Aicd medical full form

Automatic implantable defibrillators (AICDs) are a device designed to monitor heart rate. This device can provide an electrical impulse or shock to the heart when it senses a life-threatening change in the rhythm of the heart. Like a pacemaker, AICD is small enough to be implanted under the skin in the upper chest. AICD system includes: A pulse generator that can send electrical impulses or shocks to the heart The electrolytic that senses the heart rate and provides a shock to the heart muscle Battery is designed to last 4-5 years and delivers about 100 shocks A small computer chip for AICD knows when to deliver a shock Your doctor can also program an AICD to provide a sophisticated range of electrotherapy depending on the type of abnormal rhythm problem being treated. When is AICD used? Some people have a very high risk of sudden death. For these people, AICD can provide appropriate treatments and in most cases prevent sudden death. Today, the designations for AICD are: People with sudden cardiac arrest Who have noted excessive tachycardia (Tachycardia) Or patients at risk of the above rhythm problems due to: Poor or inadequate blood flow to the heart A severe heart attack (MI) An enlarged heart (cardiothy heart disease) or related conditions such as conch heart failure What happens during an AICD procedure? An intravenous line (IV) will be started in your arm. Your doctor will inject a local anesthetic to numb the site where the device will be located. Usually AICDs are implanted just below the collarbone, usually on the left side. Your doctor will make a small incision on the skin. From there, lead wires are transmitted intravenously to your heart and then examined to check their place in your heart. A small bag is made under the skin for the pulsed machine. It's about the size of a book of matches. The clues are connected to the pulsed machine and tested. Then your doctor will close the incision and program the device. What happens after the procedure? After surgery, your heart rate will be monitored and you will be monitored for any signs of bleeding or swelling at the site of the incision. Hospital stays are usually not more than overnight and quickly return to normal activities. What happens when you're at home? Living with an AICD should give you the comfort that treatment for a life-threatening condition can be sent to you whenever and wherever you need it. There are a number of things you'll need to be aware of, including: In case your heart rate is life-threatening, you may faint before AICD adjusts the rhythm. Serious injuries can occur if you faint while driving or swimming alone. Consider any activity you're about to join. If you are likely to get injured if you faint, then consider avoiding activities friends or family members with you. You will need regular follow-up to your doctor so that the device can be monitored. Monitoring shows whether the device feels the heart rate properly, how many shocks have been delivered and how much power remains in the battery. Some electrical equipment may interfere with the ICD. Your doctor will make you aware of what to watch out for. In case of emergency, you should bring a card that says you have an AICD. You should also bring a complete list of medications and dosages with you. This should also include a list of emergency contacts and their phone numbers. It is important to inform all healthcare workers (including your dentist) that you have an AICD. If you feel your heart racing, it is likely that the device can deliver a shock. Find a place to sit or lie down and have someone stay with you throughout the event. Guide your family and friends to call an ambulance if you get some shock or remain unconscious for more than a few seconds. When should I call my doctor? You should inform your doctor in the following situations: Within 24 hours after shock If your tachycardia symptoms last more than 2 minutes If you are in shock and feel unwell afterwards Before there are medical or dental procedures Implanted inside the body , can perform cardiac transformation, defibrillation and (in modern versions) heart rate This article needs additional citations for verification. Please help improve this article by adding citations to trusted sources. Non-native material can be challenged and removed. Source: Implantable cardioverter-defibrillator - news · press · books · scholar · JSTOR (July 2010) (Learn how and when to delete this sample announcement) Implantable Defibrillators A Guidant Corporation ICD deviceICD-937.94-37.97MeSHD017147MedlinePlus00 7370eMedicine1971119[edit on Wikidata] Illustrated implantable defibrillators (ICDs) Implant defibrillators (ICDs) or automatic implantable defibrillators (AICDs) are a device that can be implanted inside the body , can perform cardiac transformation, defibrillation, and

(in modern versions) the tempo of the heart. Therefore, this device is capable of regulating the most life-threatening arrhythmias. ICD is the leading therapy and prevention for patients at risk of sudden death from sychycardia and tachycardia. [1] Current devices can be programmed to detect irregular heartbeats and provide therapy through programmable tachycardia in addition to low-energy and high-energy shocks. AICD has been trademarked by the Boston Science Company, so icd is more generic than the preferred term. A single ICD chamber with its right center of the heart leading connects to Note, starting from the lead end, the head and the adjacent first ring, are used to sense electrocardi cardiac activity and stimulate the right sycardia, coil and two rings for atrium sensors. The current device battery lasts about six to ten years; advancements in technology (batteries with more capacity or rechargeable batteries[2][3]) that have increased this over the past ten years. Lead (the power cable that connects the device to the heart) has a much longer lifespan but may be subject to various types of malfunctions, especially insulation errors or fractures of the conductor and replacement requirements. [5] The transplantation process of an ICD system is similar to pacemaker implantation. In fact, ICDs include an ICD generator and wires. The first component or generator contains a computer chip or circuit with RAM (memory), programming software, capacitors and batteries; this implant is usually under the skin in the upper left chest. The second part of the system is an electrolytic wire or wire, similar to a pacemaker, which is connected to the generator and passes through the vein to the right chambers of the heart. Lead is usually located at the apex or septum of the right sytope. Like pacemaker, ICD can have a single wire or lead in the heart (in the right atrium, single ICD chamber), two conductors (in the right atrium and right atrium, double chamber ICD) or three conductors (ICD two losses, one in the right atrium, one in the right ataest and one in the outer wall of the left systic). The difference between pacemaker and ICD is that pacemaker is also available as a temporary unit and is often designed to regulate bradycardia, i.e. bradycardia, while ICD is often a permanent protection against sudden life-threatening arrhythmias. Recent developments include undercardiation ICD (S-ICD), and the ability to accelerate the left sycardic heart from multiple locations near the same time as Multipoint Pacing (Abbott). Icd implantation is indicated as meant to prevent sudden cardiac death and is indicated under various conditions. Two broad but distinct types are primary and primary prevention. Initial prevention refers to patients who have not yet suffered from life-threatening arrhythmias. Substly preventable has the strongest evidence for benefits and it refers to survivors of a second cardiac arrest due to systal fibrillation or hemodynamic unstable tachycardia after the exclusion of the reversible cause. [6] Similarly, the initial use of ICD in prevention is to prevent cardiac death in patients at risk of prolonged tachycardia or esocardia. This population accounts for the majority of all ICD implants. There are countless ICD manual instructions in primary prevention with varying levels of support Periodically, both the American College of Cardiology (ACC) / American Heart Association (AHA) and the European Heart Association provide an update to this guide. Some type I designulations are as follows:[6] With LVEF ≤ 35% due to a previous myocardial infarction (MI) at least 40 days after MI and in NYHA Functional Class II or III With LV dysfunction caused by MI earlier at least 40 days after MI, has LVEF ≤ 30%, and is in NYHA I Functional Group With no chemotherapy has LVEF ≤ 35% and those who are in NYHA Functional Class II or III With VT unbearable due to previous MI, LVEF < 40%, and VF can not biomeduedize or VT maintained at electroeonology study With structural heart disease and VT sustainable sedation , whether hemodynamic stability or unstable With synchronized of unknown origin is clinically related, VT or VF significantly maintained hemodynamically in the study of electroemic ermic clinical trials Some clinical trials have demonstrated the superiority of ICD versus AAD (anti-arrhythmias) in the prevention of death from malignant arrhythmias. The SCD-HeFT trial (published in 2005)[7] showed significant mortality benefits for ICD patients. Patients with ICD-implanted hemorrhagic heart failure have a 23% lower risk of all-cause mortality than placebo and an absolute mortality reduction of 7.2 percentage points after five years in the overall population.1 Report 1999, trial of anti-arrhythmias versus implantable defibrillators (AVID) consisting of 1,016 patients, and deaths in those treated with AAD more often (n=122) than deaths in the ICD group (n=80, p < 0.001). [8] In 2002, the MADITII trial showed the benefits of ICD treatment in patients following myocardial infarction with reduced left less function (EF&30). Initially ICD was implanted through thoracic surgery with defibrillators patches applied to epicardium or pericardium. The device is attached through the head under the skin and through the skin resulting in the device contained in the abdominal wall pocket under the skin. The device itself acts as an electrolyt. Most ICDs today are transvenously implanted with devices placed in the left chest area similar to pacemaker. Spring electrolyes or inline coil are used to reduce defibrillation. The devices have become smaller and less invasive as technology advances. The current ICD weighs only 70 grams and is about 12.9 mm thick. A recent study by Birnie and colleagues at the University of Ottawa Heart Institute demonstrated that ICDs are underused in both the United States and Canada. [9] An accompanying editorial by Dr Chris Simpson of Queen's University explores a number of economic, geographical, social and political reasons for this. [10] The history of ICD development was pioneered at Sinai Hospital in Baltimore by a team that included Michel Mirowski, Morton Alois Langer and William Staewen. Mirowski collaborated with Mower and Staewen and together they began their research in 1969 but it was 11 years before they treated their first patient. [12] Work began against many skepticism even by leading experts in the field of arrhythmias and sudden death. There is a doubt that their idea will ever become a clinical reality. In 1972 Bernard Lown, the invented external defibrillators, and Paul Axelrod spoke in circulation magazine - Very rare patients with frequent erratic fibrillation are best treated in a coronary care unit and better served by an effective anti-arrhythmia program or surgical adjustment of coronary blood flow or incomplete thrombosis Enough. In fact, the implant defibrillation system represents an imperfect solution in search of a legitimate and practical application. [13] Problems to be fixed were the design of a system that allowed the detection of syst heartbeat or tachycardia. Despite a lack of support and financial funding, they persisted and the first device was implanted in February 1980 at Johns Hopkins Hospital by Dr. Levi Watkins, Jr.[11][14] The first devices required breasts to be cut open and mesh electrolyte sewn into the heart; Pulsed machines are placed in the abdomen. [11] IcDs work mechanisms that continuously monitor the speed and rhythm of the heart and can provide the therapy, by electric shock, when the heart rate exceeds a preset number. More modern devices have software designed to try to differentiate between ventriclerosis and ventricleric tachycardia (VT), and may attempt to accelerate the heart faster than its in-house speed in the case of VT, to try to break the tachycardia before it progresses to ventriclerosis. This is called accelerated rate, or tachycardia (ATP). ATP is only effective if the heart rate is tachycardia and is never effective if the rate of fibrillation is cardia. Many modern ICDs use a combination of different methods to determine whether a fast rhythm is normal, tachycardia on the 7th ester, tachycardia, or fibrillation. The rate of discrimination assesses the rate of the lower chamber of the heart (sycardia) and compares it to the rate in the upper chambers of the heart (atrium). If the speed in the atrium is faster or equal to the speed in the symen, then the rhythm most likely has no more benign and erratic origin. If this is the case, the ICD does not provide any therapy, or retain it for a programmable period of time. Distinguish how often the heart rate will see erratic tachycardia. In general, tachycardia is frequent. If the rhythm is irregular, it is usually due to the transmission of an irregular rhythm derived from such as atrial fibrillation. In the picture, an example of torsades de pointes can be seen; this represents an irregular form of tachycardia. In this case, the ICD will rely on proportions, inalo regularity, for an accurate diagnosis. Eroconic discrimination examines the pattern of every rhythm and compares it to what the ICD knows is that the ergy form of normal impulse is conducted for the patient. This erratic pulse is usually the average of a normal pulse multiple of patients suffering in the recent past and is called a sample. The integration of these different parameters is very complex, and clinically, the appearance of inappropriate therapy is still sometimes seen and is a challenge for future software advances. Lead II electrocarditor (known as rhythm band) shows that the de body is only shocked by a defibrillators implanted back to the patient's basic heart rate. Live with normal chest X-ray ICD after icd placing, showing ICD generator in the left upper chest and ICD head in the right heart center of the heart. Note the 2 opaque coil along the ICD conductor. People with implantable defibrillators can live their lives to the fullest. Usually ICDs may not improve the patient's quality of life, although it may provide a strong level of assurance. As with a pacemaker, however, living with an ICD does not impose some restrictions on the person's lifestyle, outlined below. Physical activity Almost all forms of physical activity can be performed by patients with ICDs. All forms of sports without the risk of damaging ICD or because of underlying cardiothy heart disease can be taken by the patient. Special care should be taken not to put excessive stress on the shoulders, arms and toro area where the ICD is implanted. Doing so may damage the ICD or lead away from the ICD generator to the patient's heart. Especially avoidable are the exercises that cause the collarbone to be pulled down towards the ribs, such as lifting weights with the arm, on the ICD site, while standing. Electrical equipment The device uses large magnets or field generators, or any similar environment, must avoid patients with ICDs. As with other metal objects, ICDs are often 2016 resistant to the use of mri images. However, some ICD manufacturers have recently introduced mr-conditional ICDs, which allow the use of MRI under specified safe operating conditions. Quality of life Implant defibrillators have demonstrated clear life-saving benefits, while concerns about patient acceptance and psychological adjustment to ICD have been the focus of numerous studies. [15] Researchers, including those from the field of cardiovascular psychology, concluded that the quality of life (QoL) of the ICD at least equal to, or better than those taking anti-arrhythmias. [16] The largest study examined 2,521 patients with stable heart failure in the SCD-HeFT trial. [17] The results indicated that there was no difference between icd treatment groups and drug therapy after 30 months in patient-reported QoL. [18] Psychological correction after ICD implantation has also been thoroughly studied. In rare cases, ICDs can be infected and often of bacterial origin but other organisms such as some fungi are sometimes related. [19] This is more likely to occur in people with diabetes, heart failure, renal failure, or an suppressed immune system. [19] Anxiety is a common psychological side effect, with about 13-38% of ICD patients reporting significant clinical anxiety. [21] However, the main cause factors contributing to anxiety in ICD patients have not been identified. Depressive symptoms are also common, but the incidence of these problems has been shown to be similar to those observed in other heart patient groups, with about 24-41% of ICDS patients experiencing depressive symptoms. [21] Problems in psychosomm psychosommodic adjustment to the ICD, including the experience of anxiety, between spouses or other romantic partners are also common. [22] This phenomenon may be related, at least in part, to sharing shock anxiety and avoiding physical and sexual contact. [23] See Also Brugada Syndrome Button cell Cardiopulmonary resuscitation (CPR) Defibrillation Wearable cardioverter defibrillator Notes ^ Mirowski, M; Reid, PR; Lawn mower, MM; Watkins, L; Gott, VL; Schauble, JF; Langer, A; Heilman, MS; Kolenik, SA; Fischell, RE; Weisfeldt, ML (August 7, 1980). Cessation of malignant arrhythmias with auto-implanted defibrillators in humans. New England Journal of Medicine. 303 (6): 322–4. doi:10.1056/nejm1980080073030607. 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Pacing Clin Electrophysiol. 29 (6): 619–26. doi:10.1111/j.1540-8159.2006.00409.x. PMID 16784428. External Link A Defibrillators in Action Information on ICDs/S-ICDs from the Arrhythmia Alliance East Carolina Heart Institute charity at ECU, Heart Psychology Lab, Focus on ICD Samuel F. Sears, Jr., Ph.D., University of East Carolina, Cardiac Psychology, ICD QoL Specialist Video, Dealing with an ICD Taken from