



Article

Early and Long-Term Effects of Abdominal Fat Reduction Using Ultrasound and Radiofrequency Treatments

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Abstract: Background: Abdominal obesity, together with atherogenic dyslipidemia, increased blood pressure and impaired glucose tolerance, was included in the components of metabolic syndrome identifying patients at high risk of cardiovascular diseases. Subcutaneous adipose tissue is a buffer for dietary fatty acids (FAs). It was reported that the fatty acid composition of adipose tissue reflects the dietary intake of FAs in the previous 6 to 9 months. Therefore, we decided to evaluate the early and long-term metabolic effects of lipocavitation and/or thermolipolysis on abdominal fat reduction. Material and Methods: The study population comprised 60 women. Subjects were randomly allocated into one of three subgroups, 20 women per subgroup, and each subgroup received 10 treatments with ultrasound (U group), radiofrequency (RF group), or combined radiofrequency and ultrasound (RF/U group) for the abdominal region. Treatments were provided three times a week using the multifunctional device (Professional Beauty Equipment, HEBE, Warsaw, Poland). Each treatment to reduce adipose tissue, regardless of the method used, involved 20 min of massage with the dedicated applicator head on a rectangular 20 cm × 10 cm area of the abdominal region. Fatty acid composition and biochemical and anthropometric parameters were measured before the first, after 10 treatments and 6 months after the last treatment. Results and discussion: The series of 10 treatments to reduce abdominal adipose tissue using ultrasound, radiofrequency or both methods resulted in a cosmetic effect which was reflected in weight loss and BMI reduction. Reduced waist circumference was also found in patients who received radiofrequency or two types of intervention (RF + U) but not ultrasound treatments. The long-term cosmetic effect (lasting for at least 6 months) was achieved only with RF treatment and was reflected in reduced body weight, BMI and waist circumference. None of the treatments had a direct, short or long-term effect on the lipid profile, insulin resistance markers, inflammation markers, or blood pressure. Consequently, did not modify the risk of cardiovascular diseases.

Keywords: abdominal fat reduction; ultrasound treatment; radiofrequency treatment; fatty acids

1. Introduction

Abdominal obesity is a recognised, significant factor increasing the risk of cardiovascular diseases, both through the development of major classical risk factors and through other mechanisms, including dyslipidaemia or insulin resistance, eventually leading to

Abdominal Obesity Factors Reduction Long Term

Ulf Lundberg, Cary Cooper



Abdominal Obesity Factors Reduction Long Term:

Epidemiology of Chronic Disease: Global Perspectives Randall E. Harris, 2019-04-11 Epidemiology of Chronic Disease Global Perspectives is the most current and authoritative resource on the epidemiology etiology pathogenesis risk factors and preventive factors of over 50 major chronic diseases and conditions This comprehensive text provides readers with an excellent basis for examining current hypotheses regarding chronic disease epidemiology *Clinical Obesity in Adults and Children* Peter G. Kopelman, Ian D. Caterson, William H. Dietz, 2008-04-15 Highly Commended in the 2006 British Medical Association Book Awards Endocrinology This Second Edition brings together more than 20 internationally recognized experts in the field to provide a timely review of current knowledge The text remains an invaluable resource for all healthcare professionals involved in the care of patients who are obese New features of this Second Edition include Addition of two new co editors Professor Bill Dietz USA and Professor Ian Caterson Australia Increased number of contributors from around the globe providing a truly international perspective Includes new information about the causes of obesity its complications and new and novel methods of prevention and treatment Reorganized into sections that address obesity and its social and cultural aspects biology associated diseases life stages pediatric and adult management and environmental and policy approaches

Abdominal Obesity and the Endocannabinoid System Jean-Pierre Despres, Vincenzo Di Marzo, 2008-11-24 This internationally renowned author team provides a unique and thorough analysis and distillation of the endocannabinoid system and its relationship to abdominal obesity diabetes and cardiovascular disease The endocannabinoid system ECS plays an important role in cardiometabolic risk as well as modulating energy balance feeding behavior he **Nutrition in the Prevention and Treatment of Abdominal Obesity** Ronald Ross Watson, 2014-02-26 Nutrition in the Prevention and Treatment of Abdominal Obesity focuses on the important roles that exercise dietary changes and foods play in promoting as well as reducing visceral fat Nutritionists dieticians and healthcare providers seeking to address the abdominal obesity epidemic will use this comprehensive resource as a tool in their long term goal of preventing chronic diseases especially heart vascular and diabetic diseases Experts from a broad range of disciplines are involved in dealing with the consequences of excessive abdominal fat cardiology diabetes research studies of lipids endocrinology and metabolism nutrition obesity and exercise physiology They have contributed chapters that define a range of dietary approaches to reducing risk and associated chronic diseases They begin by defining visceral obesity and its major outcomes they also discuss the importance and the challenges of dietary approaches to reduce abdominal obesity as compared to clinical approaches with major costs and risks Offers detailed well documented reviews outlining the various dietary approaches to visceral obesity with their benefits and failures Includes chapters on types of foods exercise and supplements in reducing obesity and its chronic clinical companions especially diabetes and cardiovascular disease Helps nutritionists dieticians and healthcare providers approach patients in making decision about nutritional therapies and clinical treatments for abdominal obesity from an evidence based

perspective **The Science of Occupational Health** Ulf Lundberg, Cary Cooper, 2010-12-01 The Science of Occupational Health is an evidence based resource for all members of the health care team working with those affected by work based stress whether individuals suffering physical or psychological symptoms or organizations trying to provide optimum conditions for healthy and productive employees The authors offer a unique psychobiological perspective discussing the modern workplace as a cause of stimulation and well being as well as of distress and illness They provide a rigorous but highly accessible scientific account of the effects that stress has on mind and body with key chapters on Responses to Stress Stress Related Health Problems and Stress Hormones at Work This book offers the reader practical guidance on health promotion and preventive strategies at both individual and organizational levels It concludes with a discussion of present occupational conditions around the world and predictions of likely trends in the future *Practical and Professional Clinical Skills* Vinod Patel, John Morrissey, 2011-09-15 Practical and Professional Clinical Skills sets out the full range of clinical skills that medicine students must be able to demonstrate to become effective medical professionals Compiled by editors with expertise in clinical skills education the book has a focus on professionalism and on treating the patient with respect dignity and kindness The ESC Textbook of Cardiovascular Medicine European Society of Cardiology, 2009-08-27 Following the structure and format of the ESC core syllabus this text introduces key concepts in the field of cardiovascular medicine

Evidence-Based Cardiology Salim Yusuf, John A. Cairns, A. John Camm, Ernest L. Fallen, Bernard J. Gersh, 2008-04-15 This second edition is a ground breaking clinical text with a strong emphasis on rigorous evidence Leaders in the field discuss best practice in the light of systematic reviews and randomised control trials and how best to treat where the information is less clear Case histories provide intriguing discussions on how to apply the evidence in real life situations Evidence based Cardiology also includes free access to the latest evidence which is automatically posted on a companion website The Brigham Intensive Review of Internal Medicine Ajay K. Singh, Joseph Loscalzo, 2014 Based upon the popular review course from Harvard Medical School The Brigham Intensive Review of Internal Medicine is a comprehensive study guide for the American Board of Internal Medicine certification or maintenance of certification examination as well as for general practice review by physicians and residents This authoritative thorough resource provides in depth coverage on all specialties of internal medicine as well as palliative care occupational medicine psychiatry and geriatric medicine Editors Ajay K Singh and Joseph Loscalzo recruited leading authorities from Harvard as well as former chief residents at Brigham and Women's Hospital to contribute to this book Featuring over 600 board review questions with numerous tables and figures chapters offer detailed discussions with emphasis on essential learning points Over 100 chapters are organized into 10 broad sections with one additional section dedicated to board simulation As the required content for the American Board of Internal Medicine continues to evolve studying can prove challenging The Brigham Intensive Review of Internal Medicine is the ideal study guide for anyone preparing for certification or recertification **AACVPR Cardiac Rehabilitation Resource**

Manual American Association of Cardiovascular & Pulmonary Rehabilitation, 2006 AACVPR Cardiac Rehabilitation Resource Manual is the companion text to Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs. It complements and expands on the guidelines book by providing additional background material on key topics and it presents new material concerning cardiac rehabilitation and secondary prevention. AACVPR Cardiac Rehabilitation Resource Manual combines reference-based data with practical information from the field. It applies current position statements, recommendations, and scientific knowledge from medical and scientific literature to aid in designing and developing safe, effective, and comprehensive cardiac rehabilitation programs. Useful for practitioners as well as students and instructors who are learning and teaching key concepts, AACVPR Cardiac Rehabilitation Resource Manual provides strong background support to topics addressed in the guidelines, such as risk factors for coronary heart disease, secondary prevention, psychosocial issues, and patients with special considerations. In addition, each chapter opens with a cross-reference box so that readers know where to reference the topic in the guidelines book. In addition to supporting information for the guidelines, the manual contains new information to help round out cardio programs. Topics include the atherosclerotic disease process, cardiovascular and exercise physiology, exercise prescription, and the electrocardiogram. AACVPR Cardiac Rehabilitation Resource Manual is divided into three parts. Part I examines the development and prevention of coronary artery disease, including reduction of risk factors, psychosocial issues, and strategies and contemporary procedures for revascularization. Part II delineates the role of exercise in heart disease, including the exercise and coronary artery disease connection, cardiovascular and exercise physiology, and exercise prescription. Part III focuses on special considerations, including heart disease as it relates to women and to the elderly, and considerations for people with diabetes, chronic heart failure, and heart transplants. AACVPR Cardiac Rehabilitation Resource Manual contains pertinent, detailed information on the topics involved in contemporary cardiac rehabilitation and secondary prevention of coronary artery disease. Teamed with Guidelines for Cardiac Rehabilitation and Secondary Prevention Programs, the book provides professionals and students with the full range of guidelines and background materials needed for teaching and understanding the key issues in cardiac rehabilitation and secondary prevention.

Interventions to Prevent or Reduce Unhealthy Habits in Children and Adolescents during Restricted Conditions Mojtaba Keikha, Mostafa Dianati, Motahar Heidari-Beni, Mohammad Hossein Ebrahimi, 2024-12-27. The prevalence of childhood overweight and obesity has increased worldwide in recent decades. Childhood obesity is associated with serious health problems and the risk of premature illness and death later in life. In addition, there is a growing concern over the effects of sedentary lifestyles on young people's health. Low physical activity and sedentary behaviour are associated with metabolic and mental health during childhood and adolescence. Parallel to obesity and low physical activity in children and adolescents, excessive use of the virtual space, including increased screen time, activity on the internet, and smartphone addiction, is among the most important health-threatening factors for children and adolescents. The Johns Hopkins Textbook of

Dyslipidemia ,2010 The first comprehensive text on dyslipidemia from a major academic institution this book covers all aspects of dyslipidemia as it relates to human disease including coronary artery disease cerebrovascular disease peripheral vascular disease and pancreatitis The material is presented in a clinician friendly format and includes references for additional reading Reflecting current guidelines from the National Cholesterol Education Program the book explains why when and how to treat dyslipidemia Coverage includes dietary treatment drug treatment and recommendations for special populations such as patients with coronary heart disease patients at high risk for coronary heart disease patients with diabetes women older adults young adults and racial and ethnic groups

Nutrition in the Prevention and Treatment of Disease Ann M. Coulston,Carol J. Boushey,2008-05-12 Nutrition in the Prevention and Treatment of Disease Second Edition focuses on the clinical applications and disease prevention of nutrition This revised edition offers 18 completely new chapters and 50% overall material updated Foundation chapters on nutrition research methodology and application clearly link the contributions of basic science to applied nutrition research and in turn to research based patient care guidelines Readers will learn to integrate basic principles and concepts across disciplines and areas of research and practice as well as how to apply this knowledge in new creative ways Chapters on specific nutrients and health cover topics where data are just beginning to be identified such as choline antioxidants nutrition and cognition and eye disease Established areas of chronic disease obesity diabetes cardiovascular disease gastrointestinal disease and bone health are presented each in their own sections which aim to demonstrate the inter action of basic science genetics applied nutrition research and research based patient care guidelines Given its unique focus and extensive coverage of clinical applications and disease prevention this edition is organized for easy integration into advanced upper division or graduate nutrition curriculums Busy researchers and clinicians can use this book as a refresher course and should feel confident in making patient care recommendations based on solid current research findings 18 completely new chapters and 50% overall new material Unique focus and extensive coverage of clinical applications and disease prevention Clearly links the contributions of basic science to applied nutrition research and in turn to research based patient care guidelines Assimilates a large body of research and applications and serves as a refresher course for busy researchers and clinicians

Braunwald's Heart Disease - E-Book Peter Libby,2021-10-15 Current comprehensive and evidence based Braunwald s Heart Disease remains the most trusted reference in the field and the leading source of reliable cardiology information for practitioners and trainees worldwide The fully updated 12th Edition continues the tradition of excellence with dependable state of the art coverage of new drugs new guidelines more powerful imaging modalities and recent developments in precision medicine that continue to change and advance the practice of cardiovascular medicine Written and edited by global experts in the field this award winning text is an unparalleled multimedia reference for every aspect of this complex and fast changing area Offers balanced dependable content on rapidly changing clinical science clinical and translational research and evidence based medicine Includes 76 new

contributing authors and 14 new chapters that cover Artificial intelligence in Cardiovascular Medicine Wearables Influenza Pandemics COVID 19 and Cardiovascular Disease Tobacco and Nicotine Products in Cardiovascular Disease Cardiac Amyloidosis Impact of the Environment on Cardiovascular Health and more Features a new introductory chapter Cardiovascular Disease Past Present and Future by Eugene Braunwald MD offering his unique visionary approach to the field of cardiology Dr Braunwald also curates the extensive bimonthly online updates that include Hot Off the Press with links to Practice Update and Late Breaking Clinical Trials Provides cutting edge coverage of key topics such as proteomics and metabolomics TAVR diabetocardiology and cardio oncology Contains 1 850 high quality illustrations radiographic images algorithms and charts and provides access to 215 videos called out with icons in the print version Highlights the latest AHA ACC and ESC guidelines to clearly summarize diagnostic criteria and clinical implications Provides tightly edited focused content for quick dependable reference Flexible format options include either one or two volumes in print as well as a searchable eBook with ongoing updates Enhanced eBook version included with purchase Your enhanced eBook allows you to access all of the text figures and references from the book on a variety of devices

Clinical Dilemmas in Diabetes

Adrian Vella, 2021-11-22 Clinical Dilemmas in Diabetes answers the clinical questions commonly encountered when diagnosing treating and managing patients with diabetes and its associated complications Designed to support informed evidence based care this authoritative clinical guide includes contributions from leading endocrinologists and diabetes researchers that discuss a diverse range of recent developments Concise and focused chapters cover prediabetes diabetes diagnosis initial evaluation and management disease complications and cardiovascular disease and risk factors Now in its second edition Clinical Dilemmas in Diabetes contains extensively reviewed and revised information throughout New and updated chapters examine prediction diagnosis and management of early Type 1 diabetes ophthalmic complications screening asymptomatic patients for cardiovascular disease new agents for treatment of dyslipidemia closed loop systems in Type 1 diabetes upper gastrointestinal manifestations managing hyperglycemia in critically ill patients and more Edited by Dr Vella at the Mayo Clinic this highly practical resource Encourages evidence based clinical decision making rather than algorithm based approaches Provides clear guidance on common problematic areas especially in cases where conflicts in treatment for the disease and the complications occur Emphasizes the importance of translating the results of clinical trials to individual care and management of diabetes Contains effective learning and revision tools including Learning Points chapter introductions and summaries tables and figures color diagrams and charts and full references Part of the popular Clinical Dilemmas series Clinical Dilemmas in Diabetes is a must have guide for anyone involved in the treatment of patients with diabetes particularly endocrinologists diabetes specialists and consultants cardiologists residents fellows specialist nurses and general practitioners with an interest in diabetes

Immune imbalance in obesity-associated diseases Yifu Qiu, Tuo Deng, Willa Ann Hsueh, Pingping Li, 2023-08-30

Nutritional Management of Renal Disease Joel D.

Kopple, Shaul G Massry, Kamyar Kalantar-Zadeh, 2012-12-31 This translational text offers in depth reviews of the metabolic and nutritional disorders that are prevalent in patients with renal disease Chapter topics address the growing epidemic of obesity and metabolic syndrome Each chapter integrates basic and clinical approaches from cell biology and genetics to diagnosis patient management and treatment Chapters in sections 4 7 include new illustrative case reports and all chapters emphasize key concepts with chapter ending summaries New features also include the latest National Kidney Foundation Clinical Practice Guidelines on Nutrition in Chronic Renal Failure the most recent scientific discoveries and the latest techniques for assessing nutritional status in renal disease and literature reviews on patients who receive continuous veno venous hemofiltration with or without dialysis Provides a common language for nephrologists nutritionists endocrinologists and other interested physicians to discuss the underlying research and translation of best practices for the nutritional management and prevention of renal disease Saves clinicians and researchers time in quickly accessing the very latest details on nutritional practice as opposed to searching through thousands of journal articles Correct diagnosis and therefore correct treatment of renal metabolic and nutritional disorders depends on a strong understanding of the molecular basis for the disease both nephrologists and nutritionists will benefit Nephrologists and nutritionists will gain insight into which treatments medications and diets to use based on the history progression and genetic make up of a patient Case Reports will offer an added resource for fellows nutritionists and dieticians who need a refresher course *Fibrinolysis in Disease - The Malignant Process, Interventions in Thrombogenic Mechanisms, and Novel Treatment Modalities* Pia

Glas-Greenwalt, 1995-10-09 Fibrinolysis in Disease reviews the state of the art of basic and clinical aspects of the fibrinolytic enzyme system The text authored by outstanding and internationally known investigators is presented in two books The Malignant Process Interventions in Thrombogenic Mechanisms and Novel Treatment Modalities discusses the molecular biology of the system s key components and their fundamental roles in a variety of thrombotic and metabolic disorders Molecular and Hemovascular Aspects of Fybrinolysis presents the latest findings and concepts of the association between plasminogen activator u PA overexpression and abnormal growth regulation in a variety of solid tumors and in leukemia One chapter deals with various successful interventions in thrombogenic mechanisms ranging from exercise and diet to anticoagulants and direct and indirect thrombolytic agents It concludes with a projection of exciting novel treatment modalities in thrombotic and malignant diseases **Lifestyle Medicine, Second Edition** James M. Rippe, 2013-03-15

There is no doubt that daily habits and actions exert a profound health impact The fact that nutritional practices level of physical activity weight management and other behaviors play key roles both in the prevention and treatment of most metabolic diseases has been recognized by their incorporation into virtually every evidence based medical guideline Despite this widespread recognition physicians and other healthcare workers often cannot find a definitive and comprehensive source of information on all of these areas Designed for physicians and other health care workers Lifestyle Medicine Second Edition

brings together evidence based research in multiple health related fields to assist practitioners both in treating disease and promoting good health Sections cover nutrition and exercise behavioral psychology public policy and management of a range of disorders including cardiovascular disease endocrine and metabolic dysfunction obesity cancer immunology and infectious diseases pulmonary disorders and many more *Recent Advances in Metabolic Syndrome - II - ECAB* R R Kasliwal, Anoop Misra, 2012-06-11 India in particular and South Asia in general have witnessed a rapid increase in the prevalence and incidence of cardiovascular disease over the past 25 years Lifestyles changes unhealthy diet lack of regular physical exercise and obesity have all led to rising prevalence of metabolic syndrome It is of no wonder that metabolic syndrome is being increasingly recognized as a clinical entity which is believed to be associated with increased risk of cardiovascular disease beyond individual risk factors though this is at times debated This monograph addresses the total nuance of metabolic syndrome in its entirety and answers questions frequently asked on this subject The authors are internationally respected investigators in their own right having made major contributions in the particular field and are revered teachers as well The book itself has clear sections which makes it very user friendly and divided into two volumes The book rightfully deals with management of the syndrome and lays emphases not only on lifestyle measures which are a cornerstone but also judicious use of pharmacotherapy and also surgical techniques currently in use

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