救心機 AED

Automated External Defibrillator
救心機 (學名: 自動體外去顫器)

"Stand clear, ready to shock!"... an instruction you might hear in public places such as Lan Kwai Fong, shopping malls, libraries, entertainment areas, airports or even housing estates. Awareness of Sudden Cardiac Arrest (SCA) and the need of an Automated External Defibrillator (AED) to improve the otherwise dismal out-of-hospital SCA survival statistics is continuously increasing. Every year, several thousand people die from SCA in Hong Kong! Similar to other parts of the world, 50% of SCA victims do not have any known prior symptoms. SCA can strike anytime, anywhere, and at any age. Even a seemingly fit and healthy person can suffer a SCA without warning and die within less than 10 minutes. Defibrillation within three minutes can lift the chance of survival from SCA up to 70%. Ambulances and local emergency medicine services typically can't respond that quickly. With the availability of an AED, a bystander or any member of the public can actively participate in saving lives. AEDs are designed for layman use, its operation simple, effective and safe and no longer restricted to paramedics.

"離開，現在準備電擊病人!" 你可能在一些公眾場所可以聽到這口號，例如在蘭桂坊、商場和屋苑。香港人對心臟病突發的警覺性日漸提高，亦開始了解救心機的效益。你知道嗎，香港每年有一萬人死於猝死症或突發心臟病?!其中百分之五十是沒有先兆!任何健康的人、在任何時間、任何場合、任何年齡都有機會跟它扯上關係!現在救心機的出現，任何人都可以拯救瀕臨死亡邊緣的人，不一定是救護人員才可以。

What is Sudden Cardiac Arrest (SCA)?

SCA is not the same as Heart Attack. SCA is a condition where the heart suddenly and unexpectedly stops beating. The internal electrical system that stimulates the heart muscle to contract in a regular sequence suddenly becomes disorganized and erratic. A heart attack, on the other hand, occurs when blood supply to the heart muscle is blocked, causing part of the muscle to die. During a heart attack, the heart usually doesn't suddenly stop beating. When a SCA happens, the heart begins beating at an abnormally rapid and chaotic pace and can no longer pump blood and oxygen effectively to the brain and other vital organs. Without blood supply, oxygen-starved organs are irreversibly damaged and will quickly fail. Death occurs within minutes from the onset of a SCA. People who have heart disease are at increased risk for SCA. However, most SCAs happen in people who appear healthy and have no symptoms or known heart disease. Potential causes for SCA can be: coronary syndromes, asphyxia, electrocution, drowning, hypothermia, drug allergies and blunt force or trauma to the chest, etc.

什麼是突發性心臟停頓？

突發性心臟停頓，就是控制心律的脈衝不協調，心律不正常地加速和紊亂，最後心臟不能把血液輸送到身體各器官而引致器官壞死，在短時間內導致死亡（猝死），其他成因有心臟冠動脈收窄或栓塞引起突發性心臟病停頓、窒息、觸電、遇溺、體溫過低、藥物敏感或胸部受到嚴重撞擊等。心臟病發有別於突發性心臟停頓，不一定即時使心臟停頓，但會使部分心臟肌肉壞死。

Tragic survival statistics

Survival statistics for SCA victims are grim. Currently, like other countries, a person who suffers out of hospital SCA in Hong Kong has only about 1% chance of surviving. Even in-hospital SCA survival averages below 20% and has not improved since the 1960's. CPR is only maintaining blood circulation by massaging the heart from the outside. Defibrillation shock is the only way to revert back to normal heart rhythm, and should be delivered as soon as possible after the onset of the SCA. For every minute that passes prior to receiving a defibrillation shock, a victim's chances of survival decline by between 10%. After 5 minutes, irreversible brain and organ damage starts occurring and after 10 minutes all help is too late. While ambulances pledge to be at the scene within 12 minutes, it is good enough for most clinical incidents, but unfortunately, it is usually too late for a SCA victim as confirmed by the dismal survival statistics. Time to defibrillation is the key factor for survival.

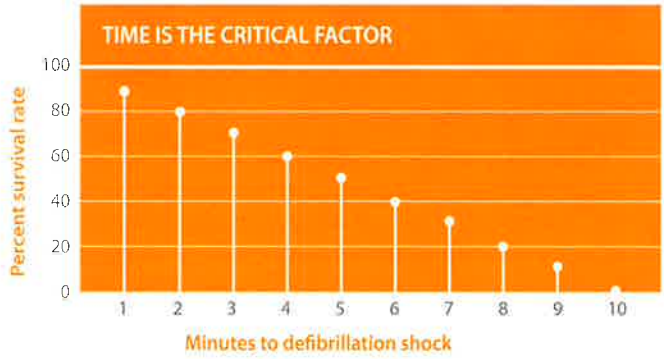
突發性心臟停頓的生還率只有1%

根據統計，在醫院以外發生突發性心臟停頓的生還率是1%，就算在醫院內的生還率只是少於20%，因為心臟停頓後每分鐘便降低百分之十的生還率，五分鐘後因缺乏血液循環，腦部及其他器官已經受到損害，十分鐘後已經返魂乏術。救護車只可以在十二分鐘左右到達現場，對於猝死症來說是太遲了。所以時間是主要因素可以救回傷病者，就是在最短時間內給予傷病者去顫性電擊，使回復正常心律。

Time is Life
時間就是生命

Time is the key factor for the survival of a SCA. Chances for survival decline 10% for every minute of delay! Hong Kong SCA survival statistics currently report a dismal 1% survival rate in places where no immediate access to defibrillation is available. However defibrillation within three minutes, provided via an AED, can lift the chance of survival up to 70%. This is why AEDs should be installed, like fire extinguishers, at places like shopping malls, offices, schools and other public places to improve maximize our survival chances.

去拯救猝死症的人，時間非常重要，每延遲一分鐘，傷病者的生還率便降低10%!只是倚靠救傷車去拯救他們只有1%的生還率。所以安裝救心機，有如安裝滅火桶在公眾的地方，例如商場、辦公室、學校等都可以增加猝死的生還率，以造福社會大眾市民。



Solution: Minimize delays (collapse-to-defibrillation-time), increase chances of survival!
解決方法: 減低延誤, 才可以提高猝死症的生還率!

The Chain of SCA Survival is described as follows: The first link is Early Recognition of a sudden cardiac arrest victim. Early Access which describes the need for an emergency access telephone number. The third link is Early CPR (Cardiopulmonary resuscitation). The forth link is Early Defibrillation (which restores the normal heart rhythm) and the final link is Early Advanced Care. Early Defibrillation is the weakest link in the Chain of Survival of SCA as described by the American Heart Association (AHA).

美國心臟協會指出成功急救心臟停頓病人的以下數個條件：

1. 及早發現心臟停頓病人
2. 及早召喚救傷（即打999）
3. 及早施行心肺復甦法
4. 及早施行心臟去顫法 （即使用「救心機」電擊心臟藉此去除心臟顫抖的方法）
5. 及早施行高級生命支援術。而及早使用「救心機」最為重要。

Defibrillation was previously administered by doctors and paramedics only, recent technological advances has led to the Automated External Defibrillator or AED. AEDs are battery operated, portable first-aid tool, designed specifically for layman use. They are easy to use, highly effective and totally safe. The AED will automatically analyze a person's heart rhythm and accurately detect if the victim suffers a SCA and only then provide therapy. AED's will not deliver defibrillation shock if there is no abnormal heart rhythm. Hence, there is no risk of accidentally electrocuting a person who suffers from a condition other than SCA. There are 2 types of AEDs, Fully-Automatic, where no button press is needed to deliver the shock and Semi automatic versions, where rescuer needs to press the shock button to deliver the energy to the patient.

心臟去顫法即是醫生拿起兩個電擊片電擊病人使之回復心跳的方法。 此法在以前是醫生或救護員才可以用, 科學日新月異，現今已經發明了一種自動體外去顫器（又名救心機），它是電池運作方便攜帶，專門設計給非專業人士使用。它會自動感應病人是否有此症狀，然後決定給予電擊，非常容易使用，有效及安全。現時此救心機有兩種：1)全自動，不需按掣電擊，2)半自動，救護員需按掣才發出電擊。

How can we rescue a SCA victim?
我們怎麼去拯救有猝死症的人?

AEDs are an easy to use first-aid tool, designed for layman use. With only few hours of training, usually in the form of a one-day first-aid course, where Basic Life Support (BLS), Cardiopulmonary Resuscitation (CPR) and AED skills are trained, a layman can easily become an effective rescuer.

現今救心機已被定義為一種急救的工具，並非醫療儀器， 普通人也可以使用。使用者只要接受一天的急救訓練課程（例如基礎救生課程包括了兩種技能：心肺復甦法及心臟去顫法）便可使用救心機。

Where do I learn the AED skills?
我們從那裡可以學習使用救心機?

There are several first-aid organizations providing AED training courses in Hong Kong such as the Ruttonjee & Tang Siu Kin Hospitals A&E Emergency Training Centre, Hong Kong Red Cross, Hong Kong Society of Professional Medical Care, European Resuscitation Council's Hong Kong Instructor Association, Asia Medical Services, St. John Ambulance and many more. Participants can learn the AED skills which follow the AHA protocol / ERC guidelines and practice through simulated resuscitation events.

現今香港已經有很多急救訓練的機構提供救心機的訓練課程。例如律敦治及鄧肇堅醫院急救訓練中心、香港紅十字會、香港專業護理協會、亞洲醫療服務中心、歐洲復甦協會及聖約翰救傷隊。參加訓練者可以學到美國心臟協會或歐洲復甦協會的救心機指引和通過模擬急救過程去練習怎樣正確使用救心機。

救心機 AED

AHA 2005 New Guidelines available
美國心臟協會2005年最新指示現已附載

Powerheart AED G3 Plus AUTOMATIC

Powerheart AED G3 Plus Fully-Automatic
No Button Operation with Rescue-Coach and Metronome sound

Suitable for: cardiac home patient, police, customs, prisons, airplanes, airports, maritime/ diving clubs, jockey clubs, betting centers, properties management, club houses, swimming/sport/fitness facilities, hotels, casinos, theme parks, elderly homes, public transport utilities, exhibition centers, shopping malls, schools, universities, churches, banks, corporations, and facilities with focus on industrial safety.

G3 Plus Fully-Automatic 全自動救心機
無按掣運作、附心肺復甦法詳細指示和心外壓節拍聲音

適合用於: 心臟病人、警察、 海關、 監獄、飛機、機場、船/ 潛水設施、馬會、投注站、物業管理、 會所、 游泳/ 康樂/ 健身設施、酒店、 賭場、遊樂場、老人院、公共運輸設施、展覽中心、商場、學校、大學、教堂、銀行、公司和一些需要工業安全的場所。

POWERHEART AED G3

Powerheart AED G3
One Button Operation Semi-automatic

Require to push a button to deliver therapy, preferred by paramedic and medical professional

G3 半自動型救心機
一個按掣運作

需要按掣去輸送電擊，較適合用於救護員或專業醫護人員。

CARDIAC science
美國心臟科學公司

Unique Advantages of Cardiac Science Powerheart AED G3 Series (Made in USA) which has more than 80 patented technologies 美國心臟科學公司救心機擁有八十多項商標註冊獨有的功能:

- RESCUE READY™ RELIABILITY: Automatic daily, weekly and monthly self testing of defibrillation pads, battery and system ensures rescue-readiness if and when you need the AED.
  可靠耐用的準備急救軟件：每天、每週、每月都有自我測試電極片，電池及電子系統的功能，保証隨時可以使用。

- USER-FRIENDLY: Easy and totally safe to use, open/close-lid to switch-on/off, with single (or no-) button operation, non-site specific defibrillation pads, clear voice & text prompts guiding the operator through the rescue procedure.
  容易使用：安全性高，掀蓋式開關，單一按掣式（或沒有按掣）輸送電擊，無極性電極片（左右位置可以掉換），有英文或廣東話版聲音提示及文字顯示，使用者跟著步驟去做便可。

- TECHNOLOGY: Patented RHYTHMx® and STAR® BIPHASIC technologies provide automatic energy adaptation to patient size, variable escalating energy (from 105J to 360 Joules) and synchronized, biphasic defibrillation waveforms resulting in maximum chances for survival.
  專業科技：應用專利技術RHYTHMx® 和 STAR® BIPHASIC去確保電擊有效回復病人心跳，另外它可以自動調節電擊能量、自動升級（由105升至360焦耳）、同步電擊及雙向波能量去適應不同病人的體質，達至最短時間內去救回傷病者。

- EASY-TO-READ EXPIRATION DATE & TEXT SCREEN: Allow easy viewing of AED pad expiration date information. Text screen provides a visual script in tandem with the audible voice prompts.
  容易閱讀的過期日和文字顯示：讓人容易看到電極片的過期日子。除了發出聲音指示外、也可從文字顯示知道進程。

- WARRANTY SECOND-TO-NONE: All Cardiac Science AEDs are supported with a 7 Year Factory Warranty – the longest of any AED on the market today.
  終身保用：所有心臟科學公司的救心機都享有七年免費廠家全保養（包人工及零件），現時為救心機最長的保用期。

- INTELLISENSE™ BATTERY TECHNOLOGY: Cardiac Science features the only battery on the market with a 4-Year unconditional performance guarantee (the longest battery operational-warranty). Intellisense Lithium batteries feature an internal analysis chip which records daily self-test data.
  慧型電池技術：只有心臟科學公司提供四年無條件更換的電池的運作保養（獨有長壽電池運作保養）智慧型鋰電池讓內部分析晶片記錄每天自檢資料。

PACIFIC MEDICAL SYSTEMS

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