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Physical activity benefits and risks on the gastrointestinal system. Martin D

104(12):831-7, 2011 Dez From the Division of Medicine, Department of Internal Medicine, Landstuhl Regional Medical Center, Landstuhl/Kirchberg, Germany.

ABSTRACT: This review evaluates the current understanding of the benefits and risks of physical activity and exercise on the gastrointestinal system. A significant portion of endurance athletes are affected by gastrointestinal symptoms, but most symptoms are transient and do not have long-term consequences. Conversely, physical activity may have a protective effect on the gastrointestinal system. There is convincing evidence that physical activity reduces the risk of colon cancer. The evidence is less convincing for gastric and pancreatic cancers, gastroesophageal reflux disease, peptic ulcer disease, nonalcoholic fatty liver disease, cholelithiasis, diverticular disease, irritable bowel syndrome, and constipation. Physical activity may reduce the risk of gastrointestinal bleeding and inflammatory bowel disease, although this has not been proven unequivocally. This article provides a critical review of the evidence-based literature concerning exercise and physical activity effects on the gastrointestinal system and provides physicians with a better understanding of the evidence behind exercise prescriptions for patients with gastrointestinal disorders. Well-designed prospective randomized trials evaluating the risks and benefits of exercise and physical activity on gastrointestinal disorders are recommended for future research.

Exercise parameters in the management of breast cancer: A systematic review of randomized controlled trials. Pastakia K, Kumar S

Physiotherapy research international : the journal for researchers and clinicians in physical therapy 16(4):237-44, 2011, dez International Centre for Allied Health Evidence, School of Health Sciences, University of South Australia, Adelaide, South Australia.
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Aim. Previous systematic reviews have examined the efficacy of exercise in improving the quality of life for patients with, and survivors of, breast cancer. This review sets out to determine the parameters of exercise programmes used in randomized controlled trials.

Methods. A systematic review of randomized controlled trials was conducted. Only trials that reported significant improvement on the quality of life outcome were included. Data relating to the parameters of exercise (mode, duration, frequency and intensity and delivery method) were analyzed.

Results. Nine randomized controlled trials were included in this review. Overall quality of the trials was average. Aerobic exercise was featured in eight of the nine trials and was used in combination with resistance training in four trials. All the trials were gym-based, were under the supervision of a physiotherapist and included a warm-up and cool-down phase.

Conclusions. This review concludes that aerobic exercise performed with or without weight training is a common feature of exercise programmes that report significant quality of life-related outcomes. The most commonly reported exercise parameters were three sessions per week, at moderate intensity being equivalent to 50% to 80% of the maximum heart rate for greater than 30 minutes

Effects of a structured weight-bearing exercise program on bone metabolism among breast cancer survivors: a feasibility trial.

Peppone LJ, Mustian KM, Janelins MC, Palesh OG, Rosier RN, Piazza KM, Purnell JQ, Darling TV, Morrow GR.: *Clinical Breast Cancer*, 2010, 10(3):224-9. Department of Radiation Oncology, University of Rochester Medical Center, NY 14642, USA.

PURPOSE: Treatments for breast cancer, specifically hormonal therapy, accelerate bone loss (BL) among breast cancer survivors, leading to osteoporosis and an increase in fracture risk. Tai Chi Chuan (TCC) is a moderate form of weight-bearing exercise, equivalent to walking, and it has been shown to improve aerobic capacity and strength among breast cancer survivors and might also be effective in slowing bone loss in breast cancer survivors. This pilot study compared the influence of TCC with that of standard support therapy (ST; exercise control) on BL biomarkers among breast cancer survivors. **PATIENTS AND METHODS:** Randomly assigned breast cancer survivors (N = 16; median age, 53 years;

The epidemiology of abnormal hemoglobins in Mediterranean high-level athletes.

Touhami I, Fattoum S, Bibi A, Siala H, Messaoud T, Koubaa D, Mankai R, Bartagi Z, Le Gallais D.: *European Journal of Applied Physiology*, 2010, 108(6):1075-81. Dynamics of Cardiovascular Incoherencies, Montpellier 1 University, Montpellier, France.

The aim of this study was to determine the prevalence and nature of hemoglobin (Hb) defects in a Mediterranean high-level (HL) athlete population. Five hundred and ninety-four HL male and female athletes were recruited during the annual follow-up of the members of Tunisian national teams. Hematological data, Hb electrophoresis, and DNA analysis were assessed using conventional techniques. Sporting discipline, type of sport, and performance levels were assessed using a questionnaire. The results showed that 32 HL athletes had abnormal Hb (5.4%): beta-thalassemia (2.2%), alpha-thalassemia (0.5%), HbAS (1.5%), HbAC (0.5%), and

rare Hb variants (0.7%). Of the 32 defect carriers, all but one (a alpha-thalassemia) were heterozygous. All the detected hemoglobinopathies but one (an Hb Hope) had already been reported in the country. The prevalence of Hb defect in the HL athletes was similar to that described in the general Tunisian population ($P > 0.05$). The percentage of Hb defect in the athletes was not dependent on gender, or performance level ($P > 0.05$). Within each type of sport the percentages of athletes with normal and abnormal Hb were similar ($P > 0.05$). The hematological data revealed the diversity of anemia, microcytosis, and hypochromia in thalassemic HL athletes. We concluded that HL athletes in Tunisia were a representative sample of the general Tunisian population regarding the prevalence and nature of benign abnormal Hb. The hematological data of the thalassemia carriers exhibited high variability and raised the question of genetic and sporting counseling, as well as biological follow-up for these carriers.

Acute mountain sickness: pathoPhysiology, prevention, and treatment.

Imray C, Wright A, Subudhi A, Roach R: Progress in Cardiovascular Diseases, 2010 May-Jun 5 2(6):467-84.

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Barometric pressure falls with increasing altitude and consequently there is a reduction in the partial pressure of oxygen resulting in a hypoxic challenge to any individual ascending to altitude. A spectrum of high altitude illnesses can occur when the hypoxic stress outstrips the subject's ability to acclimatize. Acute altitude-related problems consist of the common syndrome of acute mountain sickness, which is relatively benign and usually self-limiting, and the rarer,

more serious syndromes of high-altitude cerebral edema and high-altitude pulmonary edema. A common feature of acute altitude illness is rapid ascent by otherwise fit individuals to altitudes above 3000 m without sufficient time to acclimatize. The susceptibility of an individual to high-altitude syndromes is variable but generally reproducible. Prevention of altitude-related illness by slow ascent is the best approach, but this is not always practical. The immediate management of serious illness requires oxygen (if available) and descent of more than 300 m as soon as possible. In this article, we describe the setting and clinical features of acute mountain sickness and high-altitude cerebral edema, including an overview of the known patho-physiology, and explain contemporary practices for both prevention and treatment exploring the comprehensive evidence base for the various interventions.

Use of the peak heart rate reached during six-minute walk test to predict individualized training intensity in patients with cystic fibrosis: validity and reliability.

Gruet M, Brisswalter J, Mely L, Vallier JM.: Archives of Physical Medicine and Rehabilitation, 201004
91(4):602-7

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Objective: To determine whether the peak heart rate reached during a six-minute walk test (HR(6peak)) can be used to predict the heart rate determined at the gas exchange threshold (HR(GET)) during a maximal cardiopulmonary exercise test (CPET) in patients with cystic fibrosis (CF). To assess the test-retest reliability of HR(6peak). Design: Case-control and reliability study.

Setting

: CF unit.

Participants

: Adults with CF (n=23) and age-matched sedentary subjects (control group, n=17).

Intervention

: Not applicable.

Main outcome measures

: Six-minute walk test, HR(6peak), CPET, and HR(GET).

Results

: HR(GET) and HR(6peak) were not significantly different and were highly correlated in both groups (CF, $r=.91$, P