

DOWNLOAD PDF THE SUDDEN CARDIAC DEATH TASK FORCE : US-SOVIET COLLABORATION

Chapter 1 : Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death

Contents: The final epidemic -- Early Russian connections -- The sudden cardiac death task force: US-Soviet collaboration -- The friendship strategy: building trust to sustain life -- "For your six-month-old grandson" -- "You can't trust the Russians": a fragile alliance in Geneva -- "Doctors of the world, unite!".

To prevent and reduce injuries and death, the task force developed the following guidelines for schools: Create an emergency action plan in collaboration with coaches, athletic trainers, other medical professionals and campus safety officials and coordinate with the local emergency medical service EMS system. It should be site-specific, reviewed each season and updated as necessary. Have athletic trainers on staff: Ensure that athletes acclimatize progressively to training demands and environmental conditions for optimal safety. Conditioning should be phased in gradually: Exercise and conditioning should not be used as punishment. Create concussion management team: Concussions should be assessed with a comprehensive evaluation tool: Annual brain and spine safety education: An annual brain and spine safety education program and in-season behavior modification "check-ups" should be conducted for all student athletes. Athletic trainers and school officials should enforce the standard use of certified helmets. Management plan for spine and brain injuries: A comprehensive medical-management plan for acute care of potential spine or brain injury should be implemented if the patient has altered levels of consciousness, substantial neurologic concerns, midline spine pain or obvious spinal column deformity Return to play protocol after concussion. No secondary school athlete with a suspected concussion should be permitted to return to practice, game or activity on the same day; and should follow a supervised six-step gradual return from no activity to light, sport-specific, non-contact, limited and then full return to participation. The patient should also receive a written release from a medical professional trained in concussion evaluation and management. Before the season begins, all teams should follow a heat acclimatization program that focuses on phasing in equipment use, intensity and duration of exercise and total practice time. Administrators, coaches, athletes and parents must be educated about common causes and risk factors of heat stroke. Modify or cancel practices in extreme heat: Activities should be modified when environmental conditions are extreme. Provide for adequate hydration: Water or sports drinks must be available and placed at key locations on the field for players to drink quickly and freely during practice, conditioning sessions and competitions. Cold-water immersion in case exertional heat stroke suspected. Exertional heat stroke should be suspected in any athlete who exhibits extreme hyperthermia and central nervous system dysfunction during exercise in the heat. If EHS is suspected, cold-water immersion should be implemented before transport; all schools should have a cold water immersion tub; all patients with EHS should be monitored thoroughly for return to play considerations and cleared by a physician. Athletes should undergo cardiovascular screenings before participation in competitive activities. An automated external defibrillator AED should be on-site and readily available within three minutes with one minute being ideal for all organized sports activities. School staff, medical professionals, coaches and athletes should be educated annually about location and use of AEDs. Assume sudden cardiac arrest until proven otherwise: Any athlete who has collapsed and is unresponsive should be assumed to be in SCA until proven otherwise. Implement cardiac chain of survival in case of SCA: Test for exertional sickling. Exertional sickling is a medical emergency occurring in athletes carrying the sickle cell trait. When the red blood cells change shape or "sickle" this causes those cells to clump in small blood vessels, leading to decreased blood flow. The drop in blood flow and oxygen delivery leads to a breakdown of muscle tissue and cell death, known as fulminant rhabdomyolysis. Efforts to obtain newborn screening results of sickle cell trait SCT status during the pre-participation physical are recommended. In the absence of these results, SCT screening should be considered for all athletes performing intense activity, with football being the highest risk sport for athletes with sickle cell trait. No patient who has SCT should be denied sports participation. Educate about signs and symptoms of exertional sickling. All personnel overseeing athletic activity should be educated on the signs

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and symptoms of exertional sickling and aware of preventive and immediate treatment measures. Symptoms include low back pain, muscle pain, cramping or weakness, fatigue, difficulty recovering from exercise and shortness of breath. Simple precautions during exercise, including modification of training intensity and monitoring environmental conditions, can prevent complications from SCT: Activate EMS in case of collapse from exertional sickling, provide oxygen if available, attach an AED and transport the patient to the hospital. The secondary school athletic population, comprising more than 7 million athletes, leads the nation in athletic deaths with cardiac conditions, heat stroke and head injuries being the three leading causes of death. Each of these causes, as well as exertional sickling, is specifically addressed in the statement. In addition to those associations, the following task force member organizations have also endorsed the new consensus statement: We have addressed today the leading causes of sudden death in this age group. With continued education, research and advocacy, we can continue to reduce the number of fatalities and keep young athletes safe while playing the sports they love. Yet there is no national organization at the secondary school level authorized to make policies and provide universal guidelines. The life-saving health policies are implemented state by state by coaches and athletic administrators, and depending on the state, with varying input and influence of sports medicine professionals.

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Chapter 2 : Cardiac arrest - Wikipedia

sudden cardiac death: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society.

Find articles by Oscar H. Deckers Find articles by Jaap W. Hoorn Find articles by Ewout J. Published on behalf of the American Heart Association, Inc. This article has been cited by other articles in PMC. Abstract Background Low serum magnesium has been implicated in cardiovascular mortality, but results are conflicting and the pathway is unclear. We used multivariable Cox proportional hazard models and found that a 0. Furthermore, we divided serum magnesium in quartiles, with the second and third quartile combined as reference group 0. Future studies should focus on why magnesium associates with CHD mortality and SCD and whether intervention reduces these risks. Cardiovascular Disease, Epidemiology, Risk Factors Introduction Magnesium is the second most abundant intracellular cation and it plays a key role in a wide range of cellular functions. Low serum magnesium has been associated with accelerated atherosclerosis. Since carotid intima media thickness cIMT is considered a proxy for accelerated atherosclerosis, we explored the association between serum magnesium and cIMT as a potential mediator for the relationship with CHD mortality. The rationale and design of this study have been described in detail elsewhere. All eligible participants provided written informed consent to participate in the study. This resulted in a study population of participants. We plotted multivariate adjusted log relative hazard curves using restricted cubic splines, to examine the association between serum magnesium and CHD mortality. We found this association to be linear and therefore used serum magnesium as a continuous parameter when quantifying the association with CHD mortality. Therefore, we also divided serum magnesium into quartiles and analyzed serum magnesium as a categorical variable in all our analyses. Information on history of stroke, myocardial infarction, and heart failure was obtained through linkage with medical records kept by general practitioners working in the study area, and subsequently adjudicated by 2 research physicians and confirmed by a neurologist or cardiologist. Smoking was categorized into 3 categories: Alcohol consumption was categorized into yes or no. Drug exposure has been monitored continuously since January 1, through linkage with digital pharmacy records of the pharmacies in the study district. The following Anatomical Therapeutic Chemical ATC codes were used to retrieve relevant drug exposure for all participants: Physical activity was assessed using a validated adapted version of the Zutphen Physical Activity Questionnaire, and expressed in metabolic equivalent of task hours per week. Methods for outcome data collection and definitions have previously been described in more detail. Information on the vital status of all participants was obtained on a weekly basis from the central registry of the municipality in Rotterdam and through digital linkage with records from general practitioners working in the study area. The cause of death was established by abstracting information from the medical records of the general practitioners or nursing home physicians and hospital discharge letters.

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Chapter 3 : Preventing Sudden Death in Secondary Schools | MomsTeam

Cardiac arrest is a sudden loss of blood flow resulting from the failure of the heart to effectively pump. Symptoms include loss of consciousness and abnormal or absent breathing.

Subscribe to the EHJ Podcast Sudden loss of consciousness is a dramatic and potentially lethal event. Unfortunately, the optimal evaluation of syncope remains controversial. Current practice varies considerably among different countries, and potential benefits of extensive evaluations and the high costs involved are often put into context with the questionable clinical benefit of such approaches. Although history taking has been standardized, only a few of the recommendations from international syncope guidelines deal specifically with appropriate measures in the emergency setting. For example, the different European Society of Cardiology guidelines referring to various causes of syncope²⁶ do not address this issue. This could be due to limited evidence on how to stratify the risk and decide on the disposition of such patients in the emergency setting. The document represents a consensus paper of experts in the field who provide a four-step conceptual model for the emergency department decision-making in syncope. In spite of all the uncertainties in the acute management of syncope, this approach may help to improve risk stratification and later management of patients with sudden loss of consciousness. Not all patients with syncope reach an emergency unit: Wireless communication with external devices and appropriate software smart phones would allow for automatic alerts to be released to bystanders and emergency medical services and provide GPS location when patients suffer life-threatening arrhythmias. This could substantially reduce delays now caused by witnesses not knowing how to act and telephone conversations with emergency service professionals. It would also turn unwitnessed cardiac arrests into witnessed arrests, improving their presently minimal chance of survival. Shortening delays would not only improve survival rates but would also reduce the incidence of cerebral damage, preventing costly long-term medical care. Obviously, improving accuracy of arrest detection and defining indications for receiving automatic arrest alarm systems remain challenging. Modelled clinical testing suggests cost-effectiveness similar to other accepted device therapies. Thus, the authors remind us that given the years of potential life lost, reducing cardiac arrest mortality must be a major public health priority. They suggest that only technical solutions promise to reduce delays between arrest and defibrillation, an approach that certainly deserves widespread evaluation in the near future. Long-term clinical outcome after alcohol septal ablation for obstructive hypertrophic cardiomyopathy: Myocardial ischaemia due to an acute coronary syndrome is a major cause of arrhythmias and sudden death. However, patients without obstructive coronary artery disease also may experience ischaemia, for instance due to coronary microvascular dysfunction as a result of different causes. Angina was measured by the Seattle Angina Questionnaire SAQ and SAQ-7, the angina diary, stress myocardial perfusion reserve index, diastolic filling, and quality of life. Unfortunately, outcomes did not differ between ranolazine and placebo. Of note, peak heart rate was lower during pharmacological stress in those receiving ranolazine, and the change in SAQ-7 weakly correlated with the change in myocardial perfusion reserve index. The change in myocardial perfusion reserve index also predicted the change in the SAQ quality of life questionnaire. In a subanalysis, patients with low coronary flow reserve below 2. The authors conclude that in symptomatic subjects with no obstructive coronary artery disease, short-term late sodium current inhibition was overall not effective to relieve angina. Importantly, however, changes in angina and myocardial perfusion reserve were related, supporting the notion that strategies to improve ischaemia should be further tested in these subjects. Thus, two decades ago Ulrich Sigwart introduced catheter-based alcohol septal ablation as a less invasive strategy. In multivariable analysis, independent predictors of all-cause mortality were age at the time of alcohol septal ablation, septum thickness and New York Heart Association NYHA class before alcohol septal ablation, and the left ventricular outflow tract gradient at the last clinical visit. Alcohol septal ablation effectively reduced the left ventricular outflow tract gradient from 67 to 16 mmHg and NYHA class from 2. Thus, in highly symptomatic patients with

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obstructive hypertrophic cardiomyopathy, alcohol septal ablation was associated with a low peri-procedural and long-term mortality, durable relief of symptoms, and reduction of left ventricular outflow tract obstruction. Heart failure hospitalization or cardiovascular death occurred in a significantly lower percentage of patients treated with empagliflozin, *i*. Importantly, the effects of empagliflozin were consistent across subgroups. Empagliflozin improved other heart failure outcomes, including hospitalization for or death from heart failure, from 4. Thus, in patients with type 2 diabetes and high cardiovascular risk, empagliflozin reduced heart failure hospitalization and cardiovascular death, with a consistent benefit in patients with and without baseline heart failure. Thus, although not part of the most recent guidelines on diabetes, ²⁷ the use of these novel drugs in diabetics should be seriously considered in clinical practice. Relationship between alcohol dose, relative delta pressure gradient, and complete heart block. Histopathological evaluation of thrombus in patients presenting with stent thrombosis. A multicentre European study: Acute coronary occlusion with symptoms of infarction and sudden death may occur not only in ST-segment myocardial infarction, but also in stent thrombosis. Stent thrombosis is a rare but serious complication following percutaneous coronary intervention. Thus, in the definition of myocardial infarction it was assigned a separate category, *i*. One-third had been obtained from patients with early and two-thirds from patients with late stent thrombosis. One-third stemmed from patient that had received bare metal stents and two-thirds from those with drug-eluting stents. Leucocyte infiltrations were hallmarks of both early and late stent thrombosis, with neutrophils representing the most prominent subset. Leucocyte counts were significantly higher compared with a control group of patients with thrombus aspiration in spontaneous myocardial infarction. Eosinophils were present in all stent types, with higher numbers in patients with late stent thrombosis in sirolimus-eluting and everolimus-eluting stents. The authors conclude that in a large-scale study of histological thrombus analysis from patients with stent thrombosis, thrombus specimens displayed heterogeneous morphology. Recruitment of leucocytes, particularly neutrophils, appears to be a hallmark of stent thrombosis. The presence of NETs neutrophil extracellular traps supports their pathophysiological relevance. Eosinophil recruitment suggests an allergic component to the process of stent thrombosis.

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Chapter 4 : Bernard Lown - Wikipedia

A Report of the American College of Cardiology/American Heart Association Task Force and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Develop Guidelines for Management of Patients With Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death): Developed in Collaboration With the European Heart Rhythm Association and the Heart Rhythm Society.

Based on patient observations, Lown concluded that sudden cardiac death was reversible and survivable, and that people who were successfully resuscitated could have a near normal life expectancy. Levine, Lown realized that the high mortality of a heart attack, then 35 percent, was most likely due to rigorous bed rest. Patients remained completely recumbent for six or more weeks. A major complication of bed rest was pulmonary embolism, which accounted for a significant part of the mortality. Although Lown encountered enormous opposition and hostility among doctors to the so-called "chair treatment," in 81 patients so treated, mortality was reduced by two thirds. Once the work was published, the chair treatment was rapidly adopted and hospitalizations were reduced to several days. Until the 1950s, ventricular fibrillation of the heart could only be treated with drug therapy. In 1956, American cardiologist Paul Zoll described resuscitations during open-heart surgery and later after sudden cardiac death by means of an alternating current AC electric shock, derived from a wall socket. AC current was untested as to its safety and efficacy and could cause death. In 1957, Lown demonstrated that AC was injurious to the heart and could be lethal. To find a safer method of cardiac resuscitation, Lown enlisted the help of Baruch Berkowitz, an electrical engineer employed by American Optical Company AO. In their experimental work, Lown focused on two objectives: Alternating current caused burns in skeletal and heart muscle also inducing atrial as well as ventricular fibrillation in a large majority of the animal experiments. During a year of intense experimentation, Lown and coworkers proved that a specific direct current DC waveform consistently reversed ventricular fibrillation, restoring a normal heart beat without injuring heart or skeletal muscle. This became widely known as the "Lown waveform. It also paved the way for new possibilities in cardiac surgery. The Lown clinical group were the first to use the defibrillator and cardioverter at Peter Bent Brigham Hospital. Effler, was the first cardiac surgeon to use the DC defibrillator in at the Cleveland Clinic. According to Effler, this advance made possible modern cardiac surgery. He called this method of timed DC discharge "Cardioversion. Until the 1950s, digitalis poisoning was a major cause of fatality among patients with congestive heart failure. During a medical residency at the Montefiore Hospital in New York City, Lown demonstrated the critical role of potassium in determining the safe use of digitalis. His discovery led to abandonment of long acting digitalis drugs like digitoxin. Instead, the short acting digitalis glycoside gained universal acceptance. It also focused medical attention on potassium loss with the use of various diuretics. Lidocaine was also used in coronary units to prevent the need for resuscitation. Previously, lidocaine was used almost exclusively by dentists as an anesthetic agent. This would, he hoped, lead to discovering how to treat and prevent heart attack and sudden cardiac death. A discussion with a close friend, Elias Snitzer, a physicist at Massachusetts Institute of Technology led to an introduction to Michael Polanyi, a physicist with American Optical Company. At the time, Polanyi was working on fiber optics. Lown received a grant from the Hartford Foundation to pursue fiber optics. However, optical technology, at the time, was inadequate. This line of research was discontinued. This political subject had not been addressed previously by physicians in the United States. Among the activist participants were Jack Geiger and Victor W. It arranged for several American hospitals to treat injured Vietnamese children for free. He and other physicians traveled numerous times to Vietnam to choose children with injuries that could be helped. This mission could not be accomplished without ambulance planes ferrying the very sick children. Lown led a delegation to Washington for a meeting with William F. Bundy, then Assistant Secretary of State. He was persuaded to support the objective of COR. Both cardiologists, they had collaborated in researching the issue of sudden cardiac death, sponsored by the National Heart and Lung Institute. Frequent visits to the

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USSR with American cardiological colleagues promoted dialogue and understanding between physicians of the two hostile countries. Eighty medical leaders from twelve countries attended. Equally distinguished participants attended from the UK, Germany, and Scandinavian countries. During this unprecedented telecast an audience of million Soviet viewers for the first time heard an unedited discussion of the consequences of nuclear war. The program was later broadcast in the US. International public health work[edit] SatelLife and ProCor[edit] Two organizations founded by Lown, SatelLife and ProCor were designed to aid physicians in developing countries by connecting them to relevant information on cardiovascular disease and its prevention. Their focus was on global inequities in healthcare and leveraging technology to promote health equality. SatelLife employed low earth-orbit satellites that circumnavigated the poles and were capable of reaching every point on earth four times daily. This internet-based community enabled physicians and health workers to access relevant and reliable medical information about cardiovascular disease. The focus was on disease prevention. It also offered an email-based forum for discussion. Many health workers joined the Ad Hoc Committee, the objective of which was to promote a single-payer healthcare system in Massachusetts [25] In , a letter signed by over Massachusetts physicians outlined the need for single-payer healthcare. The issue was put to referendum in Massachusetts in The Lown Institute addresses the growing crisis in healthcare in the USA, marked by overtreatment, undertreatment, and mistreatment through research, clinical programs, and convenings. The Institute holds an annual conference, where the newest research on overuse and underuse is presented, and where like-minded clinicians and patient advocates can share ideas. The Lown Institute is currently conducting research on risk adjustment methods for evaluating patient outcomes. The Right Care Alliance brings together clinicians, patients, and community members into a grassroots movement advocating for a universally accessible, affordable, safe, and effective health care system. The RCA is organized into specialty councils and regional chapters that organize on topics specific to their specialty or region. The RCA holds a week of action every year, in which members organize activities that demonstrate compassionate, patient-centered care, such as engaging the broader community in listening and storytelling. Lown is married; he and his wife, Louise, have three children. The bridge that connects the cities of Lewiston and Auburn in Maine was renamed The Bernard Lown Peace Bridge upon an act by the state legislature that was signed into law by Governor John Baldacci in The recipient is selected by staff and students. Honors from the Harvard School of Public Health[edit] The Lown Scholars Program at the Harvard School of Public Health aims to assist promising health professionals who live and work in low- and middle-income countries. Lown B, Levine SA: Current Advances in Digitalis Therapy. Little, Brown and Co. Lown B, Levine HD: Atrial Arrhythmias, Digitalis and Potassium. Landberger Medical Books, Vikhert AM, Lown B: Sudden Death in Russian. Neural Mechanisms and Cardiovascular Disease. To Heal a Sick Planet. Never Whisper in the Presence of Wrong. International Physicians for the Prevention of Nuclear War, Practicing the Art while Mastering the Science. Lown Cardiovascular Research Foundation, The Lost Art of Healing. Ballantine Books paperback , Lown B: Tributes to a Teacher: Lown Cardiovascular Research Foundation. Lown is also the author or co-author of 52 chapters.

Chapter 5 : TASK FORCE ON SUDDEN CARDIAC DEATH, EUROPEAN SOCIETY OF CARDIOLOGY | E

The Task Force has now summarized the most important clinical issues on sudden cardiac death and provided tables with recommendations for risk stratification and for prophylaxis of sudden cardiac death.

Chapter 6 : Serum Magnesium and the Risk of Death From Coronary Heart Disease and Sudden Cardiac I

ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: the Task Force for the Management of Patients with Ventricular Arrhythmias and the Prevention of Sudden Cardiac Death of the European Society of Cardiology (ESC) Endorsed by: Association for European Paediatric and

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Chapter 7 : - NLM Catalog Result

ACC/AHA/ESC guidelines for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: a report of the American College of Cardiology/American Heart Association Task Force and the European Society of Cardiology Committee for Practice Guidelines (writing committee to develop Guidelines for Management of.