

Literaturrecherche ein Service der I-GAP für Kooperationspartner Thema: Adipositas

Adiposity, **physical activity**, and **physical fitness** among children from aragon, Spain.

[Ara I](#), [Moreno LA](#), [Leiva MT](#), [Gutin B](#), [Casajús JA](#)

[Obesity \(Silver Spring\)](#), 15 (8): 1918-24, 2007

OBJECTIVE: The main purpose of this study was to determine the relationship between **physical activity** (PA) levels and **adiposity**. The secondary purpose was to assess the effect of **physical fitness** and living area on **adiposity**. RESEARCH METHODS AND PROCEDURES: A **cross-sectional study** was carried out in a regional **representative** sample of 1068 children 7 to 12 years of age. Anthropometric and **physical fitness** values (including BMI, aerobic capacity, strength levels, velocity assessment, and flexibility) were measured in all children. RESULTS: The **prevalence** of being **overweight** and **obese** in the entire sample was 31% and 6%, respectively. No difference between urban and rural children was found. The proportion of boys who were classified as **overweight** and **obese** was similar in **physically active** and sedentary (non-physically active) groups. However, **physically active** girls tended to show lower **obesity prevalence** compared with their sedentary counterparts ($p = 0.06$). In girls, the sum of the 6 **skinfolds thickness** (SSF) measurements was lower in the **physically active** group when compared with the non-physically active group ($p < 0.05$); however, this effect was not observed in boys. Multiple **regression analysis** revealed that the level of **physical activity** (PA) had a significant effect on BMI and SSF in boys but not in girls, while maximal **oxygen** uptake ($Vo(2max)$) was significantly related to **adiposity** in both sexes. DISCUSSION: Regular participation in at **least 2 hours per week of sports** activities on top of the compulsory education program is associated with better **physical fitness** and **lower whole body adiposity**. In the children included in our study, among all **physical fitness** variables, $Vo(2max)$ showed the strongest relationship with BMI and fat mass assessed by means of skinfold measurements.

[Regression Analysis](#), [Oxygen](#), [Motor](#), [Overweight](#), [Cross-sectional studies](#), [PhysIcs](#), [Physical Fitness](#), [Adiposity](#), [Skinfold thickness](#), [Prevalence](#), [Repression](#), [Obesity](#)

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Dietary intake and **physical activity** of **normal weight** and **overweight** 6 to 14 year old Swiss children.

[Aeberli I, Kaspar M, Zimmermann M](#)

[Swiss Med Wkly, 137 \(29-30\): 424-30, 2007](#)

PRINCIPLES AND QUESTIONS UNDER STUDY: The **prevalence of overweight** is increasing in Swiss children, and they are at increased risk for **hypertension** and **insulin resistance**. Better **understanding** of how **food intakes** and activity patterns differ between **overweight** and **normal** weight children is needed to develop intervention strategies to control childhood **adiposity**. The aim of the study was therefore to compare **nutrient** intake, dietary patterns and **physical activity** in **overweight** and **normal** weight children in Switzerland. METHODS: The subjects were healthy 6 to 14-year-old **normal** weight and **overweight** children (n = 74 and n = 68 respectively). Dietary intakes were assessed during three **home visits** with two 24-hour **recalls** and one 1-day food record. **Questionnaires** on **physical activity** and social background were completed. RESULTS: The **carbohydrate** and fat contents of the diet as a percent of energy did not differ comparing **normal** and **overweight** children, but the percentage of **protein** was significantly higher in **overweight** children. Intakes of energy, **carbohydrates** and fat were not significantly correlated with **body mass index** (BMI) standard deviation scores (SDS) after controlling for age, gender and total energy (for **carbohydrates** and fat). However, **protein** intake significantly predicted BMI-SDS after controlling for age, gender and total energy. Similarly, meat intake predicted BMI-SDS after controlling for age, gender and total energy, but none of the other analysed food groups were predictors. Time spent watching **television** and time spent in organised **sports** activity were significantly correlated with BMI-SDS. The educational level of mothers of **overweight** children was significantly lower than of mothers of **normal** weight children. CONCLUSION: Intakes of fat and saturated fat in Swiss children are 20% and 50% higher, respectively than **recommended** intakes. Higher **protein** intake, higher intake of meat and more hours spent watching TV and playing computer games are associated with **overweight** in primary school-aged Swiss children.

[insulin](#)

[Insulin Resistance, Motor, Carbohydrates, Insulin, Adiposity, Television, Health, House Calls, Prevalence, Questionnaires, Hypertension, Eating, Proteins, Comprehension, Overweight, Physlcs, Body Mass Index, Food](#)
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Anthropometric profiles of elite asian female handball players.

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[J Sports Med Phys Fitness, 47 \(2\): 197-202, 2007](#)

AIM: Handball has increased in status as a sport since its introduction in 1972 into the Summer Olympic Games. Whereas anthropometric profiles of female athletes have been reported for certain **sports**, data for elite handball players are limited. The current study was based on anthropometric measurements of 60 female Asian handball players competing in the continental championship, the aim being to identify any differences between countries and between playing positions. METHODS: The setting was the 12(th) Asian Games in Hiroshima, Japan. Anthropometric data were obtained from 60 players including teams from China, Japan, Kazakhstan and South Korea. Measurements included height, mass, **skinfold thicknesses**: from these measures percent **body fat** and

muscle mass were estimated. Profiles were compared between 4 nations and 4 positional roles by means of **ANOVA**. RESULTS: Overall, mean (SD) values were 1.708 (0.068) m, 64.6 (7.7) kg, 20.8% (4.4%), 39.6% (5.2%) for stature, mass, percent **body fat** and percent **muscle** mass, respectively. There were small differences between players from different countries but no significant ($P>0.05$) influence of playing position. Players from Japan were shortest, lightest and lowest in **adiposity**. The Chinese players were tallest and had the greatest **muscle** mass. CONCLUSION: These female international handball players differed in some respects in anthropometric characteristics according to their country of origin. The Asian players were found to be relatively homogeneous across the different positions.

SD, ANOVA

Adipose Tissue, Analysis of Variance, Adiposity, Skinfold thickness, Muscles

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Body mass index as a predictor of percent fat in college athletes and nonathletes.

Ode JJ, Pivarnik JM, Reeves MJ, Knous JL

Med Sci Sports Exerc, 39 (3): 403-9, 2007

INTRODUCTION:: **Body mass index** (BMI) is used as a surrogate for percent fat (% fat) in classifying **obesity**. However, there is no established criterion for % fat and health risk, and few studies have examined the accuracy/validity of BMI as a measure of % fat. By default, BMI is used to classify athletes and young adults as **obese**. Consequently, it is critical to **understand** the accuracy of BMI in these populations. The purposes of this study were 1) to describe the relationship between BMI and % fat, and 2) to determine the accuracy of BMI as a measure of % fat in college athletes and nonathletes. METHODS:: A total of 226 college-aged athletes and 213 college-aged nonathletes participated. Three male groups (athletes, football linemen, and nonathletes) and two female groups (athletes and nonathletes) were created. BMI was calculated. Percent fat was determined via BOD POD. BMI ≥ 25 kg.m was used to define **overweight**. Twenty percent fat for males and 33% fat for females were used to define overfatness. Using % fat as the criterion, **sensitivity** and specificity of BMI were calculated. **Receiver operator characteristic** curves determined optimal BMI cut points for % fat. RESULTS:: **Sensitivity** was high (0.83-1.0) and specificity was low (0.27-0.66) in male athletes, male nonathletes, and female athletes. **Sensitivity** was high in linemen (1.0). **Sensitivity** was low (0.56) and specificity was high (0.90) in female nonathletes. Optimal BMI cut points for male athletes, linemen, male nonathletes, female athletes, and female nonathletes were 27.9, 34.1, 26.5, 27.7, and 24.0 kg.m, respectively. CONCLUSIONS:: BMI should be used cautiously when classifying fatness in college athletes and nonathletes. Our results support the need for different BMI classifications of **overweight** in these populations.

BOD, POD

Comprehension, Overweight, ROC Curve, Body Mass Index, Sensitization, Obesity

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Body composition in athletes: assessment and estimated fatness.

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Clin Sports Med, 26 (1): 37-68, 2007

The study of **body composition** attempts to partition and quantify **body weight** or mass into its basic components. **Body weight** is a gross measure of the mass of the body, which can be studied at several levels from basic chemical elements and specific **tissues** to the entire body. **Body composition** is a factor that can influence athletic performance and as such is of considerable interest to athletes and coaches. This article provides an overview of models and methods used for studying **body composition**, changes in **body composition** during adolescence and the transition into adulthood, and applications to adolescent and young adult athletes.

Body Mass Index, Humans, growth, Adiposity, Seasons, Anthropometry, Models, Biological, Growth

Body weight, Body Composition, Tissues

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Dose-dependent effects of training and detraining on weight in 6406 runners during 7.4 years.

Williams PT, Thompson PD

Obesity (Silver Spring), 14 (11): 1975-84, 2006

OBJECTIVE: Prior randomized and **non-randomized** training studies have failed to establish a dose-response relationship between vigorous **exercise** and **weight loss**; this failure may be due, in part, to their short durations and small **sample sizes**. The objectives of this study were to determine whether **exercise** reduces **body weight** and to examine the dose-response relationships between changes in **exercise** and changes in total and regional **adiposity**. RESEARCH METHODS AND PROCEDURES: This was a large **prospective study** of 3973 men and 1444 women who quit running (detraining), 270 men and 146 women who started running (training), and 420 men and 153 women who remained sedentary during 7.4 years of follow-up. The **outcomes measured** were weekly running distance, **body weight**, BMI, body circumferences, and bra cup size. RESULTS: There were significant inverse relationships between the changes in the amount of vigorous **exercise** (km/wk run) and the changes in weight and BMI in men (slope +/- standard error: -0.039 +/- 0.005 kg/km per week and -0.012 +/- 0.002 kg/m(2) per km/wk, respectively) and in older women (-0.060 +/- 0.018 kg/km per week and -0.022 +/- 0.007 kg/m(2) per km/wk) who quit running, and in initially sedentary men (-0.098 +/- 0.017 kg/km per week and -0.032 +/- 0.005 kg/m(2) per km/wk) and women (-0.062 +/- 0.023 kg/km per week and -0.021 +/- 0.008 kg/m(2) per km/wk) who started running. Changes in waist circumference, an indicator of **intra-abdominal fat**, were also inversely related to changes in running distance in men who quit (-0.026 +/- 0.005 cm/km per week) or started running (-0.078 +/- 0.017 cm/km per week). DISCUSSION: The initiation of vigorous **exercise** and its cessation decrease and increase, respectively, **body weight** and **intra-abdominal fat**, and these changes are proportional to the change in **exercise** dose.

Body Mass Index, Humans, Adipose Tissue, Physical Fitness, Waist-Hip Ratio, Running

[bra](#)

[Body weight](#), [Prospective studies](#), [Sample size](#), [Exercise](#), [Adiposity](#), [Weight Loss](#)

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Physiological characteristics of elite professional soccer teams of different ranking.

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[J Sports Med Phys Fitness](#), 46 (4): 515-9, 2006

AIM: Few studies have examined the role of physiological characteristics of soccer teams in the finishing position in the league. The purpose of the present study was to investigate whether there are differences in anthropometric characteristics, endurance, isokinetic peak **torque**, vertical jump height among professional soccer teams with different rank in the Greek championship. METHODS: Three soccer teams that participated in the Greek Championship participated voluntarily in the present study. The B (n=19; 26+/-4 years; 180+/-5 cm; 78+/-4.5 kg) team was among the best three teams of the National Greek league, whereas M (n=15; 24+/-4 years; 178+/-4 cm; 74.8+/-4.2 kg) and L (n=20; 23+/-3 years; 179+/-7 cm; 75.3+/-6.4 kg) teams were in the middle and last of the rank, respectively. All teams were **evaluated** in **body fat** (%), peak **torque** of knee extensors at 1.05 rad/s, running velocity at the **lactate** threshold (LT) and countermovement jump height. RESULTS: The B team, which was deemed among the best three team of the league, presented significantly (P<0.05) lower **body fat** (%) values, and higher peak **torque** of knee extensors, running velocity at the LT, and vertical jump height values in comparison to the middle and last team of the league. CONCLUSIONS: The findings of the present study suggest that the physiological characteristics may play an important role for high soccer performance, as it is reflected from the rank order placed in the Greek championship. Especially, **body fat** (%), running velocity at the LT, peak **torque** of knee extensors and vertical jump ability could be differentiating factors for a soccer performance.

Humans, Muscle, Skeletal, Lactic Acid, Adiposity, Biomechanics, Knee Joint, Anthropometry, Physical Endurance, Running

[Torque](#), [Adipose Tissue](#), [Lactation](#), [Lactates](#)

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Obesity--an interdisciplinary task]

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[Ther Umsch](#), 63 (8): 509-14, 2006

In **industrial** nations, over the last five decades conditions concerning nutrition and **physical exercise** as well as socio-economic circumstances have changed radically. One of the consequences following from this development has been a rapid increase in the **prevalence** of **obesity**. Studies have shown that currently 20 percent of the

German adult population **suffer** from **obesity**. Investigations into the etiology of **obesity** have to address complex interactions between genetic, socio-economic and **psychosocial factors**. A year ago, at the **University Hospital Tübingen** different departments joined to set up the "Plattform **Adipositas**". Endocrinologists, **obesity** surgeons, professionals in **sports medicine** and **psychosomatic medicine** as well as dieticians are **collaborating** to develop scientifically based therapy programs and treatment pathways for **obese** patients. The following article gives an account of this exemplary interdisciplinary cooperation.

Practice Guidelines, Humans, Patient Care Team, Physician's Practice Patterns

[Medicine](#), [Hospitals](#), [Physlcs](#), [Exercise](#), [Psychology](#), [Hospitalization](#), [Sports Medicine](#), [Prevalence](#), [IndustrY](#), [Obesity](#)
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The 100-km ultradistance race in Hong Kong: **physical fitness** profile and team performance outcomes.

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[J Sports Med Phys Fitness](#), 46 (2): 209-14, 2006

AIM: The aim of this study was to determine different variables leading to a successful completion of a 100-km ultradistance team event. **METHODS:** Regular **physical activity** patterns, **self-perceptions** of fitness level and **physical fitness** profile were determined in subjects (n=253) registered for Trailwalker 2000. The battery of fitness tests included cardiopulmonary fitness, flexibility, muscular strength, muscular endurance and **body fat composition**. **RESULTS:** The **physical fitness** data reveals that the subjects in this study have an above average fitness level compared with the norm. There was association of self-perceived fitness with **physical fitness** parameters (P=0) and significant correlation of the total fitness score with the completion time (P=0.02). More importantly, the team member with the lowest fitness total score was correlated with the finish time at the event (P=0). **Logistic regression model** identified that total fitness score and years of experience in Trailwalker were predictive of a successful completion in the event (r=0.37; P=0.007). However, the low variance suggested that the selected **physical fitness** tests have low prediction **sensitivity** to characterize the specific population in the study. **CONCLUSIONS:** There is a strong need to determine a combination of **physical fitness** tests that could accurately predict the performance of participants in the Trailwalker event.

Lung, Exercise Test, Humans, Adiposity, Time Factors, Range of Motion, Articular, Muscle Strength, Sensitivity and Specificity, Physical Endurance, Running, Heart

[Self concept](#), [Motor](#), [Adipose Tissue](#), [Physlcs](#), [Physical Fitness](#), [Body Composition](#), [Sensitization](#)

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Relationship between physiological profiles and on-ice performance of a National Collegiate Athletic Association Division I hockey team.

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[J Strength Cond Res](#), 20 (1): 43-6, 2006

Ice hockey is a game that relies heavily on both aerobic and anaerobic energy production systems as players perform in various game situations. However, we found no studies **evaluating** the relationship between a player's **physical** condition and individual success in games throughout a competitive hockey season. The purpose of this study was to determine the relationship between a player's aerobic fitness (VO(2)max), blood **lactate**, and percent **body fat** to his total minutes played during a season (Tmin) and net scoring chances (SCn). Players' (N = 29) preseason VO(2)max, **lactate** at the fourth stage of an incremental **treadmill test** (Lac 4), and percent **body fat** values from the 1999- 2001 National Collegiate Athletic Association Division I hockey seasons were archived and retrieved for this study. The players' Tmin and SCn were used as the on-ice performance variables and were compared with their fitness measures. **Lactate** at 4th treadmill stage ($r = 0.41$, $p < 0.03$) and percent **body fat** ($r = 0.39$, $p < 0.03$) but not VO(2)max ($r = 0.20$, $p < 0.24$) were significantly related to Tmin. Both Lac 4 and percent **body fat** were **entered** into a stepwise regression model that accounted for 25% of the variance in Tmin among players ($p < 0.02$). Both VO(2)max ($r = 0.41$, $p < 0.03$) and Lac 4 ($r = 0.33$, $p < 0.05$) were significantly related to the players' SCn, but percent **body fat** was not ($r = 0.10$, $p < 0.57$). Only VO(2)max significantly predicted the players' SCn, accounting for 17% of the variance. These findings suggest a relationship between a player's conditioning level and on-ice performance. Our results support the value of implementing seasonal physiological testing, which will help strength and conditioning coaches make individualized modifications to a player's fitness regimens in an effort to improve specific physiological attributes.

Regression Analysis, Oxygen Consumption, Humans, Lactic Acid, Adiposity, Physical Fitness

Lac 4

Exercise test, Adipose Tissue, Physlcs, Enteritis, Lactation, Lactates

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The relationship between daily steps and **body composition** in **postmenopausal** women.

Krumm EM, Dessieux OL, Andrews P, Thompson DL

J Womens Health (Larchmt), 15 (2): 202-10, 2006

PURPOSE: The purpose of this study was to examine the relationship between pedometer-determined **physical activity** (PA) measured in steps per day and **adiposity** in **postmenopausal** women. **METHODS:** Ninety-three women aged 60.9 +/- 5.8 years participated in the study. Relative **body fatness** was determined by the measurement of height, body mass, percent **body fat**, trunk fat, and waist and hip circumference. Each subject wore a pedometer for 14 days after testing to measure daily steps. Correlation coefficients were calculated to examine the relationship between average steps per day and **adiposity** variables. Subjects were grouped according to PA tertiles. ANCOVA, with age as the covariate, was used to determine whether **adiposity** varied across activity groups. **RESULTS:** Significant inverse associations ($p < 0.001$) were found between average steps per day and all **adiposity** variables (r ranging from -0.487 to -0.368). Relationships remained significant after controlling for the influence of age and **caloric intake**. Also, there was a significant difference in **adiposity** variables among PA tertiles, with higher values found in the less active groups. **CONCLUSIONS:** We demonstrated that **postmenopausal** women who take more daily steps have more favorable **adiposity** profiles.

Additionally, the average **body mass index** (BMI) of the women in the active category (accumulating an average of 10,023 +/- 240 steps per day) was in the **recommended** range (24.1 +/- 0.9 kg/m²).

Cross-Sectional Studies, Humans, Women's Health, Analysis of Variance, Bone Density, Body Weight, Body Size, Age Factors, Ergometry, Body Height, Walking

[Motor](#), [Adipose Tissue](#), [Physlcs](#), [Adiposity](#), [Body Mass Index](#), [Body Composition](#)

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A daily comprehensive **muscle** training programme increases **lean** mass and spontaneous activity in children with **Prader-Willi syndrome** after 6 months.

[Schlumpf M](#), [Eiholzer U](#), [Gygax M](#), [Schmid S](#), [van der Sluis I](#), [l'Allemand D](#)

[J Pediatr Endocrinol Metab](#), 19 (1): 65-74, 2006

The reduction of spontaneous **physical activity** (PA) and of **muscle tissue** are thought to be major causes of fat accretion and **metabolic** deterioration in Prader-Labhart-Willi **syndrome** (PWS). We investigated whether a generalized **physical** training programme in a home setting improves these parameters. The **prospective study** included 11 prepubertal children (mean age 8.7 years, range 5.9-11.8) with documented PWS and under continuous **growth hormone** treatment for at least 2.8 years. Seven children were enrolled in a training programme for several **muscle** groups during 4-10 minutes daily. Twelve matched children with PWS served as controls (average age 8.8 years, 6.1-11.3). **Before** and after training, at 6 months, PA was assessed by measuring walking distance by pedometer registration and by an activity score, and **body composition** by DEXA expressed as standard deviation scores (SDS) related to height. After training, **lean** mass (LM) increased from -1.83 to -1.48 SDS, $p < 0.05$, whereas the controls showed no change. In the training group, walking distance and PA increased from 4.2 to 4.7 km/d and from 255 to 266 points, respectively, and these rises significantly exceeded those observed in controls. CONCLUSION: Children with PWS can be **motivated** by their families to follow a short daily training, which has general effects on PA and does increase, but not **normalize** LM.

Linear Models, Body Mass Index, Humans, Adiposity, Energy Intake, motor activity, Anthropometry, Exercise Therapy, Walking

[growth hormone](#)

[Motor](#), [Motivation](#), [Hormones](#), [Health](#), [Muscles](#), [Tissues](#), [Metabolism](#), [Growth Hormone](#), [Physlcs](#), [Prospective studies](#), [Butorphanol](#), [Prader-Willi Syndrome](#), [Body Composition](#), [Syndrome](#)

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Relationships of age and weekly running distance to BMI and circumferences in 41,582 **physically active** women.

[Williams PT](#), [Satariano WA](#)

[Obes Res](#), 13 (8): 1370-80, 2005

OBJECTIVE: To assess in women whether age-related increases in **adiposity** are dependent on **exercise**, and, contrariwise, whether exercise-related declines in **adiposity** are dependent on age. RESEARCH METHODS AND PROCEDURES: **Cross-sectional analyses** were conducted of 41,582 female runners. RESULTS: Age **affected** the relationships between vigorous **exercise** and **adiposity**. The decline in BMI per kilometer per week run was linear in 18 to 23 year olds and became increasingly non-linear (convex) with age. Waist, hip, and chest circumferences declined significantly with running distance across all age groups, but the declines were significantly greater in older than younger women, particularly among shorter distance runners. The relationships between body circumferences and running distance became increasingly convex in older women. Conversely, vigorous **exercise** diminished the apparent increase in **adiposity** with age. The increase in average BMI with age was greatest in women who ran <8 km/wk, intermediate in women who ran 8 to 15 km/wk or 16 to 31 km/wk, and least in those who averaged over 32 km/wk. **Before** age 45, waist circumference rose for those who ran 0 to 7 km/wk, showed no significant relationship to age for those who ran 8 to 39 km/wk, and declined in those who ran 40 to 55 and 56 km/wk and more. Age related-increases in hip and chest circumferences **before** 45 years old were significantly less in women who ran longer weekly distances. DISCUSSION: These cross-sectional associations are consistent with the hypothesis that **exercise** may mitigate age-related increases in **adiposity** and that age **affects** exercise-induced reductions in **adiposity** (although **causality** remains to be determined experimentally).

Thorax, Body Mass Index, Humans, Age Factors, Waist-Hip Ratio, Running

[Causality](#), [Motor](#), [Cross-sectional studies](#), [Affect](#), [Physlcs](#), [Exercise](#), [Adiposity](#), [Butorphanol](#)

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Relationship between different **subcutaneous adipose tissue** layers, fat mass, and **leptin** in response to short-term energy restriction in **obese** girls.

[Sudi KM](#), [Tafeit E](#), [Möller R](#), [Reiterer E](#), [Gallistl S](#), [Borkenstein MH](#)

Am J Hum Biol, 12 (6): 803-813, 2000

This study addresses whether the expected relationship of 15 specified **subcutaneous adipose tissue** layers (SAT layers) from 1-neck to 15-calf and **body fat** mass (FM) with **leptin** was influenced by a weight-loss program. In 30 **obese** girls (10 prepubertal, 15 pubertal, and 5 late/postpubertal) SAT layers were measured by means of the **optical device** Lipometer. Fat mass (FM) was estimated indirectly by means of **bioelectrical impedance**. **Leptin** and **insulin** were determined by means of **radioimmunoassays**. All measurements were performed **before** (pre) and after (post) 3 weeks of low-caloric diet and **physical** training. At the beginning of the study, there were significant correlations for all estimates of **adiposity** and **leptin** (0.67 to 0.79; $P < 0.0001$). Five SAT layers from the upper body and the trunk (0.48 to 0.67; $P < 0.01$) but none from the abdominal region and lower extremities were correlated with **leptin**. FM together with SAT layers 4-upper back and 8-lower abdomen (negative slope) explained 79% of the variation in pre **leptin** values ($P < 0.0001$). The weight-loss program significantly reduced **leptin** ($P < 0.0001$), **insulin** ($P = 0.04$), estimates of **adiposity** ($P < 0.0001$), and SAT layers 4-upper back ($P = 0.0006$), 11-front thigh, 13-rear thigh, and 14-inner thigh (P between <0.03 and <0.01).

Although significant, the reductions in the four SAT layers were small. Estimated fat-free mass was significantly increased after three weeks ($P < 0.05$). Changes in SAT layers from the upper extremities and from the trunk were inversely correlated to the decrease in **leptin** (P between <0.05 and <0.001). Initial **leptin** was the best correlate of the decrease in **leptin** (adj. $R(2) = 0.815$; $P < 0.0001$). However, when only changes in **adiposity** and **insulin** were considered in the regression model, changes in **insulin** contributed to the fall in **leptin** (adj. $R(2) = 0.23$; $P = 0.004$). When changes in SAT layers were added to the model, changes in SAT layers 2-triceps and 10-hip (negative slopes) contributed to the decrease in **leptin** (adj. $R(2) = 0.48$; $P < 0.0001$). After **weight loss**, correlations between estimates of post **adiposity** and post **leptin** (0.40 , $P = 0.01$ to 0.57 , $P = 0.0005$) were lower compared with pre values. SAT layers 4-upper back and 3-biceps contributed independently to post **leptin** values (adj. $R(2) = 0.50$; $P < 0.0001$). It is suggested that fat mass and SAT layers from the upper body are the main determinants of **leptin** in **obese** girls **before weight loss**. The diet and **sports** intervention program reduced **leptin** independent of the reduction in **adiposity**. The distribution of **subcutaneous fat** might be a stable correlate of circulating **leptin** after a short-term reduction in **energy intake**. *Am. J. Hum. Biol.* 12:803-813, 2000. Copyright 2000 Wiley-Liss, Inc.

[Leptin, SAT, leptin, insulin](#)

[Optics](#), [Electric impedance](#), [Radioimmunoassay](#), [Subcutaneous fat](#), [Insulin](#), [Adiposity](#), [Leptin](#), [Tissues](#), [Obesity](#), [Subcutaneous tissue](#), [Adipose Tissue](#), [Physlcs](#), [Weight Loss](#), [Butorphanol](#)

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What is the **attitude** of Mrs. and Mr. Austria regarding their health system?]

PMID: [10198967](#)

[Barolin GS](#)

Wien Med Wochenschr. 149 (1): 4-12, 1999

1451 **questionnaires** were used in a **survey**. With 87% the population showed great interest for health questions. 2 thirds **satisfaction** with the present health system combined with 1 third of pessimism, concerning the opinion that the health system in the present form cannot persist because of financial difficulties. Higher educational levels showed more criticism. 800 verbal statements demanded more time for medical conversation; more **esthetics** in **hospitals**; inclusion of dental and spectacle-supplies into the health system; more **alternative medicine** (with very different opinions what should be ment by it). Selection of special risk group, like smoking, **adipositas** and extreme-**sports**. Cures were **charged** very differently, from "regular cheating" to an importance of getting allocation for the cure more easily. In 3 panel discussions confirmation of the above-mentioned items and some additional new points could be obtained including the importance of **rehabilitation** in old age.

National Health Programs, Humans, Health Services Accessibility, Quality Assurance, Health Care, Consumer Satisfaction

[Medicine](#), [Questionnaires](#), [Attitude](#), [Esthetics](#), [Rehabilitation](#), [Hospitals](#), [Hospitalization](#), [Complementary therapies](#)

Osterreichischen Kuratorium für ärztliche Ausbildung, Fort- und Weiterbildung, im Rahmen.

Time course and determinants of **leptin** decline during **weight loss** in **obese** boys and girls.

[Holm JC](#), [Gamborg M](#), [Kaas-Ibsen K](#), [Gammeltoft S](#), [Ward L](#), [Heitmann BL](#), [Sørensen TI](#)

[Int J Pediatr Obes](#), 2 (1): 2-10, 2007

Objective. To investigate whether changes in **leptin concentrations** during **weight loss** can be explained by gender, **puberty**, baseline **adiposity** and changes in **adiposity**, **body composition**, rate of **weight loss**, **physical activity** and **insulin concentrations**. **Design.** A **longitudinal study** with 9 repeated measures during a 12-week **weight loss** programme. **Subjects.** Fifty-three boys and 62 girls (7.9-15.2 years) with **body mass index** (BMI) standard deviation scores (SDS) of median 2.78 and 2.70, respectively. **Measurements.** Height, weight, fat mass percentage assessed by bioimpedance, Tanner stages, testicular size, **physical activity** scores, blood **leptin** (ng/ml) and **insulin concentrations** (pmol/l) were measured at baseline, and except for Tanner stage and testicular size, repeated regularly during the programme. **Results.** The **weight loss** was accompanied by a steep decline in **leptin concentrations** during the first 10-11 days, followed by a less steep decline until day 82. **Leptin** declined to 39% in boys and 51% in girls of the level that was expected given the relationship at baseline between **leptin** and BMI SDS, and the BMI SDS changes during **weight loss**. The biphasic **leptin** decline was independent of gender, **puberty**, baseline **adiposity** or concomitant changes in BMI SDS, fat mass percentage, rate of **weight loss**, **physical activity** scores or **insulin concentrations**. **Conclusion.** The biphasic **leptin** decline, which exceeded the level expected, was independent of **puberty**, baseline **adiposity** and changes in **adiposity**, **body composition**, rate of **weight loss**, **physical activity** scores and **insulin concentrations**. The **dissociation** of the leptin-weight relationship during **weight loss** may contribute to the general **leptin** variability in **obese** subjects.

[leptin](#), [insulin](#), [Leptin](#)

[Attention](#), [Puberty](#), [Motor](#), [Insulin](#), [Longitudinal studies](#), [Adiposity](#), [Leptin](#), [Obesity](#), [Physlcs](#), [Weight Loss](#), [Body Mass Index](#), [Body Composition](#), [Dissociative disorders](#)

Department of Paediatrics, Copenhagen University County Hospital, Glostrup, Denmark.

Adiposopathy: treating **pathogenic adipose tissue** to reduce **cardiovascular disease** risk.

[Bays H](#), [Rodbard HW](#), [Schorr AB](#), [González-Campoy JM](#)

[Curr Treat Options Cardiovasc Med](#), 9 (4): 259-71, 2007

Excessive **adipose tissue** is potentially **pathogenic** due to its mass effects and through adverse metabolic/immune **responses**, which may lead to **cardiovascular disease risk factors** (eg, **type 2 diabetes mellitus**, **hypertension**, **dyslipidemia**, and possibly **atherosclerosis** itself). Positive caloric balance in genetically/environmentally susceptible patients may result in **adipocyte hypertrophy**, **visceral adipose tissue** accumulation, and ectopic fat deposition, all **causally** associated with **metabolic disease**, and all anatomic manifestations of "adiposopathy" (a term used to describe **adipose tissue pathology**). **Weight loss** through

improved nutrition, increased **physical activity**, and **weight loss agents** (ie, orlistat and sibutramine) improves adiposopathy and improves many **metabolic diseases** whose **prevalence** are directly associated with an increase in **body fat** and sedentary **lifestyle**. **Cannabinoid receptor** antagonists improve adiposopathy through **weight reduction** and favorable **metabolic** effects upon multiple body organs (including **adipocytes**). **Peroxisome** proliferator-activated receptor-gamma agonists may improve adiposopathy through recruitment of functional **fat cells** and **apoptosis** of dysfunctional **fat cells**.

[Peroxisome proliferator-activated receptor-gamma](#)

[Cardiovascular diseases](#), [Adipocytes](#), [Risk factors](#), [Diabetes Mellitus](#), [Atherosclerosis](#), [Virulence](#), [Adipose Tissue](#),

[PhysIcs](#), [Pathology](#), [Hypertrophy](#), [Motor](#), [Peroxisome](#), [Peroxisomes](#), [Adiposity](#), [Diabetes mellitus, type 2](#),

[Metabolic diseases](#), [Prevalence](#), [Apoptosis](#), [Tissues](#), [Dyslipidemias](#), [Hypertension](#), [Causality](#), [Receptors](#), [cannabinoid](#),

[Metabolism](#), [Life style](#), [Weight Loss](#), [Cannabinoid receptor](#), [Cannabinoids](#)

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Dissociated effects of **physical activity and **weight loss** on **fibrinogen concentrations** and markers of **red blood cell aggregation**. Relevance for **life style** modification in atherothrombosis.**

[Raz O](#), [Rogowski O](#), [Shapira I](#), [Maharshak N](#), [Karni Y](#), [Berliner S](#)

[Clin Hemorheol Microcirc](#), 37 (3): 253-62, 2007

It has been shown that **weight loss** and **physical activity** contribute to a better biorheological profile. Yet, the **concentrations** of **fibrinogen** are not always reduced following **life style** modification. We **evaluated** the inter-relations between **fibrinogen's** pro red **cell aggregation** potential and reduced **inflammation** and improved **lipid** profile as anti-aggregating forces in a group of 20 apparently healthy **obese** volunteers following 4 and 8 months of intensive life **modification** program which included diet and strenuous **physical activity**. A significant ($p=0.005$) **weight loss** (from a mean \pm -SD of 121.4 \pm -20.9 to 98.0 \pm -21.3 kg) and decrease in **body mass index** (from 40.8 \pm -4.3 to 32.9 \pm -5.3 kg/m²), ($p=0.005$) was noted in fourteen individuals who completed the 8-month program. The **concentrations** of clottable **fibrinogen** rose from 318 \pm -96 to 387 \pm -72 mg/dl ($p=0.012$) while there was a significant reduction in the **erythrocyte sedimentation rate** (ESR) (from 19.0 \pm -12.6 to 10.8 \pm -7.5 mm/h, $p=0.018$), **triglycerides** (from 143 \pm -80 to 80 \pm -44 mg/dl, $p=0.005$), **LDL cholesterol** (from 128 \pm -34 to 103 \pm -17 mg/dl, $p=0.005$) and total **cholesterol** (from 211 \pm -40 to 171 \pm -17 mg/dl, $p=0.007$), as well as decrease in **insulin concentration** (from 36.1 \pm -21.3 to 20.6 \pm -8.0 μ u/ml, $p=0.01$) and the **insulin resistance** index (HOMA-R, from 9.1 \pm -6.4 to 4.9 \pm -2.1 glu*ins/405, $p=0.008$). Despite a significant increment in the **concentrations** of clottable **fibrinogen**, a significant reduction was noted in the degree of red **cell aggregation** as measured by using a slide test and direct visualization of the aggregates. Our conclusion is that the pro-aggregating properties of **fibrinogen** following intense **physical activity** are **probable** counterbalanced by the anti-aggregatory properties of an improved **lipid** profile and an attenuated acute phase response.

[insulin](#), [fibrinogen](#)

[Attention](#), [Insulin Resistance](#), [Motor](#), [Triglycerides](#), [Insulin](#), [Inflammation](#), [Blood sedimentation](#), [Obesity](#), [Fibrinogen](#), [Life style](#), [Lipids](#), [Physlcs](#), [Cholesterol](#), [Erythrocytes](#), [Body Mass Index](#), [Weight Loss](#), [Blood cells](#), [Dissociative disorders](#), [Probability](#)

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Obesity: weight loss without drugs: a balanced diet avoiding high-calorie foods, plus exercise.

[Prescrire Int](#), 16 (90): 162-7, 2007

(1) **Weight loss** in **obese** patients can reduce some of the complications of **obesity**. (2) To determine which interventions have the greatest and most durable impact on weight, without a risk of serious adverse effects, we conducted a systematic review of the available evidence, based on standardised Prescrire methodology. (3) **Clinical trials** of treatments for **obesity** have not taken into account the social, **environmental** or **psychological factors** that contribute to **obesity**, nor the individual's history of **obesity** and previous treatments, nor the possible impact of dieting on quality of life. These flaws limit the conclusions drawn from these trials. (4) A **meta-analysis** of 32 randomised controlled trials involving **obese** patients showed that moderate and well-balanced calorie restriction is more effective than any other diet, resulting in an average **weight loss** of about 5 kg after one year. (5) A **meta-analysis** of 35 randomised controlled trials involving **obese** patients showed that a combination of dieting and increased **exercise** is more effective than either measure alone. Increasing **physical activity** also helps to maintain **weight loss**. (6) A **meta-analysis** of 19 randomised controlled trials showed that the addition of active support, such as behavioural therapy, makes dietary **weight loss** measures more effective in **obese** patients. Behavioural therapy with spousal participation seems to be most effective, with half of trial participants losing about 7 kg after one year. (7) Interventions that do not involve assistance from **healthcare** professionals are hardly any more effective than dieting alone. (8) In practice, a variety of non **drug** measures can help **obese** patients to lose weight. However, they only lead to modest enduring **weight loss**, and their limited impact on prevention of complications means they should not be pushed too insistently on patients. When patients want assistance with **weight loss**, their individual **body weight** history should be carefully analysed **before** embarking on a **weight loss** programme.

[Body weight](#), [Motor](#), [Physlcs](#), [Exercise](#), [Psychology](#), [Butorphanol](#), [Weight Loss](#), [Environment](#), [Clinical Trials](#), [Meta-analysis](#), [Obesity](#)

Feasibility of a walking workstation to increase daily walking.

[Thompson WG](#), [Foster R](#), [Eide D](#), [Levine JA](#)

[Br J Sports Med](#): , 2007

OBJECTIVE: The number of calories expended in the **workplace** has declined significantly in past 75 years. A walking workstation allowing workers to walk while they work has the potential to increase caloric **expenditure**. We **evaluated** whether employees can and will use walking workstations while performing their jobs. Methods and **Procedures:** We studied **nurses**, clinical assistants, secretaries, and appointment secretaries using the StepWatch Activity Monitor System (which accurately measures steps taken at slow speeds) while performing

their job functions in their usual fashion and while using the walking workstation. RESULTS: Subjects increased the number of steps taken during the workday by 2000 steps per day ($p < 0.05$). This was equivalent to an increase in caloric **expenditure** of 100 kcal/day. Subjects reported that they enjoyed using the workstation, that it could be used in the actual work arena and that, if available, they would use it. DISCUSSION: Walking workstations have the potential for promoting **physical activity** and facilitating **weight loss**. Several subjects in this study expended more than 200 extra calories daily using such a system. Further trials are indicated.

[Workplace](#), [Motor](#), [Nurses](#), [Nursing](#), [Physlcs](#), [Weight Loss](#), [Methods](#)

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a novel oral **radiosensitizer**.

[Saif MW](#), [Berk G](#), [Cheng YC](#), [Kinsella TJ](#)

[Expert Opin Investig Drugs](#), 16 (9): 1415-24, 2007

IPdR (5-iodo-2-pyrimidinone-2'-deoxyribose) is a novel orally available, **halogenated thymidine** (TdR) analog and is a potential **radiosensitizer** for use in human **tumors**, such as rectal, **pancreas**, **sarcoma** and **glioma tumors**. IPdR is a **prodrug** that is efficiently converted to **IUdR (5-iodo-2'-deoxyuridine)**, an intravenous **radiosensitizer** by a **hepatic aldehyde oxidase**, resulting in high IPdR and **IUdR** plasma levels in **mice** for $>$ or $=$ 1 h after oral IPdR. **Athymic mice** tolerated oral IPdR to doses up to 1500 mg/kg/day t.i.d. for 6 - 14 days without significant systemic toxicities. A number of in vivo preclinical studies have demonstrated that IPdR is a superior **radiosensitizer** compared with **IUdR** given as a continuous infusion in terms of **safety** and efficacy with a significantly lower toxicity profile, including gastrointestinal and hematologic side effects. A preclinical study has shown that IPdR is effective in inducing human **colon cancer xenograft radiosensitization** in drug-resistant **DNA** mismatch repair-proficient and -deficient **tumor** models, as well as in human glioblastoma **xenograft**. In anticipation of performing a clinical Phase I trial in humans, investigators also studied the **drug pharmacokinetics** and host toxicities in two non-rodent, **animal** species during a 14-day treatment course. Dose-limiting systemic toxicities (**diarrhea**, **emesis**, **weight loss** and decreased **motor activity**) were observed in ferrets receiving IPdR at 1500 mg/kg/day on a 14-day **schedule** that were not found previously in **athymic mice**. Recently, a once-daily IPdR dosing up to 2000/mg/kg for 28 days in Fischer-344 rats showed reversible mild-to-moderate systemic toxicities without any severe or life-threatening toxicities. However, in all preclinical toxicity studies so far, no significant hematologic, biochemical or histopathologic changes have been found. **Hepatic aldehyde oxidase activity** was reduced in a dose-dependent fashion in the ferret liver, suggesting partial **enzyme** inactivation by this IPdR **schedule**, but that is not found in Fischer-344 rats. The plasma **pharmacokinetic** profile in **Rhesus monkeys** showing biexponential clearance are similar to previously published data in **athymic mice**. In this paper, the authors review the development, mechanism of action, preclinical data and rationale for clinical studies.

[aldehyde oxidase](#)

[Aldehyde oxidase](#), [Pancreas](#), [Animals](#), [Halogens](#), [Prodrugs](#), [Diarrhea](#), [DNA](#), [Hepatitis](#), [Glioma](#), [Aldehydes](#), [Neoplasms](#), [Thymidine](#), [Motor](#), [Pharmacokinetics](#), [Oxidoreductases](#), [Sarcoma](#), [Enzymes](#), [Mice](#), [Idoxuridine](#), [Colonic neoplasms](#), [Safety](#), [Macaca mulatta](#), [Weight Loss](#), [Haplorhini](#), [Vomiting](#), [Pancrelipase](#)

High **body mass index** and **physical** impairments as predictors of walking limitation 22 years later in adult Finns.

[Stenholm S](#), [Sainio P](#), [Rantanen T](#), [Koskinen S](#), [Jula A](#), [Heliövaara M](#), [Aromaa A](#)

J Gerontol A Biol Sci Med Sci, 62 (8): 859-65, 2007

BACKGROUND: Our aim was to study the effects of high **body mass index** (BMI) and **physical** impairments in midlife on later life walking limitation. **METHODS:** Primarily middle-aged persons (aged 32-72 years) with no walking limitation at baseline (n = 840) were followed-up for 22 years as a part of the Mini-Finland Follow-up **Survey**. **Incident** walking limitation (walking speed < 1.2 m/s or **difficulty** in **walking** 0.5 km) was predicted by measured BMI, handgrip strength, squatting test, and self-reported running difficulties. **RESULTS:** Twenty-one percent of the participants developed walking limitation. After adjustment for multiple potential confounders, high BMI, low handgrip strength, impaired squatting, and running difficulties were significant predictors of incident walking limitation. The **odds ratio** (OR) of walking limitation was 4.55 (95% **confidence interval** [CI], 1.32-15.74) for squatting difficulties and 2.39 (95% CI, 1.26-4.55) for major running difficulties as compared to participants with no difficulties. The corresponding ORs for handgrip strength and BMI were 0.56 (95% CI, 0.38-0.81) and 1.39 (95% CI, 1.10-1.75) per an increment of 1 standard deviation. For persons in the highest BMI tertile who had two or more **physical** impairments, the adjusted risk of walking limitation was 4.5 times higher in comparison to **normal** weight persons with no **physical** impairments. **CONCLUSIONS:** In primarily middle-aged persons, BMI and simple tests of **physical** impairment strongly predicted the development of walking limitation 22 years later. In addition, **physical** impairments coexisting with high BMI predisposed to later life walking limitation more than high BMI alone. Therefore, increasing **physical fitness** by **physical activity** and promoting **weight loss** in middle age may prevent **mobility limitation** and subsequent disability in old age.

[Motor](#), [Confidence intervals](#), [Physcls](#), [Incidence](#), [Physical Fitness](#), [Weight Loss](#), [Body Mass Index](#), [Health](#), [Odds ratio](#)

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Prevention of **overweight** and **obesity** in the **workplace**. BASF-health **promotion** campaign "trim down the pounds--losing weight without losing your mind"]

[Oberlinner C](#), [Lang S](#), [Germann C](#), [Trauth B](#), [Eberle F](#), [Pluto R](#), [Neumann S](#), [Zober A](#)

Gesundheitswesen, 69 (7): 385-92, 2007

BACKGROUND: The rise in the **prevalence** of **overweight** and **obesity** and their associated diseases is leading to substantial health and socio-economic problems in **industrialized** countries. The Commission of the European **Community** indicates that **workplaces** are a setting that has a strong potential for **health promotion** and disease prevention. Against this background the department of **occupational medicine** and health protection of the BASF Aktiengesellschaft initiated a **health promotion campaign** "Trim down the pounds--Losing weight without losing your mind" on the prevention of **overweight** and **obesity** at the **workplace**. **SUBJECTS AND**

METHODS: The target group included all **overweight** and **obese** employees among the 34,000 employees at the BASF site in Ludwigshafen. **Overweight** and **obese** employees should reduce weight (either in lowering their **body mass index** (BMI) by 2 points or by reducing their BMI to less than 25 kg/m²) over a period of nine months assisted by a **health promotion** programme and normal-weight colleagues (weight-loss helpers). All participants were monitored by **occupational physicians**, this was also to detect obesity-related diseases. A prize money of euro 10,000 for successful participants and their weight-loss helpers was drawn by lot. **RESULTS:** A total of 2,062 employees took part in the **health promotion campaign** (1,313 **overweight** and **obese** employees and 749 weight-loss helpers). 708 **overweight** participants attended the weight-control measurement after nine months, 658 people had succeeded in reducing their **body weight**, 440 of them had lowered their BMI by more than 2 points. 83% of those attending the weight-control measurement had a weight-loss helper. Medical benefits were shown by improvement of **laboratory** parameters and detection of obesity-related diseases. **CONCLUSION:** The **health promotion campaign** "Trim down the pounds" demonstrated that the **workplace** is a promising focal point for conducting prevention programmes based on the proximity of **occupational** medical services to the employee. Prevention of **overweight** and **obesity** in the **workplace** is possible by promoting healthy diets in workplace-canteens and **physical activity** programs like "walking in the lunch break". These programs are substantially strengthened by **occupational** medical activities in detecting obesity-related diseases. **Health promotion** at the **workplace** can be viewed as a benefit to employee and employer alike with employers benefiting from a reduction of lost productivity costs.

[Physicians](#), [Motor](#), [Health promotion](#), [Prevalence](#), [Industry](#), [Obesity](#), [Medicine](#), [Body weight](#), [Workplace](#), [Laboratories](#), [Overweight](#), [Physics](#), [Occupations](#), [Occupational Medicine](#), [Advertising](#), [Body Mass Index](#)

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Effects of PREMIER Lifestyle Modifications on Participants With and Without the Metabolic Syndrome.

PMID: [17698724](#)

[Lien LF](#), [Brown AJ](#), [Ard JD](#), [Loria C](#), [Erlinger TP](#), [Feldstein AC](#), [Lin PH](#), [Champagne CM](#), [King AC](#), [McGuire HL](#), [Stevens VJ](#), [Brantley PJ](#), [Harsha DW](#), [McBurnie MA](#), [Appel LJ](#), [Svetkey LP](#)

[Hypertension](#): , 2007

Lifestyle modification can reduce **blood pressure** and lower cardiovascular risk. Established **recommendations** include **weight loss**, **sodium** reduction, and increased **physical activity**. PREMIER studied the effects of **lifestyle** interventions based on established **recommendations** alone and with the addition of the Dietary Approaches to Stop **Hypertension** (DASH) dietary pattern. This analysis aimed to assess the interventions' impact on cardiometabolic variables in participants with, compared with those without, **metabolic syndrome**. The primary outcome was 6-month change in **systolic blood pressure**. Participants with prehypertension or stage-1 **hypertension** were randomly assigned to an advice only **control group**, a 6-month intensive behavioral intervention group of established **recommendations** (EST), or an established **recommendations** plus DASH group (EST+DASH). **Metabolic syndrome** was defined per National **Cholesterol** and Education Program Adult

Treatment Panel III. We used general **linear models** to test intervention effects on change in **blood pressure**, **lipids**, and **insulin resistance (homeostasis model assessment)**, in subgroups defined by the presence or absence of **metabolic syndrome**. Of 796 participants, 399 had **metabolic syndrome**. Both EST and EST+DASH reduced the primary outcome variable, **systolic blood pressure**. Within the EST+DASH group, those with and without **metabolic syndrome responded** similarly ($P=0.231$). However, within EST, those with **metabolic syndrome** had a poorer response, with a decrease in **systolic blood pressure** of 8.4 mm Hg versus 12.0 mm Hg in those without **metabolic syndrome** ($P=0.002$). Thus, **metabolic syndrome** attenuated the **systolic blood pressure** reduction of EST, but this attenuation was overcome in EST+DASH. Finally, **diastolic blood pressure**, **lipids**, and **homeostasis model assessment responded** similarly to both interventions regardless of **metabolic syndrome** status. Our data suggest that strategies for lowering BP in individuals with **metabolic syndrome** may be enhanced by **recommendations** to adopt the DASH dietary pattern.

[insulin](#), [BP](#)

[Diastole](#), [Sodium](#), [Insulin Resistance](#), [Control groups](#), [Motor](#), [Blood Pressure](#), [Insulin](#), [Pressure](#), [Hypertension](#), [Metabolism](#), [Life style](#), [Linear Models](#), [Lipids](#), [Physlcs](#), [Cholesterol](#), [Systole](#), [Weight Loss](#), [Syndrome](#), [Homeostasis](#)
Division of Endocrinology, Metabolism, and Nutrition and Duke Hypertension Center and the Division of Nephrology, Department of Medicine, and Sarah W. Stedman Nutrition and Metabolism Center, Duke University Medical Center, Durham, NC; Department of Nutrition Sciences, University of Alabama at Birmingham; National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, Md; University of Texas Medical Branch, Austin; Kaiser Permanente Center for Health Research, Portland, Ore; Pennington Biomedical Research Center, Baton Rouge, La; Stanford University Medical Center, Stanford, Calif; and Bloomberg School of Public Health, Johns Hopkins Medical Institutions, Baltimore, Md.

Brain **fatty acid synthase** activates **PPARalpha** to maintain energy homeostasis.

PMID: [17694178](#)

[Chakravarthy MV](#), [Zhu Y](#), [López M](#), [Yin L](#), [Wozniak DF](#), [Coleman T](#), [Hu Z](#), [Wolfgang M](#), [Vidal-Puig A](#), [Lane MD](#), [Semenkovich CF](#)

[J Clin Invest](#): , 2007

Central nervous system control of energy balance **affects** susceptibility to **obesity** and diabetes, but how **fatty acids**, malonyl-CoA, and other metabolites act at this site to alter **metabolism** is poorly understood. Pharmacological **inhibition** of **fatty acid synthase** (FAS), rate limiting for de novo **lipogenesis**, decreases **appetite** independently of **leptin** but also promotes **weight loss** through activities unrelated to FAS inhibition. Here we report that the conditional genetic inactivation of FAS in **pancreatic beta cells** and **hypothalamus** produced **lean**, hypophagic **mice** with increased **physical activity** and impaired hypothalamic **PPARalpha signaling**. **Administration** of a **PPARalpha** agonist into the **hypothalamus** increased **PPARalpha** target **genes** and **normalized food intake**. Inactivation of beta cell FAS **enzyme activity** had no effect on islet function in culture or in vivo. These results suggest a critical role for brain FAS in the regulation of not only feeding, but also **physical activity**, effects that appear to be **mediated** through the provision of **ligands** generated by FAS to **PPARalpha**. Thus, 2 diametrically opposed **proteins**, FAS (induced by feeding) and **PPARalpha** (induced by

starvation), unexpectedly form an **integrative** sensory module in the **central nervous system** to orchestrate energy balance.

[PPARalpha](#), [fatty acid synthase](#), [leptin](#)

[Ligands](#), [Lipogenesis](#), [Fatty acid synthetase complex](#), [Enzyme activators](#), [Starvation](#), [Affect](#), [Signal transduction](#), [Fatty acids](#), [Pancreatitis](#), [Eating](#), [Insulin-secreting cells](#), [Proteins](#), [Physlcs](#), [Homeostasis](#), [Appetite](#), [Motor](#), [Enzymes](#), [Health](#), [Leptin](#), [Genes](#), [Enzyme activation](#), [Obesity](#), [Mice](#), [Metabolism](#), [Central Nervous System](#), [Anxiety](#), [Weight Loss](#), [Nervous System](#), [Hypothalamus](#)

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One hundred pound **weight losses** with an intensive behavioral program: changes in **risk factors** in 118 patients with long-term follow-up.

PMID: [17684198](#)

[Anderson JW](#), [Conley SB](#), [Nicholas AS](#)

[Am J Clin Nutr](#), 86 (2): 301-7, 2007

BACKGROUND: Treatment of severe **obesity** is difficult; in the past, **lifestyle** measures did not prove effective. Recently, however, intensive behavioral interventions using meal replacements and low-energy diets have enabled some severely **obese** persons to **achieve** nonobese weights. **OBJECTIVE:** We assessed rates of **weight loss**, changes in **risk factors** and medication requirements, and long-term weight **maintenance** in patients who lost ≥ 100 pounds (45.5 kg). **DESIGN:** Over a 9-y period, we prospectively identified patients who lost ≥ 100 pounds (45.5 kg) and actively recorded follow-up weights. Charts were systematically reviewed to assess **outcome measures** and side effects. The intervention included meal replacements (shakes and entrées), low-energy diets, weekly classes, and training in record keeping and **physical activity**. Assessments included weekly weights, **laboratory** studies, medication use, **lifestyle** behaviors, side effects, and follow-up weights. **RESULTS:** Sixty-three men and 55 women lost ≥ 100 pounds. At baseline, the subjects' average weight was 160 kg, 97% had ≥ 1 obesity-related **comorbidity**, and 74% were taking medications for **comorbidities**. **Weight losses** averaged 61 kg in 44 wk. Medications were discontinued in 66% of patients with a **cost savings** of \$100/mo. Despite medication discontinuation, significant decreases in **LDL cholesterol** (20%), **triacylglycerol** (36%), **glucose** (17%), and **systolic** (13%) and **diastolic** (15%) **blood pressure** values were seen. Side effects were mild, and only 2 patients had severe or serious adverse events. At an average of 5 y of follow-up, patients were maintaining an average **weight loss** of 30 kg. **CONCLUSION:** Intensive behavioral intervention can be very effective with minimal risk for certain severely **obese** persons.

[Achievement](#), [Diastole](#), [Motor](#), [Blood Pressure](#), [Triglycerides](#), [Risk factors](#), [Comorbidity](#), [Obesity](#), [Pressure](#), [Maintenance](#), [Laboratories](#), [Life style](#), [Physlcs](#), [Cholesterol](#), [Systole](#), [Weight Loss](#), [Glucose catabolism](#)

Metabolic inflexibility in skeletal muscle: a prelude to the cardiometabolic syndrome?

PMID: [17679820](#)

[Thyfault JP](#), [Rector RS](#), [Noland RC](#)

[J Cardiometab Syndr](#). 1 (3): 184-9, 2006

Peripheral insulin resistance, which is largely dependent on **skeletal muscle**, is closely linked to the **development** of the cardiometabolic **syndrome**. **Metabolic** flexibility is the capacity for **skeletal muscle** to acutely shift its reliance between **lipids** or **glucose** during **fasting** or postprandial conditions. **Obese** and insulin-resistant individuals display elevated intramuscular **lipids**, impaired vasculature function, decreased fatty acid **oxidation** during **fasting**, and reduced postprandial **glucose metabolism**. Impairments in **metabolic** flexibility are linked to **physical** inactivity, excess **energy intake** and **obesity**, and **genetic predisposition**. Each of these factors precludes the development of **insulin resistance** and the cardiometabolic **syndrome** by mechanistic links that are not fully understood. (JCMS. 2006;1:184-189).

[insulin](#)

[Insulin Resistance](#), [Muscle](#), [skeletal](#), [Insulin](#), [Vascular resistance](#), [Muscles](#), [Obesity](#), [Oxides](#), [Metabolism](#), [Lipids](#), [Physlcs](#), [Fasting](#), [Glucose catabolism](#), [Syndrome](#)

From the Departments of Nutritional Sciences University of Missouri-Columbia, Columbia, MO; the Harry S. Truman VA Hospital, Columbia, MO; and the Department of Medicine and Sarah W. Stedman Nutrition and Metabolism Center, Duke University, Durham, NC.

Nutritional approach to metabolic changes arising out of schizophrenia therapy: case report.

PMID: [17675772](#)

[Ozenoglu A](#), [Ugurlu S](#), [Balci H](#), [Eker E](#)

[Intern Med](#). 46 (15): 1213-8, 2007

The case of a 35-year-old female patient who was **diagnosed** as **schizophrenia** treated with psychotropic **drugs** nearly for 15 years is presented here. After the disease was **diagnosed**, the patient quit her university education and began to live inactively far from her social **environment**, usually spending lazy time at home. During this period, due to either the effects of **drugs** which have to be used on **hormones** affecting **appetite** and **body weight** or her decreased **physical activity**, her **body weight** increased by nearly 30 kg. Anthropometric measurements, biochemical parameters and **food diaries** were **evaluated** at the beginning of the nutritional counseling and then repeated periodically. Upon obtaining biochemical findings, **collaboration** with other units started. The **patient** was **educated** on nourishing healthy and controlling **body weight**, also to bring about lasting behavioral changes. At the beginning of the therapy, among the biochemical measurements, **insulin resistance** was defined and **metformin** treatment was begun. **Metformin** therapy contributed to the patient's **adaptation** to

the diet and improved **glucose** tolerance. In this way, it was possible to cope with the **insulin resistance** caused by **anti-psychotic pharmacotherapy (clozapine)** and the **obesity** which had developed as a result of **clozapine**. During the 18-month therapy the patient lost 27 kg, her **body fat** was reduced by 10% (18 kg) and BMI returned to **normal** levels. It is known that, many medications used in psychiatric disorders **affect appetite** and **body weight**. As seen in our patient **metformin** therapy causes **weight loss** and decreases **insulin resistance**. Both the illness and the medications used for treatment could **affect** the **hormones** which play a part in controlling **body weight** and the **cytokines**, as a result could change **food preference** and **eating behavior** which ultimately pave the way to **obesity**.

insulin

Insulin Resistance, Cytokines, Hormone, Affect, Schizophrenia, Eating, Antipsychotic agents, Clozapine, Adipose Tissue, Physlcs, Eating behavior, Environment, Glucose catabolism, Diagnosis, Appetite, Motor, Insulin, Hormones, Health, Metformin, Obesity, Drug therapy, Body weight, Metabolism, Weight Loss

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Cardiovascular disease under the influence of excess **visceral fat**.

Després JP

Crit Pathw Cardiol, 6 (2): 51-9, 2007

Diabetes and **cardiovascular disease** have emerged as major threats to human health, and the risk of developing these chronic conditions is increased in individuals with abdominal **obesity** and the **metabolic syndrome**. Excess visceral abdominal **tissue** (VAT) accumulation appears to be a key feature of abdominal **obesity** contributing to the development of the **metabolic syndrome**. For instance, excess VAT is accompanied by elevated **triglycerides**, reduced **high-density lipoprotein (HDL) cholesterol**, elevated **blood pressure**, and/or elevated **fasting** plasma **glucose**. In addition, the rather **normal** or only marginally elevated **low-density lipoprotein (LDL) cholesterol concentrations** in patients with excess VAT could provide misleading information as viscerally **obese** patients have an increased plasma **concentration** of small, dense LDL particles. **Prospective studies** have suggested that even among patients with **LDL cholesterol concentrations** within **normal** limits, an increased **concentration** of small LDL particles is associated with higher risk of **cardiovascular disease**. With the treatment of abdominal **obesity** and excess VAT, an increase in patients' LDL **particle size** and improvements in other cardiovascular **risk factors** (eg, **insulin** levels, **glucose** tolerance, HDL, **C-reactive protein [CRP]**, and **adiponectin** levels) can be **achieved**. Waist circumference can be used in clinical practice as a first approach and as a crude index to identify patients who have excess VAT, particularly when the elevated waistline is accompanied by the clinical features of the **metabolic syndrome**, among which an elevated **fasting triglyceride concentration** appears to be predictive of a reduced LDL **particle size** and of further **metabolic abnormalities** frequently referred to as the **metabolic syndrome**. **Lifestyle** changes, including more **physical activity** and healthier nutritional habits, are the cornerstone of therapy for high-risk abdominally **obese** patients with an excess of VAT. In addition, results from the RIO-Lipids study, which was conducted in high-risk **obese**, dyslipidemic patients, have provided evidence that **CB1 receptor** blockade with rimonabant can induce significant

weight loss, and, more importantly, improve the cardiometabolic risk profile beyond what could be explained by the **weight loss** effects of the **drug**.

[insulin](#), [CB1 receptor](#), [adiponectin](#), [high-density lipoprotein](#), [C-reactive protein](#)

[Cardiovascular diseases](#), [Attention](#), [Blood Pressure](#), [Risk factors](#), [Particle size](#), [Proteins](#), [Prospective studies](#),

[Cholesterol](#), [PhysIcs](#), [Fasting](#), [Glucose catabolism](#), [C-Reactive protein](#), [Achievement](#), [Lipoproteins](#), [Adiponectin](#), [Motor](#),

[Triglycerides](#), [Insulin](#), [Health](#), [Tissues](#), [Obesity](#), [Pressure](#), [Metabolism](#), [Life style](#), [Weight Loss](#), [Syndrome](#)

From the Québec Heart Institute, Québec, QC, Canada.

Effects of dietary intervention on **weight loss** and improvement of **metabolic** comorbidities in a population of **obese** adults.

[Rached-Amrouche C](#), [Jamoussi-Kammoun H](#), [BLouza-Chabchoub S](#)

[Tunis Med](#), 85 (2): 102-4, 2007

BACKGROUND: **Weight loss** improves most of the **comorbidities** associated with **obesity**. **AIM:** The purposes of this study are to determine the effects of dietary intervention and **physical activity** on weight management and to **evaluate** the beneficial effects of **weight loss** on **metabolic** profile of **obese** adults. **METHODS:** This **prospective study** concerned 24 **obese** and **overweight patients** recruited between 2003-2004. They have undergone a 6 months period of personalized diet and **physical exercise**. **RESULTS:** Average **weight loss** achieved at 6 months was 6.8 +/- 5.6 kg (P < 10). Mean fat mass reduction was 3.05 +/- 6.2% (P = 0.02) and average waist circumference reduction was 7.55 +/- 5.21 cm (P < 10(-3)). This improvement in anthropometric parameters reduced significantly **fasting** glycaemia (-0.58 +/- 0.87 mmol/l, P = 0.01), total **cholesterol** levels (-0.37 +/- 0.69 mmol/l, P = 0.03), triglyceridemia (-0.39 +/- 0.45 mmol/l, P = 0.004) and increased HDL-Cholesterol levels (+ 0.1 +/- 0.38 mmol/l, P = 0.05). **CONCLUSION:** These results emphasize the urgent need to develop national strategies for the prevention and the management of **overweight** and **obesity**. Hence, we can improve **metabolic abnormalities** usually associated with **obesity** and reduce cardiovascular **risk factors**.

a 6

[Achievement](#), [Motor](#), [Risk factors](#), [Exercise](#), [Comorbidity](#), [Obesity](#), [Metabolism](#), [Overweight](#), [PhysIcs](#), [Cholesterol](#),

[Prospective studies](#), [Weight Loss](#), [Fasting](#)

Unit of obesity, Tunisian National Institute of Nutrition.

Ghrelin--an indicator for fat **oxidation** in **obese** children and adolescents during a **weight reduction** program.

[Nitsche H](#), [Nitsche M](#), [Sudi K](#), [Tschop M](#), [Zotter H](#), [Weinhand G](#), [Froehlich-Reiterer E](#), [Gallistl S](#), [Pirker M](#), [Borkenstein M](#)

[J Pediatr Endocrinol Metab](#), 20 (6): 719-23, 2007

The aim of this study was to investigate the effect of short-term energy restriction combined with **physical activity** on changes in substrate **oxidation** and changes in plasma **concentrations** of ghrelin. We designed a **longitudinal intervention study** of 4.2 MJ (= 1,000 kcal) daily with **exercise**. Eighteen **obese** children and

adolescents (age: 13.1 +/- 1.6 years, 13 girls, 5 boys, 17 White, 1 Black) participated. We measured **body mass index** (BMI), plasma ghrelin, **resting energy expenditure** (REE), VCO₂, VO₂ and respiratory quotient (RQ) at baseline and after 10 days. There was a significant decrease of BMI during the 10 day program (28.6 +/- 4.3 vs 27.5 +/- 4.2; p < 0.001). Ghrelin and RQ showed a tendency to increase, but the difference did not reach significance (ghrelin: 83.4 +/- 37.1 vs 99.5 +/- 41.2, p = 0.067; RQ: 0.83 +/- 0.06 vs 0.85 +/- 0.08, p = 0.433). The changes in RQ were significantly and independently correlated with the changes in plasma ghrelin (p = 0.029). The increase in RQ suggests a shift from fat **oxidation** towards **carbohydrate oxidation**. Ghrelin reflects the same **sensitivity** as RQ to changes in energy balance. Therefore, ghrelin seems to be a **sensitive** indicator for changes in substrate **oxidation**.

[ghrelin](#), [Ghrelin](#)

[Attention](#), [Oxides](#), [Motor](#), [Carbohydrates](#), [Energy](#), [Physlcs](#), [Exercise](#), [Longitudinal studies](#), [Body Mass Index](#), [Weight Loss](#), [Sensitization](#), [Obesity](#)

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Role of food and nutrition professionals in stemming the diabetes epidemic.

[Gallivan J](#), [Greenberg R](#), [Leontos C](#)

[J Am Diet Assoc](#), 107 (8): 1394-7, 2007

Food and nutrition professionals can play a major role in reversing the diabetes **epidemic** by helping patients reduce their risk for diabetes and prevent its onset. The Diabetes Prevention Program (DPP) **clinical trial**, spearheaded by the **National Institutes of Health**, has provided the research-based evidence needed to demonstrate that type 2 diabetes can be delayed or prevented through a 5% to 7% **weight loss** and regular **physical activity**, such as 150 minutes a week of brisk walking. The National Diabetes Education Program, through its "Small Steps. Big **Rewards**. Prevent Type 2 Diabetes" initiative, has translated the **lifestyle** intervention used in the DPP for **health care** professionals. The initiative includes a **health care** professional toolkit, user-friendly weight-loss materials for patients, and a mass media campaign to increase **awareness** that diabetes can be delayed or prevented. Food and nutrition professionals can access these materials free of **charge** online or through the National Diabetes Education Program clearinghouse. By applying the lessons **learned** from the DPP to patients at risk for diabetes, food and nutrition professionals can make a substantial contribution to reversing the diabetes **epidemic**.

[Health Care](#), [Learning](#), [Motor](#), [Life style](#), [Awareness](#), [Physlcs](#), [Reward](#), [Weight Loss](#), [Clinical Trials](#)

Changes in **resting energy expenditure** and **body composition** after **weight loss** following **Roux-en-Y gastric bypass**.

PMID: [17658019](#)

[Carrasco F](#), [Papapietro K](#), [Csendes A](#), [Salazar G](#), [Echenique C](#), [Lisboa C](#), [Díaz E](#), [Rojas J](#)

[Obes Surg](#), 17 (5): 608-16, 2007

BACKGROUND: The objective of this study was to **evaluate** changes in **resting energy expenditure** (REE), **body composition** and **metabolic** parameters, and to investigate predictors of the results in seriously **obese** patients after **Roux-en-Y gastric bypass** (RYGBP). **METHODS:** 31 patients (BMI 44.4 +/- 4.8 kg/m²; 27 female, 4 male; 37.3 +/- 11.1 y) were **evaluated** at baseline and 6 months after RYGBP. Weight, REE, waist circumference (WC), fat mass (FM) and fat-free mass (FFM), **physical activity**, **food intake**, **fasting glucose** (GLU), **insulin** (INS), HOMA-IR and **lipid concentrations** were measured. **RESULTS:** At 6 months, percentage of **weight loss** (%WL) was 29.0 +/- 4.4% and percentage of excess **weight loss** was (%EWL) 59.7 +/- 12.3%. FM loss corresponded to 77.1 +/- 12.2% of the **weight loss**. REE decreased from 33.4 +/- 4.1 to 30.1 +/- 2.6 kcal/kg FFM (P<0.05). Significant decreases (P<0.001) were observed in GLU, INS, HOMA-IR, LDL-cholesterol and **triglycerides**. %EWL was correlated with baseline INS (r=0.44; P=0.014), baseline HOMA (r=0.43; P=0.017), change in %FM (r=0.67; P<0.001) and change in WC (r=0.5; P<0.01). Decrease in REE/FFM (%) was positively correlated with baseline REE/FFM% (r=0.51; P<0.005) and change in %FM (r=0.69; P<0.001). Initial REE/FFM, baseline energy balance and FM change explain 90% of REE/FFM decrease. **CONCLUSION:** RYGBP was an effective **procedure** to induce significant **weight loss**, fat mass loss and improvement in **metabolic** parameters in the short term. **Metabolic adaptation** was not related to FFM wasting but to a higher baseline REE. **Fasting hyperinsulinemia** was the best single predictor of **weight loss** after RYGBP.

[INS, insulin](#)

[Attention](#), [Motor](#), [Triglycerides](#), [Energy](#), [Gastric Bypass](#), [Insulin](#), [Obesity](#), [Methods](#), [Hyperinsulinism](#), [Eating](#), [Metabolism](#), [Lipids](#), [Physcls](#), [Weight Loss](#), [Body Composition](#), [Glucose catabolism](#), [Fasting](#)

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Incretins: clinical **physiology** and **bariatric** surgery--correlating the entero-endocrine system and a potentially anti-dysmetabolic **procedure**.

PMID: [17658012](#)

[Lamounier RN](#), [Pareja JC](#), [Tambascia MA](#), [Geloneze B](#)

[Obes Surg](#), 17 (5): 569-76, 2007

The **digestive tract** is well known for its endocrine functions. Recently, many studies have been **reinforcing** its role as a **therapeutic** target for both diabetes and **obesity**. Losing weight is clinically very difficult for most **obese** patients and the reason for this could be the effect of the physiological adipostatic system that triggers central **nervous** stimuli to **compensate** for variations in **food intake** and in **physical activity**. Gut **hormones** seem to have a key role in this complex, regulating **body weight** and satiety and contributing to **glucose homeostasis**. The enteroinsular **axis** appears to be impaired in both **obese** and diabetic patients. Recent data on **bariatric surgery** shows its striking effects on **glucose** control soon after the **procedure**, **before** a significant **weight loss** is **achieved**. The **procedure** appears to work beyond anti-obesity having a key **metabolic** impact possibly sharing a common mechanism with the new class of agents to treat **type 2 diabetes mellitus**: the incretin mimetics. This symposium discussed new data on the upcoming perspectives on both the pharmacological and the surgical approach to diabetes and **obesity**.

[Achievement](#), [Motor](#), [Hormones](#), [Diabetes mellitus, type 2](#), [Diabetes Mellitus](#), [Reinforcement \(psychology\)](#), [Therapeutics](#), [Obesity](#), [Methods](#), [Bariatrics](#), [Body weight](#), [Eating](#), [Surgery](#), [Metabolism](#), [Physlcs](#), [Anxiety](#), [Weight Loss](#), [Butorphanol](#), [Bariatric surgery](#), [Glucose catabolism](#), [Gastrointestinal Tract](#), [Physiology](#), [Axis](#), [Homeostasis](#)

Effects of dietary calorie restriction or **exercise** on the **PI3K** and **RAS signaling pathways** in the skin of mice.

[Xie L](#), [Jiang Y](#), [Ouyang P](#), [Chen J](#), [Doan H](#), [Herndon B](#), [Sylvester JE](#), [Zhang K](#), [Molteni A](#), [Reichle M](#), [Zhang R](#), [Haub MD](#), [Baybutt RC](#), [Wang W](#)

[J Biol Chem](#): , 2007

Weight control by **exercise** and dietary calorie restriction (DCR) has been associated with reduced cancer risk, but the underlying mechanisms are not well understood. This study was designed to compare the effects of **weight loss** by increasing **physical activity** or decreasing calorie intake on **tumor** promoter-induced Ras-MAPK and PI3K-Akt pathways. **SEN CAR mice** were randomly assigned to one of the following five groups: ad libitum-fed sedentary control, ad libitum-fed **exercise** (AL+Exe), **exercise** but pair-fed at the amount as controls (PF+Exe), 20% DCR, and 20% DCR plus **exercise** (DCR+Exe). After 10-wks, **body weight** and **body fat** significantly decreased in the groups of DCR, DCR+Exe, and PF+Exe when compared with the controls. AL+Exe did not induce **weight loss** due to, at least in part, increased **food intake**. Plasma **IGF-1** levels reduced significantly in DCR and DCR+Exe but not PF+Exe. The **protein** H-Ras and activated Ras-GTP significantly decreased in TPA-induced skin **tissues** of DCR-fed **mice** but not exercised **mice**. **PI3K protein**, phosphor-serine Akt, and p42/p44-MAPK were reduced, however, in both DCR and PF+Exe groups. **Immunohistochemistry** demonstrated that the significantly reduced H-Ras occurred in **subcutaneous fat cells**, while the reduced **PI3K** and **PCNA** took place only in **epidermis**. Plasma **leptin** decreased in PF+Exe, DCR, and DCR+Exe, while the **caspase-3 activity** increased in DCR+Exe only. **Genomic microarray analysis** further indicated that the expression of 34 **genes** relevant to **PI3K** and 31 **genes** to **MAPK** pathway were significantly regulated by either DCR or PF+Exe treatments. The reduced **PI3K** in PF+Exe **mice** was partially reversed by **IGF-1** treatment. The overall results of this study demonstrated that DCR abrogated both Ras and **PI3K signaling**, which might inhibit TPA-induced proliferation and **anti-apoptosis**. Selective **inhibition** if **PI3K** by PF+Exe but not AL+Exe seems more attributable to the magnitude of the caloric deficit and/or **body fat** loss than diet vs. **exercise** comparison.

[Ras](#), [IGF-1](#), [leptin](#), [RAS](#), [PI3K](#), [ad](#), [Akt](#), [TPA-induced](#), [MAPK](#), [PCNA](#), [caspase-3](#), [H-Ras](#)

[Adipocytes](#), [Subcutaneous fat](#), [Exercise](#), [Signal transduction](#), [Insulin-like growth factor I](#), [Immunohistochemistry](#), [Genome](#), [Eating](#), [Proteins](#), [Adipose Tissue](#), [Physlcs](#), [Neoplasms](#), [Genomics](#), [Epidermis](#), [Motor](#),

[Proliferating cell nuclear antigen](#), [Microarray analysis](#), [Leptin](#), [Tissues](#), [Genes](#), [Caspase](#), [Body weight](#), [Mice](#),

[MAP Kinase](#), [Weight Loss](#)

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Physical activity centre VSTJ MEDICINA Prague--rehabilitation for diabetics]

[Fábin P, Matoulek M](#)

[Vnitr Lek, 53 \(5\): 563-5, 2007](#)

Physical activity is the basic non-pharmacological instrument in the treatment of type 2 diabetes. Nevertheless, only a small number of diabetics take regular **physical exercise**. One of the reasons why diabetics "do not **exercise**" is that they have little opportunity to try **physical** stress under expert **supervision** and to get to know its effects on, for example, sugar levels. It is a very complex matter to define the optimal intensity of **physical activity** of, for example, a diabetic who **suffers** from **obesity**. In 2001 VSTJ MEDICINA Prague opened its first **physical activity** centre at the First Faculty of **Medicine**, Charles University in Prague, in cooperation with the Third Internal Clinic and the **Institute of Sports Medicine** of the First Faculty of **Medicine**, Charles University in Prague. It now has over 2000 members, of whom around 60% are patients with **metabolic syndrome**. Over 150 patients **exercise** every day under the **supervision** of expert instructors. The main objective of the **Physical Activity** Centre is to teach patients the correct principles of **physical exercise** to enable them to continue carrying out their trainers' instructions at home. A correct **understanding** of the importance of **physical exercise** and practical experience under the **supervision** of experienced instructors improves **compliance** and has a strong effect on the **compensation** of diabetes, thereby improving the **prognoses** of these patients.

[Medicine, Metabolism, Motor, Comprehension, Physlcs, Exercise, Sports Medicine, Prognosis, Compliance, Obesity, Syndrome](#)

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Defining the level of **physical activity** for a diabetic who is **obese**]

[Matoulek M](#)

[Vnitr Lek, 53 \(5\): 560-2, 2007](#)

Physical activity plays an important role in the treatment of **metabolic syndrome** and/or type 2 diabetes or **obesity**. Less than 20% of the adult population does **physical exercise** at least twice a week. The effectiveness of **physical exercise** depends on paying attention to the following parameters: the frequency, the intensity and the duration. The most difficult parameter to set for patients with **obesity** or **metabolic syndrome** is the optimum intensity of **exercise**. The most common means of measuring the intensity of **physical activity** is **heart rate** or **pulse rate**. With patients who take **medicines** that **affect** their **heart rate**, the Borg scale is used to give a subjective rating of perceived **exertion**. To set optimal intensity it is necessary to use **exertion** tests with these patients. The most accurate setting is a suitable combination of spiroergometry and a CHR (**clamped heart rate**) test. In practice, though, it is usually enough to combine **ergometry** together with the Borg scale. Tracking **exertion** parameters during **exercise** improves **patient compliance** and also the results of **exercise**.

[Motor, Affect, Exercise, Constriction, Obesity, Medicine, Exertion, Metabolism, Physlcs, Compliance, Pulse, Heart Rate, Syndrome](#)

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Exercise therapy for patients with **metabolic syndrome**]

PMID: [17642441](#)

[Svacinová H](#)

[Vnitr Lek, 53 \(5\): 540-4, 2007](#)

The author presents a list of **physical activity** effects in **metabolic** and cardiovascular **adaptation** and current **knowledge** of the molecular mechanism of the effect of **exercise** on **insulin resistance**. The main principles for the **prescription** of **exercise therapy** for patients with **metabolic syndrome** are presented. The role of patient **motivation** and **compliance** is emphasised as part of a complex approach to the treatment of **metabolic syndrome**; it has a substantial influence on the results of treatment.

[insulin](#)

[Insulin Resistance](#), [Prescriptions](#), [drug](#), [Motor](#), [Metabolism](#), [KnowLedge](#), [Motivation](#), [Insulin](#), [Physlcs](#), [Exercise](#), [Compliance](#), [Syndrome](#)

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Development of opinions on **physical exercise** for diabetics]

PMID: [17642440](#)

[Rybka J](#)

[Vnitr Lek, 53 \(5\): 537-9, 2007](#)

Physical activity is an **integral** part of treatment for **type 1 diabetes mellitus** (DM1T) and **type 2 diabetes mellitus** (DM2T). A programme of regular **physical activity adapted** to the complications in effect is **recommended** for all diabetics. **Diabetes mellitus** has become a problem and an entirely distinct illness for modern **cardiology**, especially because of the exceptional development of **accelerated atherosclerosis**. Long term training brings has long term positive effects on **blood sugar** and **insulin sensitivity**. There is no doubt that **physical activity** plays a key role in the **regulation** of **body weight** and the reduction in fat deposits for diabetics, with entirely positive results in therapy and the prevention of **metabolic syndrome**, manifestation of diabetes and reduction of **metabolic** and cardiovascular risk in diabetic patients. Although **physical activity** has an extraordinarily positive effect on a diabetic's organism, there are also risks that the patient should be made **aware** of. There is a risk during acute **exertion**, especially for patients undergoing medication therapy. The possible complications that may be caused by **physical exertion** should be avoided by suitable **patient education**. There are increasing levels of strong evidence that regular **physical activity** contributes to **primary** and **secondary** prevention of **metabolic syndrome**, diabetes, especially type 2 diabetes and **obesity** and is associated with a reduced risk of early death. It has been shown that **physical activity** improves **body composition**. In summary it can be said that only regular **physical exertion** that is determined individually and set precisely in terms of both quantity and quality can **achieve** the **therapeutic** objective for the taught patient. **Physical activity** programmes should be designed for all age groups of diabetics because the risk of **chronic illness** for diabetics, especially cardiovascular illness, increases with age.

[insulin](#)

[Achievement](#), [Acceleration](#), [Motor](#), [Awareness](#), [Insulin](#), [Exercise](#), [Diabetes mellitus, type 2](#), [Diabetes Mellitus](#), [Sensitization](#), [Therapeutics](#), [Obesity](#), [Atherosclerosis](#), [Cardiology](#), [Body weight](#), [Exertion](#), [Metabolism](#), [Physlcs](#), [Body Composition](#), [Blood glucose](#), [Chronic disease](#), [Diabetes mellitus, type 1](#), [Syndrome](#)

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Physical activity in the prevention and control of diabetes]

PMID: [17639665](#)

[Raguso CA](#), [Spada A](#), [Jornayvaz FR](#), [Philippe J](#)

[Rev Med Suisse](#), 3 (114): 1442, 1445-8, 2007

Retrospective analyses in the general population habits show that regular **exercise** is a protection factor for the **metabolic syndrome** and type 2 diabetes, among many other diseases. Randomized controlled studies in at-risk population have investigated the impact of **lifestyle** programs, including diet and **physical** training, on the **incidence** of diabetes, confirming **physical exercise** as a cornerstone in the strategy of the prevention and treatment of type 2 diabetes. Although **public health recommendations** regarding regular **physical activity** are available, however often little is done by governments to implement them. Finally, the **general practitioner** is pivotal in counseling patients regarding their **lifestyle** and therefore in affecting a large number of people.

[Metabolism](#), [Motor](#), [Life style](#), [Public Health](#), [Physlcs](#), [Exercise](#), [Incidence](#), [Syndrome](#)

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Moderate **exercise** and bright light treatment in **overweight** and **obese** individuals.

[Dunai A](#), [Novak M](#), [Chung SA](#), [Kayumov L](#), [Keszei A](#), [Levitan R](#), [Shapiro CM](#)

[Obesity \(Silver Spring\)](#), 15 (7): 1749-57, 2007

OBJECTIVE: Increased **physical activity** is important given the concern over the growing rates of **obesity**. The aim of this study is to conduct a controlled investigation of the effects of bright **light therapy** and **exercise** on **weight loss** and **body composition** in **overweight** and **obese** individuals. RESEARCH METHODS AND PROCEDURES: Twenty-five **overweight** and **obese** subjects were assigned to 6 weeks of moderate **exercise** with or without bright light treatment. **Outcome measure** included changes in body mass and **body composition** and ratings of mood, seasonality, and sleep. RESULTS: **Body weight** decreased significantly with **exercise** in subjects in the light and non-light treatment groups, but the change was not significantly different between the groups. Similar results were found for BMI. With **exercise**, **body fat** decreased significantly only in the light treatment group. There was a significant effect of the interaction of group by time on **body fat composition**, but the group by time interaction failed to reach **statistical** significance for **body weight** and BMI. Mood scores improved significantly with **exercise** in the light group, but no significant changes were noted regarding sleep. DISCUSSION: This preliminary study is the first to show that addition of bright light treatment to a 6-week moderate **exercise** program can alter **body composition** by significantly reducing **body fat**. The reduction in **body fat** mass is of particular importance, because **visceral fat** has been particularly implicated as a major factor

in the development of the **metabolic syndrome**. This study is an important step toward finding ways to maximize the effects of **exercise**.

[Motor](#), [Phototherapy](#), [Exercise](#), [Obesity](#), [Statistics](#), [Body weight](#), [Metabolism](#), [Overweight](#), [Adipose Tissue](#), [Physlcs](#), [Weight Loss](#), [Body Composition](#), [Syndrome](#)

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[Metabolic syndrome: what, why, how and who?]

[Pavlić-Renar I](#), [Poljicanin T](#), [Metelko Z](#)

[Acta Med Croatica](#), 61 (3): 335-7, 2007

Although first **knowledge** on the joint onset of cardiovascular **risk factors** had been gained earlier, the first systematic review of this condition was made by G. Reaven in 1988 with his thesis on **syndrome X**, today known as the **metabolic syndrome**, with **insulin resistance** as the common denominator. Four elements have been identified: central **obesity**, **dyslipoproteinemia** (increased **triglycerides**, reduced **HDL cholesterol**), **hypertension** and **glucose intolerance**. There are two most **influential** definitions: one by the National **Cholesterol** Education Program (NCEP) and the other by the International Diabetes Federation (IDF). NCEP requires the presence of at least three of the following factors: abdominal **obesity** as assessed by waist circumference >102 cm (m) or >88 cm (f), **dyslipoproteinemia** defined as triglyceridemia > or =1.7 mmol/L and/or **HDL cholesterol** <1.03 mmol/L (m); <1.29 mmol/L (f), **hypertension** (**blood pressure** > or =30/85 mmHg) and **fasting** glycemia > or =5.6 mmol/L (previously 6.1). IDF focuses on central **obesity** defined as waist circumference, taking into consideration sex and **ethnic group** specificities, with the presence of at least two additional factors (**dyslipoproteinemia**, **hypertension**, or increased **fasting** glycemia - all criteria virtually the same as in NCEP definition). Both IDF and NCEP define abdominal **obesity** by waist circumference, taking account of **sex differences**, and, in case of IDF, ethnic ones as well. The idea is to identify the simplest measure to indirectly determine the accumulation of **visceral fat**, which is, contrary to **subcutaneous fat**, a significant cardiovascular **risk factor**. However, waist circumference as the only criterion seems to be less specific than the waist-to-hip circumference ratio, which defines the risk more specifically and also better reflects **insulin resistance**. There is broad discussion as to whether the term **metabolic syndrome** contributes to the identification of persons at risk of **cardiovascular disease** better than its components, and, if so, which is the right set of components. It is being **recommended** that the discussion on the **metabolic syndrome** be limited to persons without diabetes or already **diagnosed cardiovascular disease**, as the primary goal for these individuals is to prevent these diseases. It has already been shown that this was possible, primarily by intensive change in **lifestyle** - healthy diet and **exercise**. In conclusion, further basic research is necessary to explain the pathophysiologic mechanisms, which might serve to develop new therapies. Moreover, epidemiological and **public health** aspects are extremely important in the creation of a prevention program. Preliminary results of the Croatian **Health Survey** (2003) indicate that the **metabolic syndrome** according to the IDF criteria is present even in the youngest age group, with expected age-dependent increase in both men and women. This is even an underestimate since in this **survey** only **blood pressure** and waist circumference were actually measured, and

data on dislipidemia and **blood glucose** were based on a **questionnaire**. It is already obvious that a wide action with two main goals aimed primarily at the youngest population is necessary: an increase in regular **physical activity** and the **promotion** of healthy and energy-adequate diet in the population at large.

[insulin](#)

[Cardiovascular diseases](#), [Ethnic groups](#), [Insulin Resistance](#), [Leadership](#), [Blood Pressure](#), [Sex characteristics](#),

[Subcutaneous fat](#), [Risk factors](#), [Exercise](#), [Questionnaires](#), [Cholesterol](#), [Physics](#), [Advertising](#), [Fasting](#),

[Glucose catabolism](#), [Blood glucose](#), [Diagnosis](#), [Motor](#), [Triglycerides](#), [Insulin](#), [Glucose intolerance](#), [Obesity](#), [Pressure](#),

[Dyslipidemias](#), [Hypertension](#), [Metabolism](#), [Life style](#), [KnowLedge](#), [Public Health](#), [Syndrome](#)

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Visceral and subcutaneous **adiposity**: are both potential **therapeutic targets** for tackling the **metabolic syndrome**?

PMID: [17627548](#)

[Rodríguez A](#), [Catalán V](#), [Gómez-Ambrosi J](#), [Frühbeck G](#)

[Curr Pharm Des](#), 13 (21): 2169-75, 2007

The **metabolic syndrome** represents a constellation of **co-morbidities** that include central **adiposity**, **insulin resistance**, **dyslipidemia** and **hypertension**, which results from an elevated **prevalence** of **obesity**. An increased abdominal **adiposity** is observed in upper-body **obesity** with preferential accumulation of fat in the visceral depot, which renders these individuals more prone to **metabolic** and cardiovascular problems. The pathophysiology of the **metabolic syndrome** seems to be closely associated to an elevated efflux of **free fatty acids** from the **visceral fat** compartment and a dysregulation of the expression of **adipose** tissue-derived factors (also termed "adipokines"). **Weight reduction** and increased **physical activity** represent the main approach to tackle the "diabetes" **epidemic**. Nonetheless, taking advantage of the different biochemical and molecular characteristics of visceral and **subcutaneous adipose tissue** may open up novel pharmacological strategies to combat the **metabolic** and cardiovascular derangements accompanying the **metabolic syndrome**.

[insulin](#)

[Insulin Resistance](#), [Motor](#), [Subcutaneous fat](#), [Insulin](#), [Adiposity](#), [Prevalence](#), [Comorbidity](#), [Therapeutics](#), [Tissues](#),

[Repression](#), [Obesity](#), [Fatty acids](#), [Subcutaneous tissue](#), [Dyslipidemias](#), [Hypertension](#), [Metabolism](#), [Adipose Tissue](#),

[Physics](#), [Weight Loss](#), [Syndrome](#)

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Leisure time **physical activity** in middle age predicts the **metabolic syndrome** in old age: results of a 28-year follow-up of men in the Oslo study.

PMID: [17625024](#)

[Holme I](#), [Tonstad S](#), [Sogaard AJ](#), [Lund-Larsen PG](#), [Haheim LL](#)

[BMC Public Health](#), 7 (1): 154, 2007

ABSTRACT: BACKGROUND: Data are scarce on the long term relationship between leisure time **physical activity**, smoking and development of **metabolic syndrome** and diabetes. We wanted to investigate the relationship between leisure time **physical activity** and smoking measured in middle age and the occurrence of the **metabolic syndrome** and diabetes in men that participated in two cardiovascular screenings of the Oslo Study 28 years apart. METHODS: Men residing in Oslo and born in 1923-32 (n=16 209) were screened for **cardiovascular diseases** and **risk factors** in 1972/3. Of the original cohort, those who also lived in same area in 2000 were invited to a repeat screening examination, attended by 6 410 men. The **metabolic syndrome** was defined according to a modification of the National **Cholesterol** Education Program criteria. Leisure time **physical activity**, smoking, educational attendance and the presence of diabetes were self-reported. RESULTS: Leisure time **physical activity** decreased between the first and second screening and tracked only moderately between the two time points (Spearman's rho= 0.25). Leisure time **physical activity** adjusted for age and educational attendance was a significant predictor of both the **metabolic syndrome** and diabetes in 2000 (**odds ratio** for moderately vigorous versus sedentary/light activity was 0.65 [95% CI, 0.54-0.80] for the **metabolic syndrome** and 0.68 [0.52-0.91] for diabetes) (test for trend P<0.05). However, when adjusted for more factors measured in 1972/3 including **glucose**, **triglycerides**, **body mass index**, treated **hypertension** and **systolic blood pressure** these associations were markedly attenuated. Smoking was associated with the **metabolic syndrome** but not with diabetes in 2000. CONCLUSIONS: **Physical activity** during leisure recorded in middle age prior to the current waves of **obesity** and diabetes had an independent predictive association with the presence of the **metabolic syndrome** but not significantly so with diabetes 28 years later in life, when the subjects were elderly.

[Cardiovascular diseases](#), [Motor](#), [Blood Pressure](#), [Triglycerides](#), [Risk factors](#), [Odds ratio](#), [Obesity](#), [Pressure](#), [Hypertension](#), [Metabolism](#), [Physlcs](#), [Cholesterol](#), [Systole](#), [Body Mass Index](#), [Glucose catabolism](#), [Syndrome](#)

Circulating **leptin** levels predict the development of **metabolic syndrome** in middle-aged men: an 8-year follow-up study.

PMID: [17620965](#)

[Galletti F](#), [Barbato A](#), [Versiero M](#), [Iacone R](#), [Russo O](#), [Barba G](#), [Siani A](#), [Cappuccio FP](#), [Farinaro E](#), [Valle ED](#), [Strazzullo P](#)

[J Hypertens](#), 25 (8): 1671-1677, 2007

BACKGROUND: Because high circulating plasma **leptin** is associated with many features of the **metabolic syndrome** (MS), such as abdominal **obesity**, **insulin resistance** and **high blood pressure** (BP), we analysed the ability of plasma **leptin concentration** to predict the risk of developing MS in a prospective investigation of adult male participants of the Olivetti Heart Study (OHS). METHODS AND RESULTS: Three hundred and sixty out of 907 men participating in the 1994-95 and 2002-04 OHS examinations (mean age at baseline 50.4 years, range 25-73 years) were free of MS at first visit according to NCEP-ATP III criteria (modified for the lack of **high-density lipoprotein cholesterol** measurement at baseline). During an average follow-up period of 8 years, there were 52 incident cases of MS (14.5%) due, in particular, to a rise in the **prevalence** of high BP (+42.4%), abdominal **obesity** (+16.4%) and impaired **fasting glucose** (IFG, +6.1%). In **multivariate analyses**, a one standard deviation difference in baseline plasma **leptin concentration** was associated with a 1.58-fold greater

risk of developing MS (95% **confidence interval** = 1.10-2.30, P = 0.016) accounting for age, waist circumference, homeostatic assessment model index, smoking, **alcohol consumption** and **physical activity**. In particular, plasma **leptin** was positively associated with the risk of developing high BP (0.006) and IFG (0.014), after adjustment for confounders. CONCLUSION: In this sample of an adult male population free of MS at baseline, circulating plasma **leptin** was a significant predictor of the risk of MS and, in particular, of its high BP and IFG components, independently of potential confounders.

[insulin](#), [high-density lipoprotein](#), [leptin](#)

[Lipoproteins](#), [Attention](#), [Insulin Resistance](#), [Confidence intervals](#), [Motor](#), [Blood Pressure](#), [Insulin](#), [Multivariate Analysis](#), [Leptin](#), [Prevalence](#), [Obesity](#), [Pressure](#), [Hypertension](#), [Metabolism](#), [PhysIcs](#), [Cholesterol](#), [Glucose catabolism](#), [Fasting Syndrome](#)

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