be less severe.





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Endothelial Function

Repeated Thermal Therapy Improves Impaired Vascular Endothelial Function in Patients With Coronary Risk Factors

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Repeated sauna treatment improves impaired vascular endothelial function in the setting of coronary risk factors, suggesting a therapeutic role for sauna treatment in patients with risk factors for atherosclerosis.







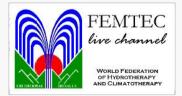


Clinical Implications of Thermal Therapy in Lifestyle-Related Diseases

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Systemic thermal therapy, such as taking a warm-water bath and sauna, induces systemic vasodilation. It was found that repeated sauna therapy (60 degrees C for 15 min) improved hemodynamic parameters, clinical symptoms, cardiac function, and vascular endothelial function in patients with congestive heart failure. Vascular endothelial function is impaired in subjects with lifestyle-related diseases, such as hypertension, hyperlipidemia, diabetes mellitus, obesity, and smoking. Sauna therapy also improved endothelial dysfunction in these subjects, suggesting a preventive role for atherosclerosis. In normal-weight patients with appetite loss, repeated sauna therapy increased plasma ghrelin concentrations and daily caloric intake and improved feeding behavior. In obese patients, the body weight and body fat significantly decreased after 2 weeks of sauna therapy without increase of plasma ghrelin concentrations. On the basis of these data, sauna therapy may be a promising therapy for patients with lifestyle-related diseases.





THE INTERNATIONAL JOURNAL OF CLINICAL PRACTICE

Health benefits of physical activity in older patients: a review T. Vogel, P.-H. Brechat, P.-M. Leprêtre, G. Kaltenbach, M. Berthel, J. Lonsdorfer First published: 15 January 2009

Promotion of regular physical activity is one of the main non-pharmaceutical measures proposed to older subjects as low rate of physical activity is frequently noticed in this age group. Moderate but regular physical activity is associated with a reduction in total *mortality* among older people, a positive effect on *primary prevention of coronary heart* disease and a significant benefit on the lipid profile. Improving body composition with a reduction in fat mass, reducing blood pressure and prevention of stroke, as well as type **2 diabetes,** are also well established. **Prevention of some cancers** (especially that of breast and colon), increasing bone density and prevention of falls are also reported. Moreover, some longitudinal studies suggest that physical activity is linked to a reduced risk of developing dementia and Alzheimer's disease in particular.





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BRIEF REPORT

Effects of Hiking at Moderate and Low Altitude on Cardiovascular Parameters in Male Patients With Metabolic Syndrome: Austrian Moderate Altitude Study

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A 3-week hiking vacation at moderate or low altitude is safe for patients with metabolic syndrome and provides several improvements in their cardiovascular parameters. The cardiovascular benefits achieved are more likely to be the result of regular physical activity than the altitudespecific effect of a mountain environment.





Hikes profiling and characterization

- Biomechanical and Physiological factors
- Pulmonary oxygen uptake, heart rate response, hiking speed
- Energy demands and consumption at different speed
- Heart rate monitoring, body mass







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