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CARING HEARTS 5

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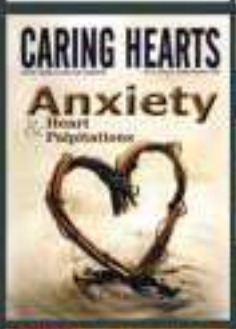

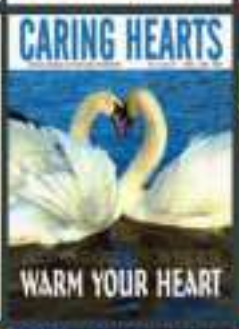

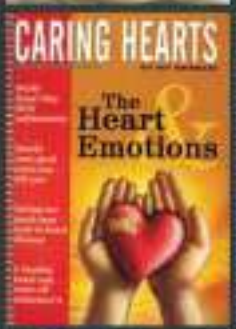

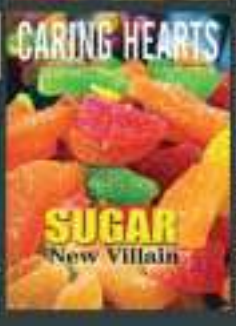

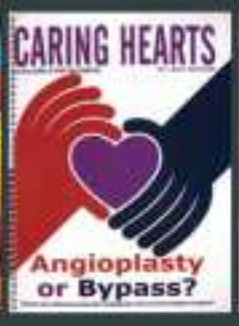

ONES


CARING HEARTS
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HEART DISEASE & WOMEN
Snoring
2018
ALL ABOUT ANGINA
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SUDDEN CARDIAC ARREST
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Polycystic Ovary Syndrome
Painkillers
heart problems
Understanding Cardiovascular disease
Salt

Heart Care Foundation
36/117 A 1, Second floor, Lisie Hospital Road, Kottecanal Junction, Kochi- 682018
Phone 0484 2406393, Mobile number: 9847006000
Email: mail@heartcarefoundation.com
Web: www.heartcarefoundation.com

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CONTENTS

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CARING HEARTS
Special Edition

Printed by Mr. Raju Kannampuzha, Published by Mr. Raju Kannampuzha on behalf of Heart Care Foundation and printed at S.T.Reddiar & Sons (EKM), Veekshanam Road, Ernakulam, Kochi - 682018, Kerala and published at 36/117 A 1, Second floor, Lisie Hospital Road, Kottecanal Junction, Kochi, Kerala - 682018. Editor: Raju Kannampuzha

Chairman's MESSAGE

Padma Shri Awardee
Dr. Jose Chacko Periappuram
Chairman, Heart Care Foundation

Dear friends.

It is my proud privilege as the Chairman of the Foundation to put down my thoughts on the 50th edition of Caring Hearts. Caring Hearts which was first brought out in 2007 went on to become a much sought after health journal in the field of Cardiac care. I am also happy to note that the new editorial board is taking all efforts to make it more attractive both in terms of the quality of the articles and the variety of initiatives. The 50th edition of CARING HEARTS will be a collector's item, with all excellent and informative articles and tips for a healthy living. Please take this opportunity get one of these copies for your library.

The Heart Care Foundation will be celebrating the World Heart Day on 29th September 2019. We have a variety of programs slated this time also. The high lights are the HRUDAYASANGHAMAM, the CPR training sessions as well as the release of the 50th edition of our title publication, the CARING HEARTS and the presentation of the Life Time Achievement Award for the year.

As you know already, the Foundation is now focusing on prevention of heart and related illness which is a menace to our society. HCF has already adopted AlangadPanchyath, in Ernakulam district as a model Panchayth for heart disease prevention program. The project is sponsored by Alangad Panchayath and will be co-ordinated by the HCF.We are expecting this project to be completed by the June 2020 and will be a landmark in the history of Kerala, we hope.

I leave with you one of many tips to prevent heart disease and this edition message is.... Manage stress. We all live in a very stressful world and everyday of our life carries with it something or other to worry about. It's important that we should be contented with what we have to avoid unnecessary worries. And I remember one of my mentors once sending me a message. 'Don't pray to God for what you desire, but pray for what you deserve, as what you deserve may be more than what you desire'. So let's hope that with prayers God will give us all what we deserve and let's be contented with what he gives. I hope this message will take away at least some of your stress in life and give you a healthy heart and mind to live with.

On behalf of the Foundation I wish all the members and readers all the very best and the choicest of blessings.

Warm regards.

Dr Jose Chacko Periappuram
Chairman HCF

ED's MESSAGE

Mr. Dominic J Mechery
Executive Director

The Foundation which had its origin in 2005 has almost completed 15 years of its service to the community. In this span of 15 years the Foundation was able to bring in relief to several people in the field of Heart Care. Among various projects implemented so far 'Save 1000 Hearts, 1000 Lives, 1000 Families' stand out for its sheer reach to the poorest of the poor in the State. Though it started with a number of 1000 it far exceeded the initial target and is still being implemented for the needy. However, the Foundation has off late shifted its focus from merely providing treatment to heart patients to an area where we can actually prevent the disease through early detection and awareness.

Caring Hearts the quarterly health magazine brought out by the Foundation is approaching another milestone with its 50th edition. This edition is therefore brought as a Special Edition and will serve as collector copy. We have taken care to include well researched articles by Doctors as well as by other professionals. This should serve as a reader's delight. We encourage our readers to mail/ write to us their comments, feedback and suggestions.

On the occasion of completing 15 years we should take stock of the important role an NGO like ours has in society. While the Constitution mention about health/sickness in its Articles it nowhere provides 'State health as a human right' like in the case of Right to Education provided in 2010. India is among very few countries with public spending of less than or about 1 % of the GDP on health, even though there has been a growing demand for a threefold increase. Reduced public spending and the aggressive pushing for public-private partnerships can be a dangerous cocktail. While Cardio Vascular Disease continues to be the number one in terms of mortality in India there is very little concerted action to reverse the trend. It must be noted that we have examples of Polio eradication and HIV/AIDS were the trends reversed through glorious examples of leadership at the decentralized levels. Health sector unlike other sectors lack sustained leadership at the political, administrative and technical levels. While the need of the hour is to strengthen the Government hospitals and primary health centers it is not happening at the pace it is required. Therefore, the people are forced to depend on private sector which is the dominant sector today. In such a scenario the role of NGOs and not for profit trusts can play a major role, and this is very challenging especially in heart care. It is therefore very critical for us to play a vital role in prevention of Cardio Vascular Disease (CVD) through early detection and awareness. We request all the members and well-wishers of the Foundation to support us on this ambitious project.

Dominic J. Mechery,
Executive Director

Mr. Krishna Kumar P.
Chief Editor

Editor's MESSAGE

50 editions, caring for the hearts of thousands, providing information easily understood by lay-personsfrom eminent cardiologists, cardio-thoracic surgeons, cardiac anesthesiologists, physiotherapists who specializes in cardiac rehabilitation and dietitians, make every issue of Caring Hearts – a collector's item indeed.

In this 50th edition, the editorial team has out-classed themselves and hasbrought out a golden issue, with 27 articles that could be preserved as a guide to heart care and its associated issues. Who knows, any of those articles could be one that you stumbled upon to reflect or change, the way you care for or ignore your faithful ticker. Very much a life style disease, heart conditions have started affecting the very young and those in "apparent good health", more so in Kerala. Unless we change our food habits and our sedentary life style, the number of heart patients in Kerala will set a new record, in the very near future.

This is where the relevance of the "information rich" magazine Caring Hearts comes in. Keep every edition in an easily accessible place, so that everyone can read it once in a while, ruminate and act if needed, adapting a healthy life style, for your own sake and for the sake of your loved ones.

Every edition of Caring Hearts will have something that will be of utmost relevance to someone, healthy or not.

That's a promise!

Krishna Kumar

PINARAYI VIJAYAN
CHIEF MINISTER

GOVERNMENT OF KERALA

Secretariat
Thiruvananthapuram-695 001

No.887/Press/CMO/19. 25th October, 2019.

MESSAGE

I am happy to know that the Heart Care Foundation, Kochi, is bringing out its quarterly magazine as a special edition in connection with the World Heart Day.

I extend my good wishes to the endeavour.

Pinarayi Vijayan

Dr. Jose Chacko Periapuram
Chairman
Heart Care Foundation
Lisie Hospital Road
Kochi - 682 018
mail@heartcarefoundation.com

Tel: (0471) 2333812 & 2333682 Fax: (0471) 2333489 e-mail : chiefminister@kerala.gov.in
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DATE 05.09.2019

Message

I am happy to learn that the Heart Care Foundation is bringing out a special edition of the quarterly magazine *'Caring Hearts'* on the world heart day. It is really a great achievement that the magazine has become a most sought after magazine in the field of heart care.

I wish the Heart Care Foundation many more years of excellent service and extend warm greeting to the special edition of **'Caring Hearts'**.

With regards,

P. Sreeramakrishnan

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Thiruvananthapuram
Date: 24.09.2019

No:04/Press/H&SJ/2019

Message

I am happy to know that Heart Care Foundation is bringing out 50th issue magazine 'Caring Heart'. I hope the magazine will be a platform for expressing and showcasing the latest information regarding heart disease and its prevention. I appreciate your initiative and wish you all success in this endeavour.

K K Shailaja Teacher

Phone Office : 0471- 2327876, 2327976

MESSAGES

Bharath Mammootty

"I am extremely pleased to understand that the Heart Care Foundation is publishing the Collector's edition of their magazine 'CARING HEARTS' and releasing it on 29th September along with the world heart day celebrations. I am happy and aware of the activities of this Philanthropic organization over the years and also was associated with some of its activities.

I hope that this special edition publication would be an asset to our libraries as a reference book in heart disease and I wish the effort all success."

Mr. Kunchacko Boban
Brand Ambassador

"At the outset a very big congratulation to Heart Care Foundation in bringing out the 50th edition of its magazine 'Caring Hearts'.

Am very much honored and blessed to be part of thisFoundation that has been doing so much of help and care for the needy and continues to make people aware of maintaining a healthy lifestyle through different activities

Having a healthy heart is not just about doing exercises or a strict lifestyle regimen. Kindness, Love, a forgiving and caring mind, optimism, smiling face…. All of these can make your heart and life even more healthier. So, come together to make our world a better place to live and celebrate. Let there be much more love and happiness.

Keep Smiling"

"The secret to abundance in life is to begin with an abundant mindset and a caring heart".

Let me take this opportunity to congratulate Dr. Jose ChackoPeriappuram and the whole team working behind "Heart Care Foundation" for their amazing work and support to the much needy people in all the ways they can and also for releasing the 50th edition of their magazine " Caring Hears".

Caring Hearts helps the people understand the primary importance of keeping themselves healthy by leading a life style which includes good nutrition, healthy mindset with lots of gratitude, love and kindness a goodnight sleep, exercises, meditation, and above all to keep ourselves happy all the time.

Mr. S. Sreesanth

I am feeling much privileged and blessed to be part of this journey and I really wish to invite everyone to come together and work united towards a much happier, healthy life.
Keep at it...

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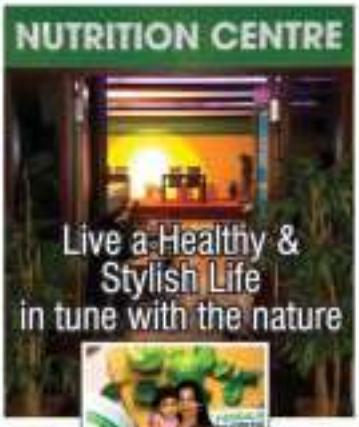


Best Compliments from : Sabu Karikkassery

HEART CARE FOUNDATION

LIFETIME ACHIEVEMENT AWARD

Sl.No:	Name Of The Awardee
01	Dr. K M Cherian
02	Dr. P K R Warrier
03	Dr. K Mohandas
04	Dr. George Jacob
05	Dr. A K Abraham
06	Dr. P Venugopal
07	Dr. K Vinodan
08	Dr. Rajan Joseph Manjooran
09	Dr. M R Girinath
10	Dr. Suresh G Nair
11	Dr. Mathew Samuel
12	Dr. P Chandra Mohan
13	Dr. Mohan A Mathew
14	Dr. K.Venugopal

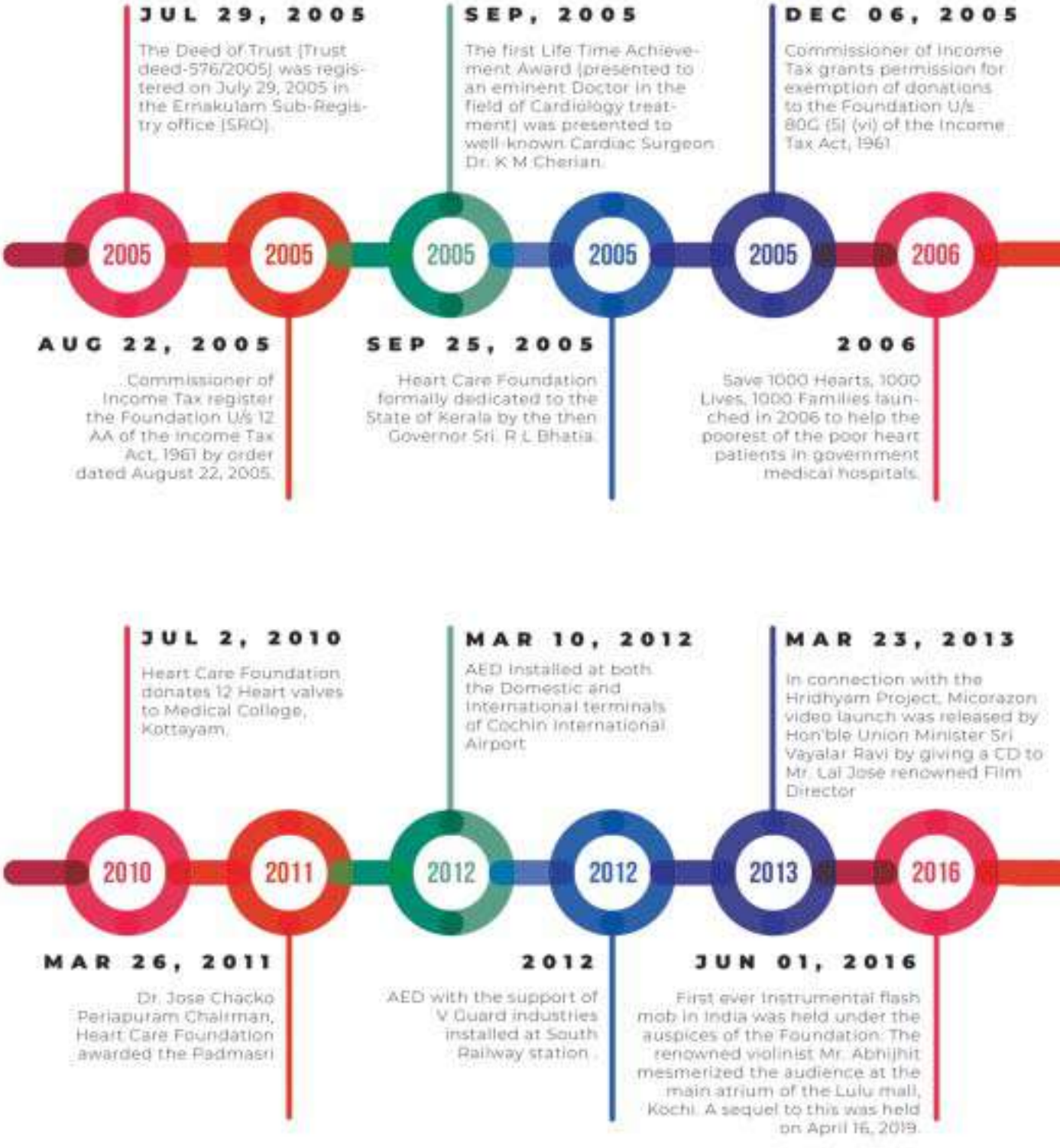
Note: During the World Heart Day celebrations every year, the Foundation presents 'Life Time Achievement Award' to an eminent doctor in the field of Cardiological treatment. The award consists of a gold medallion and a citation.

SOCIAL EXCELLENCE AWARD

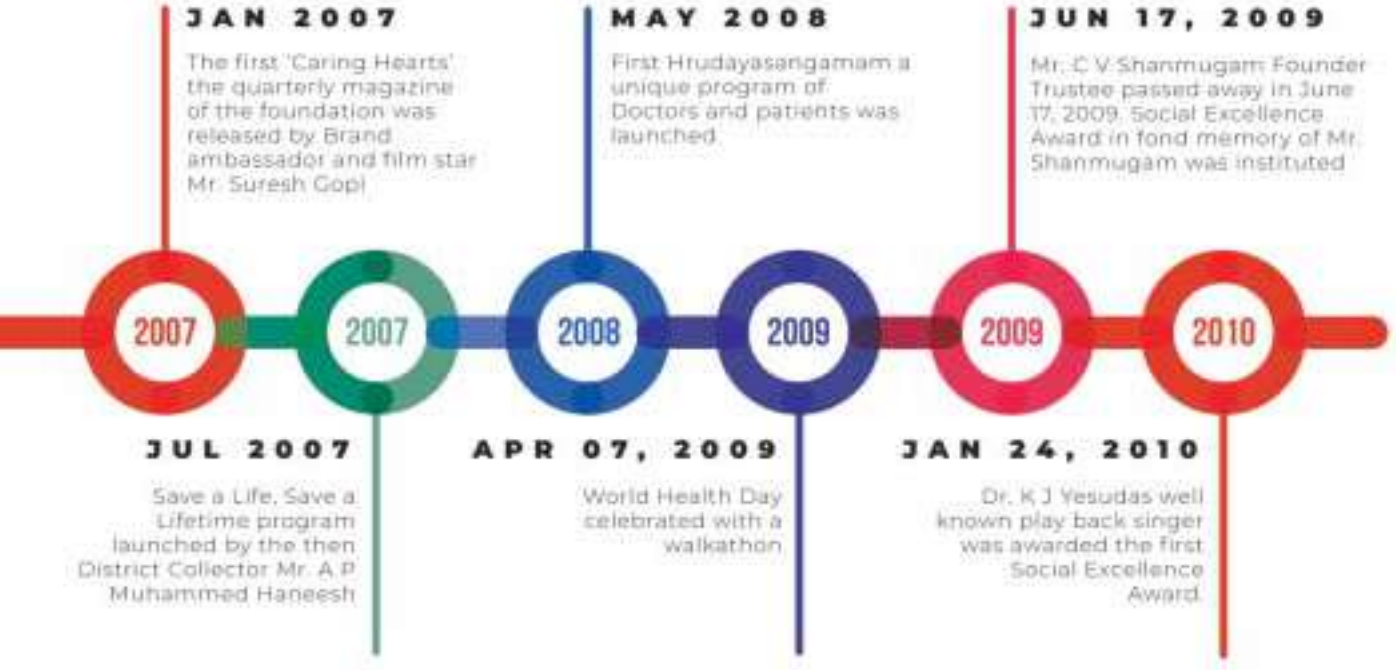
Sl.No	Name Of The Awardee	Year
01	Dr. K J Yesudas	2010
02	Dr. M Beena IAS	2011
03	Ms. Uma Preman	2012
04	Mr.V J Kurian IAS	2014
05	Mr. Mammootty	2015
06	Dr. Siddeek Ahmed	2016
07	Mr. Navajeevan Thomas	2017
08	Mr. Kochouseph Chittilappilly	2018
09	Dr. Remla Beevi A	2019

*Note:*The Foundation has instituted 'Social Excellence Award' in memory of the founder trustee Mr. C V Shanmugan. The award is presented to persons who excel in their respective field of activities. The award consists of a medallion and a citation and is presented during the Hrudayasangamam.

TIMELINE


JUL 29, 2005
The Deed of Trust (Trust deed-576/2005) was registered on July 29, 2005 in the Ernakulam Sub-Registry office (SRO).
SEP, 2005
The first Life Time Achievement Award (presented to an eminent Doctor in the field of Cardiology treatment) was presented to well-known Cardiac Surgeon Dr. K M Cherian.
DEC 06, 2005
Commissioner of Income Tax grants permission for exemption of donations to the Foundation U/s 80G (5) (vi) of the Income Tax Act, 1961.
2005
2005
2005
2005
2005
2006
AUG 22, 2005
Commissioner of Income Tax register the Foundation U/s 12 AA of the Income Tax Act, 1961 by order dated August 22, 2005.
SEP 25, 2005
Heart Care Foundation formally dedicated to the State of Kerala by the then Governor Sri. R L Bhatia.
2006
Save 1000 Hearts, 1000 Lives, 1000 Families launched in 2006 to help the poorest of the poor heart patients in government medical hospitals.
JUL 2, 2010
Heart Care Foundation donates 12 Heart valves to Medical College, Kottayam.
MAR 10, 2012
AED installed at both the Domestic and International terminals of Cochin International Airport
MAR 23, 2013
In connection with the Hridhyam Project, Micorazon video launch was released by Hon'ble Union Minister Sri Vayalar Ravi by giving a CD to Mr. Lal Jose renowned Film Director
2010
2011
2012
2012
2013
2016
MAR 26, 2011
Dr. Jose Chacko Periapuram Chairman, Heart Care Foundation awarded the Padmasri
2012
AED with the support of V Guard industries installed at South Railway station.
JUN 01, 2016
First ever Instrumental flash mob in India was held under the auspices of the Foundation. The renowned violinist Mr. Abhijhit mesmerized the audience at the main atrium of the Lulu mall, Kochi. A sequel to this was held on April 16, 2019.

HEART CARE FOUNDATION



Vestibule to Panorama of Cardiac Care

Dr. Justice.
K Narayana Kurup
Former Judge,
High Court of Kerala

Every year hundreds of thousands of people in India alone are stricken by heart attacks; a very disturbing trend indeed. Many of us have a notion that a heart attack strikes the victim all of a sudden, as though it were a bolt from the blue. But this is far from truth. A heart attack is like an earthquake. It takes years in the making and hits the victim without any warning as in the case of former U.S President Bill Clinton, who in spite of the best medical care possible, including periodic testing and all the right drugs, could not command clear arteries. (The culprit may be 'nasty stress', a risk scenario arising out of the syndrome of retirement from the most powerful office and ceasing to be the most powerful man in the world, as opposed to 'nice stress' which probably includes ruling the world, having a tight schedule and knowing what you are doing for every minute of the day. This is the lovely buzzy-type of stress – the sort that produces a hormone called dehydroepiandro-sterones, or DHEA-S, for short. This leads to better body function, strengthens the body's defenses, boosts the immune system and strengthens life (vide the Hindu dated 09.09.2004). Yet, unlike an earthquake, a heart attack can be prevented. It is in this context that the launching of 'Caring Hearts' under the patronage of Heart Care Foundation assumes importance, because, one of the major aims of the Foundation is to create awareness among the public about Cardio-Vascular Diseases, and heart attack in particular. For the successful functioning of the Foundation the focus shall be on prevention by disseminating information highlighting the various risk factors associated with heart attack viz; smoking, diabetes, hypertension, obesity, hyperlipidaemia and so on. Such preventive measures will go a long way in reducing the incidence of myocardial infarction among our population.

One of the great failures of the medical profession is its inability to detect Silent Myocardial Ischaemia (SMI) in apparently healthy people during a routine examination. Old methods used in routine examinations to check the health of the heart, that is, the stethoscope and the electrocardiogram, are hopelessly antiquated. They are too insensitive to detect early signs of Ischaemic Heart Disease (IHD) or measure its progression. Over the past few decades a number of non-invasive techniques have been evolved which are completely safe and low on cost enabling early detection of diseases many years before symptoms or complications appear. Non-invasive tests have been responsible for a drastic decline in heart attacks the world over. This is true preventive medicine.

Reverting back to prevention, I am proud to say that 'Caring Hearts' the official journal of the Heart Care Foundation has played a pivotal role in

disseminating useful, up-to-date and interesting information to readers touching on assorted aspects of cardio-vascular disease and its prevention through some down-to-earth measures such as music which was highlighted in one of the issues of the magazine wherein, individuals were encouraged to listen to music, sing and dance while doing chores or cooking meals, play a musical instrument, attend concerts, seek advice of doctor if music therapy is good etc. The very same issue of the magazine dilated on the reasons why one should eat fiber-rich foods. The writer gives a detailed account on health benefits of fiber-rich foods; from lowering cholesterol to preventing diabetes and cancer. Though cholesterol has been labeled as a culprit responsible for heart attacks the magazine is fair when it commented that "….there are some groups who dispute the cholesterol lipid hypothesis. In 2015, a paper stated that 92 percent of people with a high cholesterol level lived longer" The magazine advocates a good diet, regular walk and a healthy lifestyle as the first step to lower cholesterol

The magazine at times deals with intricate medical aspects such as the difference between cardiac arrest, heart attack and heart failure which may be useful in unraveling the enigma surrounding a sudden death from the forensic angle. We are now living with enough stress which we find difficult to cope with. The magazine gives valuable tips to reduce stress. India is said to be the diabetic capital of the world with several million people suffering from its scourge. To such people 'Caring Hearts' provides expert diet tips for a healthy life. Conditions which we consider as having no clinical significance is highlighted in 'Caring Heart' which will be a surprise to many, including medical doctors. For instance, the magazine informs its readers that middle-aged tooth loss is linked to increased coronary heart disease risk!

The magazine explains in detail what causes chest pain on the right side. To many readers who consider such pain as of cardiac origin it will be a matter of interest to know that anxiety or stress, muscle strain, costochondritis, pleurisy, pleural effusion, pneumonia, pulmonary hypertension, pulmonary edema, etc. may be responsible for such condition. The magazine is credited with a number of leaned papers dealing with a rainbow of problems which may ultimately lead to cardiac problems such as snoring, stress, miscarriage risk associated with early periods, why arrhythmia is a cause for concern and so on which will go a long way in reducing cardio-vascular events in our population, to mention only a few.

On this occasion of the launch by the 50th issue 'Caring Hearts', I have no doubt that the magazine under the brilliant patronage of Dr. Jose Chacko Periyapuram and his committed and dedicated team will come up with more papers highlighting the various preventive aspects of cardiovascular diseases opening a vestibule to a panorama of cardiac care.

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'Hearty' Recollections

Dr P Sreekumar
Governing Council Member
Heart Care Foundation

The year of our Lord 2004 was on its last lingering lap – 15th December to be precise. I was on my way to Indore to attend the Annual Conference of our National Society. En route we (my wife and I) halted at Ujjain to visit an old MBBS class mate. Spent a few enjoyable hours visiting some temples and historical sites. Towards evening, while getting ready to resume the journey (Indore is only 3 – 4 hours away), I was suddenly seized by a queer sensation in the chest. Certainly not a pain, nor feeling of tightness or suffocation. Not very unpleasant either! Not accompanied by any of the text book narratives. It was transient but manifested 4 – 5 times within the next half an hour. My friend took me to a nearby hospital. ECG was normal. The Physician advised against travelling. Night was peaceful. Morning ECG picked up a 'Variation'. Anticoagulant therapy was started.

After a week, we returned to Cochin. Dr. Valsaraj, my Physician colleague examined me. He contacted Dr. Sajy Kuruttukulam and I was shifted to Medical Trust Hospital. Angiogram confirmed Coronary Occlusion. We were told CABG will be the safest option. Dr. Jose offered to do it the next day itself as he was going on a short Xmas vacation. Dr. Jose, Dr. Sajy, Dr. Jacob Abraham and their team took over. Sri. Anto, the Director of MTH, extended all help. After all, I had started my career in Cochin with a stint in MTH. Although we parted after 6 years, Dr P A Varghese and I had always maintained very cordial relations. In fact, at the last ever meeting Dr Varghese had attended, and where he was honoured by the then Chief Minister, Dr. Varghese had personally asked me to participate and offer felicitations. I still cherish the memory.

The one week I was in the ICU was a momentous one for our State! Tsunami was raging all around with devastating consequences. I was however blissfully oblivious of the calamity at my doorstep!

15 years down the line, I continue to be healthy and active.

I have no exhortations or messages. Let us remember Heart attacks can visit us in many deceptive and protean ways. A high degree of suspicion often tilts the scale in ones favour.

Do not trivialise the symptoms. Consult the Doctor in whom you have confidence. Follow his advice. We have a tendency to Window Shop for 'second' and 'third' opinions. Precious time is often lost.

May Dr. Jose & Dr. Sajy (of course in two different centres now) and their colleagues continue to do the yeoman service.

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My Story

Mr. T V Lukose
Governing Council Member
Heart Care Foundation

It gives me great pleasure in extending my heartiest felicitations to the Heart Care Foundation on the occasion of the release of the 50th issue of 'Caring Hearts'!'Caring Hearts' have been rendering a great service to the lay public by creating awareness and disseminating up-to-date and authentic information and guidance on various cardio-vascular conditions covering both the preventive as well as the management aspects. It has been of great value to me personally as one who has been striving to cope with such conditions for nearly a quarter of a century.I believe keeping myself informed and adjusting my lifestyle accordingly has been the one factor that helped me live a full, normal and active life all through these years despite the history.

No doubt, I have had my share of cardiac and other serious episodes. So far, I have had two coronary bypass surgeries, one angioplasty, a stroke and serious kidney dysfunction. It may be interesting to mention here that while I am 81 years old now I did not live these 81 years in one stretch. There was a short break in between,of a few minutes, during which my heart had chosen to take rest or go for a short nap!It so happened that in 1966 I had a severe heart attack and the doctors had to put me through an angiographwhile still in an unstable condition. It was during this intervention that my heart decided on non-cooperation and went to sleep. They tried all their tricks like massaging, resuscitation, whatever,for coaxing and persuading it to wake up and eventually it had a change of heart and started ticking again. I was straightaway wheeled into the OT for an emergency bypass surgery, my first. Apparently, my cardiologist Dr Eric Borges and his team at Mumbai Hospital handled the situation very competently. Like reading one's own obituary it amuses me to occasionally look at thehospital charts of the day showing a straight line at zero level for a few minutes. I would explain to my family that it shows the time I wasn't there in this world and was contemplating whether to come back or not and eventually taking an unwise decision!

It was 11 years from thereon, in 2007, that our Dr Jose Chacko touched my heart, with his scalpel and otherwise, and cleaned up all the damaged grafts of the first surgery in a second bypass surgery, this time on a beating heart unlike the first. The surgery and recovery was, as one would expect from Dr Jose and team,normalandrather uneventful. The third episode happened after another 10 years, in 2017, when one vein graftdeveloped a stenosis and Dr Ronny Mathew handled it with an angioplasty.

What I wish to highlight here is the fact that, all through these years, I have been having a full and very active, rather hectic, life both professionally and socially. My health was never a limiting factor, except during the short periods of the three once-a-decade episodes mentioned above. I attribute this success to my taking responsibility for my own health as a responsible owner of my body,learning what is to be learned, doing whatever it takes to learn and living by what one learned. Cardio-vascular diseases which together is the No.1 killer is a totally preventable one,but only if one knows how to. That's where publications like 'Caring Hearts' have a big role to play in educating and equipping the general population for a healthier life.

I wish 'Caring Hearts' even greater success in the years to come!

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Dr. Anoop Mathew
Chief Fellow - Interventional Cardiology
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Mazankowski Alberta Heart Institute
University of Alberta

How to avoid heart attacks & what to do if you ever get one: a do-it-yourself guide

Almost every Indian would know a family member who has met with a heart attack. Wouldn't it be nice to see the big picture and learn how to avoid one?

So, I have laid out my five commandments on how to avoid a heart attack and if you ever meet with one how to survive it.

1. **Cook less, eat less:** Sounds impossible in the era of Zomato and Uber eats. We love our biriyani and love to feed our kids the same. It is hard to change eating habits. But, we have to accept the fact that most people in Urban India now had gross fatty liver and many have cirrhosis and liver disease. The way out is to make at least 1 meal a low-calorie meal. Ideally start dinner. Have 2 or 3 portions of raw cut vegetables and one portion of baked meat/fish/vegetarian protein. Avoid rice completely from your dinner. Initially you would feel hungry after the meal, but constantly experimenting with online low-calorie recipes would help you ultimately. The best thing is that children gets used to it if introduced at a very young age. And, it is worth investing in a convection oven that can roast meat or vegetable protein. Don't entirely believe media reports that you can avoid heart attacks by simply eating one thing or the other: media is full of reports as to how garlic or turmeric will help prevent heart attacks. These reports are only partly true. They will not help prevent heart attack by themselves.

2. **Exercise, exercise, exercise:** Sounds easy! But easier said than done with the current Indian lifestyle. You know what the secret is: peer pressure. There are limited avenues in India to do outdoor activity safely. So, join a walking club or local gym. It is worth every rupee paying for a personal

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trainer. Central obesity with protuberant abdomen is extremely common among our folks. The idea of core-strengthening is the most important thing. It will help you improve your mobility and stay active as you age. So doing simple things like sit-ups and leg raising while lying down helps a lot. If you can't find a suitable local gym go online and find a video in Youtube. Just do it, folks!

3. **Know your risk:** Few doctors are going to do this for you, hence do it yourself. Go online to the following website: http://tools.acc.org/ASCVD-Risk-Estimator-Plus/

   Fill in your details including the cholesterol levels. The calculator will tell you what your 10-year risk of heart disease or stroke is. If your risk of having a heart attack on stroke over the next 10-years if more than 7.5% as per the calculator, then you need to consider starting cholesterol drugs in consultation with your doctor.

   The problem with Indian patients is that they think doctors are pushing medicines without any appropriate indications. But think for yourself: are you willing to take the risk that there is >7 in 100 chance that you will have a heart attack in the next 10-years?

   Also, if you have a family history of heart disease, discuss with your doctor how to prevent heart disease.

4. **Call an ambulance if you have chest pain:** If you ever experience chest pain call the local hospital that has cardiology services and ask them to send an ambulance. Good hospitals have well equipped ambulances that can carry out all emergency therapies including delivering shocks when required. Do not drive yourself to the hospital. We conducted a study in central Kerala and followed up more than 3000 people for a year after having a heart attack. We realised that lot of patients present late after a heart attack. In Kerala, our studies show that more than 70% of the population live within 1-hour distance from a hospital with a cath lab. But only 1 out of 5 patients reach the appropriate hospital on time. We found that lot of patients think they just have "gas" and visit a local community hospital without cath lab facility. By the time they are referred to the appropriate hospital their heart is already damaged. These labs help to delivery life saving treatment within the initial hours. The most important thing is to directly reach your nearest hospital equipped with a good catheterization lab. Opening the blocked arteries by a procedure known as "primary angioplasty" is your best shot at survival. Even if you think you are having gas and the chest pain lasts >15 minutes, call and ambulance and have an ECK done. This is especially true if you are a diabetic or have high blood pressure. Keep the hospital contact numbers in your phone.

Can being positive protect against heart disease? Absolutely! Those who are optimistic, happy, having gratitude and purpose in life - have some amount of protection from heart disease

5. **Be positive:** Can being positive protect against heart disease? Absolutely! Those who are optimistic, happy, having gratitude and purpose in life - have some amount of protection from heart disease. Researchers in the UK looked at psychological characteristics of over 8,000 people and found that those who scored high on optimism and a sense of well-being enjoyed a one-third lower risk of developing heart disease. In India, the best way to do this would be to be helpful towards people around you. Volunteer with your local non-governmental organizations/religious bodies to bring happiness to people around you. Be grateful for the things you have! Stay happy, stay healthy folks!

ASPIRIN
The wonder drug

Dr.Suneesh Kalliyath
Consultant Interventional Cardiologist
Kozhikode District Co-operative Hospital,
Eranhipalam Kozhikode

Aspirin is quickly absorbed from our stomach and reaches a peak blood level in 30 minutes

Aspirin is one of the wonder drug in the field of cardio-vascular disease. It is the most commonly prescribed drug among heart attack and stroke patients. Aspirin is known as a salicylate and a nonsteroidal anti-inflammatory drug (NSAID). It works by blocking a certain natural substance in body to reduce inflammation. Among heart and stroke patients, it is used as *'blood thinner'*. Since the ancient times of its discovery, Aspirin is commonly used as a pain reliever for minor aches and pains and to reduce fever.

History of Aspirin

The history of aspirin (acetylsalicylic acid) goes back to late 19th century. Its synthesis and manufacture was in 1899. Before that, salicylic acid had been used medicinally since antiquity. Hippocrates referred to their use of salicylic tea to reduce fevers around 400 BC, and were part of the pharmacopoeia of Western medicine in classical antiquity and the Middle Ages. Willow bark extract became recognized for its specific effects on fever, pain and inflammation in the mid-eighteenth century. By the nineteenth century pharmacists were experimenting with and prescribing a variety of chemicals related to salicin, the active component of willow extract.The discovery of aspirin is customarily said to have resulted from Felix Hoffmann's rheumatic father encouraging his son to produce a medicine devoid of the unpleasant effects of sodium salicylate. Hoffmann, a chemist in the pharmaceutical laboratory of the German dye manufacturer Friedrich Bayer & Co in Elberfeld, consulted the chemical literature and came

across the synthesis of acetylsalicylic acid and then prepared the first sample of pure acetylsalicylic acid on 10 August 1897. This was marketed in 1899 under the registered trademark of Aspirin. This account of the discovery first appeared in 1934 as a footnote in a history of chemical engineering written by Albrecht Schmidt, a chemist who had recently retired from IG Farbenindustrie—the organisation into which F Bayer & Co had been incorporated in 1925. Aspirin's effects on blood clotting (as an antiplatelet agent) were first noticed in 1950 by Lawrence Craven.

Heart attacks and strokes

Aspirin is an important part of the treatment of those who have had a heart attack or brain attack (stroke). For people who have already had a heart attack or stroke, taking aspirin daily for two years prevented 1 in 50 from having a cardiovascular problem (heart attack, stroke, or death), but also caused non-fatal bleeding problems to occur in 1 of 400 people. In those with no previous history of heart disease, aspirin decreases the risk of a non-fatal myocardial infarction but increases the risk of bleeding and does not change the overall risk of death. Specifically over 5 years it decreased the risk of a cardiovascular event by 1 in 265 and increased the risk of bleeding by 1 in 210. Aspirin appears to offer little benefit to those at lower risk of heart attack or stroke—for instance, those without a history of these events or with pre-existing disease. Some studies recommend aspirin on a case-by-case basis, while others have suggested the risks of other events, such as gastrointestinal bleeding, were enough to outweigh any potential benefit, and recommended against using aspirin for primary prevention entirely. After angioplasty, such as the placement of a coronary artery stent, aspirin to be taken indefinitely.Frequently, aspirin is combined with another blood thinning drug, such as Clopidogrel, Prasugrel, or Ticagrelor to prevent blood clots. This is called dual antiplatelet therapy (DAPT).

Especially for those who had a major heart attack, or those who underwent an angioplasty with drug coated stents, to be taken this dual antiplatelet therapy (a combination of two blood thinners, in which one is always Ecospirin) for minimum one year. Of course this combination therapy is high risk for bleeding from any site, the physician will always compare the risk with benefit of such therapy in individual patient. There is no hard and fast rule here!!. If the bleeding risk is high, definitely the doctor will reduce the dose or number of blood thinning drugs. But if the bleeding risk is low, and the risk of blood clotting and subsequent consequences like recurrence of heart attack or blood clot formation in the placed stent is high, the doctor will think in favor of continuing full dose blood thinners. Here is the importance of regular follow-up with your family physician or cardiologist. He can closely watch for any evidence of frank or occult bleed. Following up with serial measurement of Hemoglobin will help your doctor to easily identify any fall in hemoglobin or chronic minor blood loss.

Use of Aspirin other than for heart attack and stroke

Nowadays one could do without aspirin as an analgesic and an anti-inflammatory since good alternatives are available.Aspirin is similarly efficient as paracetamol on trivial acute pain (e.g. headaches, dental pain, or colds). However, it is also used for chronic states of pain, e.g. for cancer patients and (in high doses) for rheumatic fever. For other rheumatic diseases (chronic polyarthritis, osteoarthritis, etc.) and for dysmenorrhea aspirin is not as

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നിങ്ങളുടെ വീടിന്റെ റൂഫിന് ഈടുനിൽപ്പും ഭംഗിയും നൽകാൻ ഏറ്റവും അനുയോജ്യമാണ് ട്രെൻഡി യൂറോപ്യൻ ഡിസൈനിലുള്ള ഒറാലിയം ഗ്രാന്റൈൽ. 3105 അലോയ് ഒറിജിനൽ അലൂമിനിയത്തിൽ നിർമ്മിക്കുന്നതിനാൽ ഒറാലിയം റൂഫിങ്ങ് ഷീറ്റുകൾ ഒരിക്കലും തുരുമ്പിക്കില്ല. ഒറാലിയം ഗ്രാന്റൈൽ ആകർഷകമായ വർണ്ണങ്ങളിൽ ലഭ്യമാണ്.

ഫാക്ടറികൾക്കും മറ്റ് കമേഴ്സ്യൽ സ്ട്രക്ചറുകൾക്കും അനുയോജ്യമായ കൂടുതൽ ഉറപ്പുള്ള കൂടിയ റൂഫിങ്ങ് സൊല്യൂഷൻ.

കൂടുതൽ കവറേജ് നൽകുന്നതിലൂടെ ചെറിയ ഇൻഡസ്ട്രിയൽ കെട്ടിടങ്ങൾക്ക് ചിലവ് കുറഞ്ഞ റൂഫിങ്ങ് സാധ്യമാക്കുന്നു.

ഓടിന്റെ മാതൃകയിലുള്ള ഡിസൈൻ റൂഫിങ്ങിന് ഭംഗിയും ഉറപ്പും നൽകുന്നു.

അവതരിപ്പിക്കുന്നു കേരളത്തിൽ ആദ്യമായി അലൂമിനിയം സാൻഡ്‌വിച്ച് പാനൽ ഷീറ്റുകൾ. ആധുനിക സ്ട്രക്ചറുകൾക്ക് ശബ്ദരഹിത റൂഫിങ്ങിനായി ഹൈ കാളിറ്റി ഒറാലിയം അലൂമിനിയം സാൻഡ്‌വിച്ച് പാനൽ ഷീറ്റുകൾ.

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efficient or not as well tolerated as other prostaglandin synthesis inhibitors such as ibuprofen.Rheumatic arthritis is the only arthritis, in which Aspirin is preferred over other drugs for treatment. In gynaecology practice, it is commonly used in pregnancy induced hypertension and recurrent pregnancy loss. In such cases it is used to prevent placental insufficiency. Basically here also, the antiplatelet action is utilized and Aspirin will prevent blood clot formation in small vessels of placenta.Similarly children with Kawasaki's disease initially receive high and later low aspirin doses.Kawasaki disease is a rare type of fever syndrome which is characterized by abnormally dilated coronary arteries. Other important use of this drug is in field of peripheral vascular disease (Occlusion of blood vessels of limbs). Antiplatelet action of Aspirin is utilized in the treatment of limb ischemia. The drug is hitherto unequalled as a platelet inhibitor and the number of significant indications in its favor has continuously grown in the last years.

Aspirin- How it works in the body?

Aspirin is quickly absorbed from our stomach and reaches a peak blood level in 30 minutes. Once it reaches liver it is actively metabolized to the molecule called salicylate. Salicylate level peak attain in 1 to 2hours. The drug is almost always eliminated from the body by kidneys.

How to use Aspirin Tablet

If you are taking this medication for self-treatment, follow all directions on the product package. If you are uncertain about any of the information, consult your doctor or pharmacist. If your doctor has directed you to take this medication, take it exactly as prescribed. Take this medication by mouth. Drink a full glass of water (8 ounces/240 milliliters) with it unless your doctor tells you otherwise. Do not lie down for at least 10 minutes after you have taken this drug. If stomach upset occurs while you are taking this medication, you may take it with food or milk. Swallow enteric-coated tablets whole. Do not crush or chew enteric-coated tablets. Doing so can increase gastritis related side effects..Do not crush or chew extended-release tablets or capsules. Doing so can release all of the drug at once, increasing the risk of side effects. Also, do not split extended-release tablets unless they have a score line and your doctor or pharmacist tells you to do so. Swallow the whole or split tablet without crushing or chewing. The dosage and length of treatment are based on your medical condition and response to treatment.

Aspirin: Adverse Reactions

When used as an analgesic aspirin often causes stomach pain, nausea, vomiting, and occult gastrointestinal blood loss. Dangerous gastrointestinal complications (bleeding, perforated ulcers) are relatively rare. The uncommon, so-called aspirin intolerance with potentially life-threatening bronchospasms occurs more frequently in persons with asthma, nasal polyps, or urticaria. Aspirin rarely causes hepatitis (if so then especially in persons with lupus erythematosus). The role of the salicylate in analgesic nephropathy (combination of analgesics!) is not clear. High doses cause ringing in the ear (tinnitus) and hearing loss. Doses of less than 100 mg/day very rarely cause complications.

Contraindications

Aspirin should not be taken by people who are allergic, and caution should be exercised in those with asthma or NSAID-precipitated bronchospasm. Owing to its effect on the stomach lining, people with peptic ulcers, or gastritis to be closely monitored for any bleed in stool or blood loss (anemia). Even if none of these conditions is present, the risk of stomach bleeding is still increased when aspirin is taken with alcohol or warfarin. People with hemophilia or other bleeding tendencies should not take aspirin or other salicylates. Use of aspirin during dengue fever is not recommended owing to increased bleeding tendency.

Gastrointestinal

Aspirin use has been shown to increase the risk of gastrointestinal bleeding. Although some enteric-coated formulations of aspirin are advertised as being "gentle to the stomach", enteric coating did not seem to reduce this risk. Combining aspirin with other NSAIDs has also been shown to further increase this risk. Using aspirin in combination with clopidogrel or warfarin also increases the risk of upper gastrointestinal bleeding.

Exercise *for your heart*

Dr. Saji Subramanian,
MBBS, MD, DM,Cardiologist
Samaritan Hospital,
Pazhanganad, Ernakulam

Sedentary lifestyle is one of the major risk factors for cardiovascular disease (CVD).

In India, a large percentage of the people are physically inactive with fewer than 10% engaging in recreational physical activity.

India is now facing a huge burden of CAD and efforts to promote physical activity and reduce sedentary lifestyle plays an important role containing the problem.

Physical activity has many beneficial effects on the risk factors for CVD. Apart from improving fitness level, it decreases myocardial oxygen demand . There is an inverse association between physical activity and cardiovascular diseases.In those without heart disease physical inactivity is associated with two fold increase in heart attacks.in those with heart disease there is a inverse dose response relation ship between fitness and outcome

How much exercise u need

Depends on two factors. Whether you are having a heart disease or not and depending on your physical status and risk factors how much exercise u need.

Types of exercise

Physical fitness is defined as the ability to carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and meet unforeseen emergencies.

Exercise can be dynamic (isotonic) where there is a movement of the limb or static (isometric) which is not associated with movement of the limb.

Walking ,running,swimming,cycling are all isotonic exercises which are generally cardiofriendly when done in moderation.

Exercise can also be classified as aerobic when oxygen is available and anaerobic in the absence of oxygen. Most physical activities have dynamic and static components .

Dynamic aerobic exercise cause volume load on heart whereas isometric exercise cause pressure overload. Both kinds of exercise increase physical fitness. Endurance training leads to improvements in aerobic capacity and favorable effects on cardiopulmonary and metabolic variables. Isometric exercise and resistance training enhances muscular strength, endurance, and muscle mass

Science behind the favourable outcome of exercise on heart

Examples of physical activity involve not only sport-related activities but also lifestyle-common activities such as walking briskly, climbing stairs, doing more housework and gardening work, and engaging in active recreational pursuits.

Examples of physical activity involve not only sport-related activities but also lifestyle-common activities such as walking briskly, climbing stairs, doing more housework and gardening work, and engaging in active recreational pursuits.

Absolute intensity of physical activity is the amount of energy expended per minute of activity. This can be assessed by oxygen uptake per unit of time (mL/min) or by metabolic equivalent (MET).

One MET is the rate of energy expenditure of an adult while sitting at rest. It is taken by convention to be an oxygen uptake of 3.5 mL/kg of body weight per minute.

Moderate intensity physical activity implies activity performed at an intensity of 3–6 METs and vigorous intensity physical activity includes that performed at >6 METs.

How it benefits

Regular aerobic physical activity improves exercise performance. Ideally, one should exercise to the intensity of 40%–85% of maximal exercise capacity.Exercise improves fitness level and thereby quality of life.

It also decreases myocardial oxygen demand by decreasing the product of HR and systolic blood pressure and reducing myocardial ischemia. Regular

exercise also improves myocardial perfusion. It increases the diameter of epicardial coronary arteries and also has favorable effects on microcirculation . Regular exercise even helps in preventing the blood to clot. Regular exercise also reduces risk of an sudden rhythm disturbance of heart. Physical activity has many beneficial effects on the risk factors for heart attack. Regular physical activity not only reduces blood pressure in established hypertension but also helpful in preventing development of hypertension. It is well known to increase protective HDL cholesterol(good cholesterol), improve sugar control in diabetics, prevents onset of diabetes, and helpful in maintaining ideal bodyweight

How much exercise do u need to prevent heart diseases

Based on the available literature, there is compelling evidence that the recommendation of 30 min of moderate intensity exercise on most days of the week (equivalent to 4.2 MJ/week or 1,000 kcal/week).

Brisk walking has also been shown to be preferable to a slower pace.Current recommendations require at least 1000 kcal of caloric expenditure per week to achieve exercise-induced protection against premature cardiovascular death. Evidence also suggests that the benefits of exercise on reducing mortality may plateau after a certain activity level.


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Know your resting pulse rate. Also know a safe exercising pulse rate. Try taking your pulse during exercise. This way, you can see if your heart is beating at a safe exercise rate. If it is too high, slow down

How much exercise for cardiac patients

Aerobic physical activity in patients with known CVD is usually considered as part of the cardiac rehabilitation program. Studies showed around 30% reduction in total cardiac events with aerobic exercise training programs in patients with heart disease.Low-risk patients with a previous heart attack, bypass surgery or angioplasty should be advised to undergo an aerobic exercise training program of moderate to vigorous intensity of 3–5 sessions/week, 30 min/session.

Medically supervised programs for high risk patients with treating doctors advice

Sports and heart

People who regularly swam, played racket sports (tennis, squash or badminton) or did aerobics (including dancing) were less likely to die for any reason, but especially from cardiovascular disease, than were people who did not participate in those sports. The reduced risk for cardiovascular death was 36 percent for aerobics, 41 percent for swimming and 56 percent for racket sports.

Pace Yourself and Know Your Limits

If exercise puts too much strain on your heart, you may have pain and other symptoms, such as:

- Dizziness or light headedness
- Chest pain
- Irregular heartbeat or pulse
- Shortness of breath
- Nausea

It is important that you pay attention to these warning signs. Stop what you are doing. Rest.

Some useful tips

Always carry some nitroglycerin pills with you.

If you have symptoms, write down what you were doing and the time of day. Share this with your provider. If these symptoms are very bad or do not go away when you stop the activity, let your provider know right away. Your provider can give you advice about exercise at your regular medical appointments.

Know your resting pulse rate. Also know a safe exercising pulse rate. Try taking your pulse during exercise. This way, you can see if your heart is beating at a safe exercise rate. If it is too high, slow down. Then, take it again after exercise to see if it comes back to normal within about 10 minutes.

You can take your pulse in the wrist area below the base of your thumb. Use your index and third fingers of the opposite hand to locate your pulse and count the number of beats per minute.

Drink plenty of water. Take frequent breaks during exercise or other strenuous activities.

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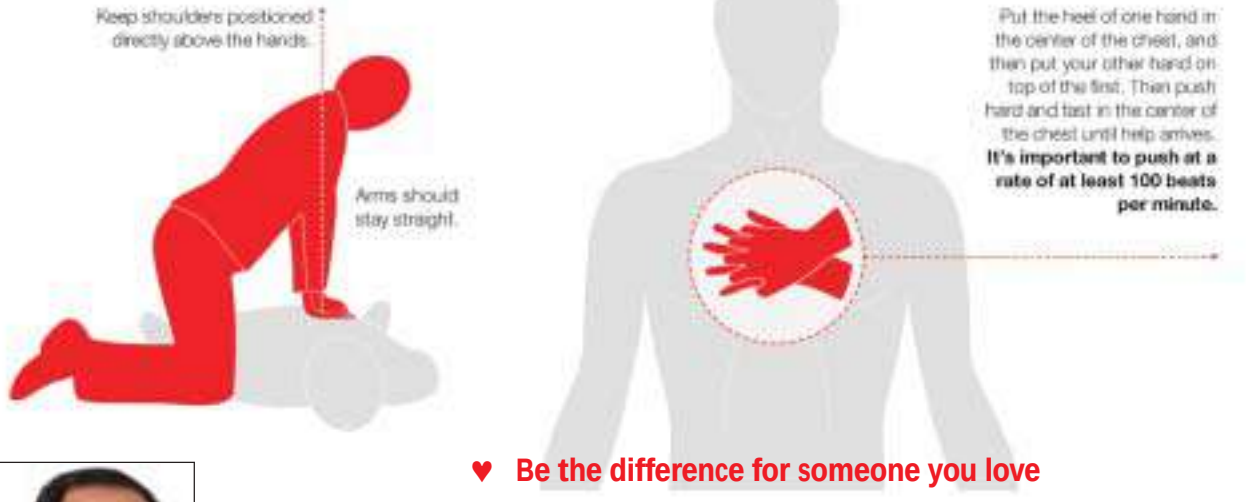

Dr. Jacob Abraham
MD, PDCC
HOD, Cardiac Anaesthesia,
Lisie Hospital

♥ Be the difference for someone you love

If you are called on to give CPR in an emergency, you will most likely be trying to save the life of someone you love: a child, a spouse, a parent or a friend who is in cardiac arrest.

♥ What is CARDIAC ARREST?

A sudden unexpected condition where heart stops beating.

It hence stops pumping blood to brain, lungs and other vital organs of body.

♥ How do I know if it is cardiac arrest?

The person is **UNCONCIOUS** and not responding to you.

Not breathing or breathing weirdly.

There is no pulse – but you don't always need to make sure of this

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♥ How does CPR help?

You do the job of the heart – manually attempt to squeeze the heart and pump blood and whatever oxygen is left in the body to rest of the organs.

♥ Why hands only?

Studies show most of the time we don't attempt CPR is because we don't want to '**kiss a breath**' into a person whom we may not know and is worried we are not doing it right.

Hands only CPR avoids these as it is extremely simple to do and only uses our hands and is just as effective for first few minutes!

Nobody is going to blame you for attempting this life saving procedure.

STEP 1

First call for help or ask someone to call an ambulance.

STEP2

- ♥ Lay then flat on back on firm surface
- ♥ Kneel by their side
- ♥ Lock fingers of both hands one over the other and place it in the centre of their chest
- ♥ Without bending your elbows push down **hard and fast** on their chest.
- ♥ How hard – chest should go down 5-6 cms – enough to squeeze the heart remember.
- ♥ How fast – As fast as you can about 120 times/min

How long – Until you are exhausted or patient regains consciousness or help arrives.

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CREDAI KOCHI

Heart Attack

Dr. Joby K Thomas
MD, DM,
Consultant Cardiologist
Carithas Hospital,
Thellakom, Kottyam

Prompt recognition of symptoms, and timely management using the optimal technology can help us reduce the burden of this new age scourge which is taking a big toll on humanity

As we all know heart attack is a big killer continues to be so despite advances in the treatment options and technology becoming more accessible and affordable. Public awareness about lifestyle modifications and seeking treatment on time can help reduce the mortality and morbidity associated with heart attacks. And this mortality and morbidity of heart attacks mainly affects young earning population and affects young families and society and nation as such. So it is important that we cardiologists try to educate public regarding heart attacks , its prevention and disease as such so that public can seek medical help timely and avert a potential catastrophe. That is the background of this article. Preventive measures had been discussed in this forum before and hence I am not going to elaborate on that here, instead I shall try to detail about the disease symptoms and available treatment options .

Who all can develop heart attack?

Potentially anyone!

But more commonly men than women, especially after 45 years.

Smokers ,sedentary people with less exercise , diabetic patients, people with high BP or cholesterol (despite all the social media controversy regarding cholesterol , it's still a major risk factor),or with family history of heart attacks are more more prone to develop heart attacks .

Is heart attack different from "blocks'?

Heart attacks develop in patients with blocks in coronary arteries (blood vessels supplying heart muscles). But very rarely heart attacks can develop even without blocks , but that is very rare and we need not discuss that in detail as it's very uncommon . And all blocks need not develop into heart attacks .

How does a block present ?

As we have seen all blocks may not cause heart attacks. A lot of them could be asymptomatic as they may be too small to produce a reduction in blood flow and hence symptoms . Sometimes patients may get used to a block developing over years and may be asymptomatic for long time till heart is significantly compromised.

Symptomatic blocks may present like

Effort related angina

Unstable angina (minor heart attacks)

NSTEMI (intermediate heart attacks)

STEMI (major heart attacks)

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Heart failure
Sudden cardiac death

What are the symptoms of blocks ?

Effort related angina mostly presents like central chest pain or heaviness occurring after a brisk walk or heavy exertion. Sometime it could be like a squeezing like sensation or burning in chest. Same symptoms may radiate to jaws , throat upper back or arms or sometimes appear alone in above mentioned areas.There could be another group , totally asymptomatic , or having shortness of breath on exertion which is taken as 'normal' for age. They can be diagnosed with a stress test . TMT is the commonly used stress test in our part of the world. But TMT can miss 25% of such blocks and report as negative (normal) despite blocks . Angiogram is the test to diagnose such blocks , but we don't do it on asymptomatic patients , that is the reason to emphasize on the importance of preventive lifestyle modifications .

Same symptoms occurring at rest is termed a heart attack. A discomfort lasting less than 30 minutes is defined as a minor or intermediate heart attack (depending on changes in ECG or blood tests). A major heart attack will have symptoms lasting more than 30 minutes. Occasionally patients may feel only extreme fatigue, profound unexplained sweating or shortness of breath alone without pain. All these symptoms warrant an emergency medical help.

When should one seek medical help ?

Patients with effort related symptoms can electively take an appointment and consult his doctor .

Anybody with symptoms occurring at rest (heart attack) should seek medical help urgently , and if available should go to hospital in an ambulance .

Who all need angioplasty or surgery ?

Patients with exertional symptoms, (angina or shortness of breath due to heart failure) or asymptomatic patients with positive TMT can undergo an elective coronary angiogram. If blocks are in the proximal part of major blood vessels (towards the origin of blood vessels) they will have to undergo angioplasty or bypass surgery depending on the type and number of blocks. If blocks are in small branches or distal part (towards the end) of a major blood vessel, blocks can be treated medically in such patients.

Patients with major heart attack needs to undergo angiography and subsequent angioplasty on an emergency basis , ideally within 90 minutes of reaching hospital. Major heart attack happens when a vessel is 100% blocked and every minute delay is killing heart muscle supplied by that blood vessel and causing permanent irreversible damage. A delay can cause heart pumping failure and can cause heart failure later on .

Patients with minor or intermediate heart attacks can wait for 24 to 48 hours before undergoing an angiogram and need subsequent angioplasty or bypass surgery depending on the nature , type and number of blocks.

Are the stents for life ?

New generation stents are have excellent long term patency , but still there can be around 2% stent failures. And patients with stents need to be on medications for life term to keep it open.

Do patients need medicines after angioplasty or surgery ?

Anybody developing a block has an inherent tendency , genetic and acquired, to develop blocks and they run a lifetime risk of developing blocks in same or other blood vessels and hence they will need lifetime medications to prevent further blocks and to maintain patency of stents and grafts .

What is new ?

FFR- It is test to assess the functional significance of a block. A positive FFR means a block is significant and needs angioplasty or a bypass grafting. It is commonly used in effort angina patients and asymptomatic patients with positive stress test .Heart attack patients don't usually need this test.

IVUS/OCT – they are like a camera looking inside the blood vessels and help us study the nature and significance of a block and to know how well is stent 'put' inside a blocked vessel. It is important because a 'well put' stent has a better long term patency .

Concluding a concerted preventive lifestyle modification, prompt recognition of symptoms, and timely management using the optimal technology can help us reduce the burden of this new age scourge which is taking a big toll on humanity ▪▪

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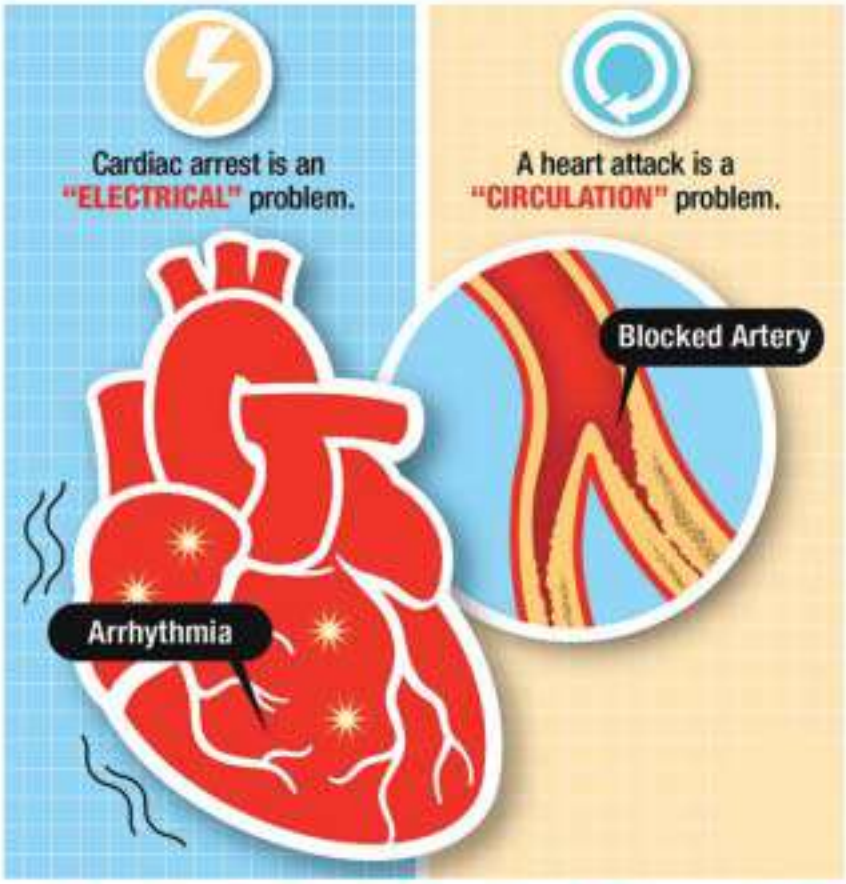

CARDIAC ARREST V/S HEART ATTACK

WHAT YOU NEED TO KNOW...

Dr Girish PV
MD DM AFESC FSCAI
Director Heart Failure Clinic and Transplant Consultant Interventional Cardiologist, Metromed International Cardiac Centre.

It is a common thing in practice to see patients, relatives and even very educated people making an error in distinguishing between Heart attack and Cardiac arrest and use these words interchangeably. Though one is related to the other as cause of the other essentially these are two different clinical syndromes.

Heart Attack or Myocardial infarction, the scientific synonym of the common man's lay term of attack or block is nothing but the formation of blood clot within the arteries (coronary) that supply the muscle of the heart.The heart is a muscular pump that pumps almost 5 litres a minute without a halt 24 hours a day and even more as one exercises. But when a person develops a block (plaque) inside the coronary arteries and due to associated lifestyle diseases like hypertension, diabetes, sedentary habits, addictions like smoking, a person builds up a cholesterol laden block within the arteries. The demand of blood supply through the narrowed arteries cannot be met for the oxygenation of heart muscles. This demand and supply mismatch produces a cardiac ischaemic pain and if stressed further can produce a rupture of the plaque (block) inside the coronary artery to produce a clot within and acutely obstructing the system. Result is total cut off of blood supply to that portion of the heart muscle supplied by the artery- a HEART ATTACK.. With severe pain in chest, arm, jaw, neck and even abdomen along with sweating, sometimes just a burning

With best compliments from

Torry Harris

Many cases of chronic heart failure with previous heart attacks have a high chance of cardiac arrest and sudden cardiac death when stressed due to rhythm disorders developing all of a sudden causing heart to vibrate and stop abruptly electrical silence Cardiac arrest

sensation patient feels fatigued and can even die suddenly. When Death happens due to a heart attack only we call it a CARDIAC ARREST otherwise, heart attack is a condition which gives you time to get an ecg and other assessments to diagnose, start medicines and allows doctors to decide the reopening strategy (revascularization) of the blocked vessel usually with an emergency Angioplasty (primary) or surgery as decided by the results of investigation like echo and angiogram.

In contradiction, CARDIAC ARREST is a sudden abrupt failure of the heart function, it stops beating and in turn leads to cessation of breathing and results in loss of consciousness unless attended urgently with resuscitation measures CPR massage of chest wall with compressions and assisting breath with a bag and mask or a defibrillator paddle often seen in public spaces like malls and stationsthe person does not revive. Heart attack is only one major cause of cardiac arrest .It may be due to other conditions like electrolyte disturbance rhythm disturbance of the heart slow or very fast needing an electric shock to revive in most cases. Common situation precipitating cardiac arrest are electrocutionblunt injury to chest high grade fever with heart involvement especially viral fever,drowning chronic kidney disease, fluid or blood around the heart .Intense exercise can cause cardiac arrest in hypertrophic thick hearts Cardiomyopathy cases.Many cases of chronic heart failure with previous heart attacks have a high chance of cardiac arrest and sudden cardiac death when stressed due to rhythm disorders developing all of a sudden causing heart to vibrate and stop abruptly electrical silence Cardiac arrest.

Our Heartfelt Thanks

Mr. C Gopalakrihshnan the former P R O of the Foundation joined us in November 2006 and was involved in all the projects of the Foundation until he formally left the Foundation in 2018 after 12 long years of sincere and diligent service to the Foundation. We in the Foundation fondly remember his dedication and commitment in all projects he handled. We wish him a happy and healthy retired life.

Sidestep salt

If the entire U.S. population reduced its average salt intake to just half a teaspoon a day, it would significantly cut the number of people who develop coronary heart disease every year, report researchers in the New England Journal of Medicine. The authors suggest that salt is one of the leading drivers of rising healthcare costs in the United States. Processed and restaurant-prepared foods tend to be especially high in salt. So think twice before filling up on your favorite fast-food fix. Consider using a salt substitute, such as Mr. Dash, if you have high blood pressure or heart failure.

"Family history of Coronary artery disease"

An actual Damocles sword or just another medical Bogeyman?

Dr. Jay B Pattom
MD-Medicine (PGI-Chd)
DM-Cardiology (PGI-Chd)
Consultant Interventional Cardiologist
RenaiMedicity, Kochi

As a 35 yr old man with an acute inferior wall myocardial infarction was being shifted out of the cardiac catheterization lab after an emergency primary angioplasty and three stents to alleviate three critical blocks in two of his coronary arteries, one was left pondering about what could possibly be the reasons for such critical triple vessel disease in a very young person. His family was equally concerned about how a young man with no previous traditional risk factors like Diabetes, Hypertension, Dyslipidemia, smoking, obesity could have 2 heart attacks in the past 3 years with triple vessel disease. On further enquiry it was evident that he had "a strong family history of premature Coronary artery disease"

The concept of "Family history of premature Coronary artery disease" was first added as a conventional risk factor for developing Cardiovascular disease along with risk factors like age,smoking,diabetes, Dyslipidemia,low HDL in the ATP set of guidelines, which was basically a tool to guide control of deranged cholesterol and LDL levels with diet,lifestyle changes, statins and other drugs -thereby reducing the 10 year risk of developing Cardiovascular disease. These were initially validated by various population studies conducted in western populations. However various multiethnic and Asian population studies have more or less validated similar findings in our populations as well. So the six pertinent questions that need to be addressed are as follows…

Q1.what does one mean by "family history of premature Coronary artery disease"?
Q 2.How does one evaluate or ascertain this risk?
Q 3. What is the additional risk incurred by having this?
Q 4.Does this have a prognostic effect?
Q 5.What are the reasons for it?

Q 6.And finally what can be done to reduce ones risk?

To address the first query as to what exactly entails a family history of premature CAD- Many times patients quote instances of CAD in cousins, uncles, aunts (second/third degree relatives) as evidence of strong family history. But what is clinically validated by large population cohort studies isCAD in First degree relatives (Father,mother,brother,or sister) only. And by premature meaning in a male less than 55 years and female less than 65 years of age. On the contrary many are unaware of what constitutes CAD. **So the question that one needs to ask is "if any first degree relative,male under the age of 55 years or female under age of 65 years has history of angina, heart attack, angioplasty or Coronary artery byepass surgery."** If yes then there's a definite risk.

So how and why does a family history of premature CAD portend a risk? Our body is made up millions of cells, withabout 25,000 different genes.Genes determine how we look and how our bodies work, and we inherit them from our parents. Genes can pass on high risk conditions such as high blood pressure and high cholesterol levels to name a few. These conditions can also increase your risk of developing heart diseases. There's no single gene that increases your risk - it's likely that several genes play a part.

Are inherited conditions same as family history?

Inherited conditions are caused by a fault (or mutation) in one or more of your genes. The most common inherited conditions are cardiomyopathies (heart muscle diseases), channelopathies(inherited life threatening arrhythmias), and familial hypercholesterolemia (high cholesterol levels).**Family history is more complex as it can be the combination of shared genes and shared environments passed down from one generation to the next, that increase the risk of developing a disease rather than a single faulty gene.**

The **relative risk for CAD in first-degree relativesof affected persons ranges from 2 to 12 times** that of thegeneral population. Risk increases with the number of primaryrelatives affected and at younger ages of onset. Various population based studies have looked at angiographic Coronary artery disease patients and then retrospectively enquired about family history of premature CAD and found prevalence as high as 30% for western populations and 15% for Asians. Coronary artery calcium scoring using CT Coronary angiogram has been used by few studies to show increased CAC(Coronary artery calcium) scores in asymptomatic individuals or advanced coronary atherosclerosisfor one's age and gender. The effect of a reported family history ofpremature CHD was similar across all ethnic groups. Therelationship existed with both a sibling history and a parentalhistory of premature CHD.

"You can't change your genes,but you can change your lifestyle and in turn reduce your risk factors. Family history doesn't have to be your destiny"

The only heartening thing is that the long term prognosis and outcomes seem better for such people who develop a coronary event as they are younger ,have less of left main disease or triple vessel disease, are more likely to be compliant to medical therapy ,adopt healthy lifestyles more diligently, and hence have better long term survival as compared to patients with traditional risk factors.

So finally what's the solution asone really can't change ones family history can they? Take care to determine and control the modifiable risk factors which additionally increase your risk of developing cardiovascular diseases.These includenot smoking or quitting, being physically active, eating a healthy balanced diet,keeping to a healthy weight and body shape. Consult a doctor to check your blood sugars, lipid profile, and Blood pressures regularly and control with adequate lifestyle changes and medications as prescribed.

A noninvasive test like a Treadmill test (TMT) or CT Coronary angiogram may be required for early disease detection.

To conclude "**You can't change your genes,but you can change your lifestyle and in turn reduce your risk factors. Family history doesn't have to be your destiny"**

What's the best way to measure body fat?

Dr. Iwin Varghese
MRCGP, GP
Principal (Family Physician)
Ashford Medical Partnership
Ashford, Kent.

Being overweight or obese increases your risk of many health problems. But it's not just the amount of fat: where it is matters too.

Fat around the abdomen (belly) is linked to even higher risks of diabetes, heart and circulatory disease and cancer.

So, how exactly do you measure body fat? There are numerous methods, some better than others.

1. Weight

This is a measure of your overall body mass – including bones, blood, organs and fat. For it to be accurate, you need reliable scales.

If you're tracking your weight over time, weigh yourself at the same time of day, under the same conditions and on the same of scales. In the morning, after emptying your bladder, is a good time.

The plus side:
Quick and easy with minimal cost.

The down side:
It only measures total body weight – it doesn't take into account changes in body fat or muscle, and it doesn't tell you where the fat is. For body fat, you need to use other body composition methods such as skinfolds or smart scales.

2. Body Mass Index (BMI)

BMI is used to work out if you are a healthy weight. It is calculated by taking a person's weight in kg and dividing it by their height squared. The higher the figure, the more overweight you are and the greater your health risks.

The plus side:

Quick and easy and with minimal cost. And it matters: for most adults, there is a

clear correlation between higher BMI and negative health consequences. As with any weight measure, you need reliable scales, plus you'll need a tape measure for height.

The down side:

It can't differentiate between fat and lean muscle weight. It isn't very accurate for people who are elderly, pregnant, or very muscular.

3. Waist circumference

This is a measurement of your waist to check if you are carrying too much fat around your abdomen (belly). You can have a healthy BMI and still have excess abdominal fat, meaning you are still at risk of heart disease, type 2 diabetes and stroke.

The plus side:
All you need is a tape measure. It's a good way to measure fat round your abdomen.

When measured properly, its accuracy is typically within 5 per cent of the body fat value measured using underwater weighing, which is one of the most accurate ways of measuring body composition.

The down side:

These are measurements of excess body fat, not a precise measurement of body composition. For an accurate reading you need to know where to place the measuring tape.

Wrap a tape measure around the waist midpoint between the bottom of your ribs and top of your hips. For most people this is just above the belly button.

4. Waist: hip ratio

This is the ratio of waist circumference to the hip circumference. The higher the ratio, the more fat is stored around the waist or abdomen – in other words, an "apple shape". This shape poses a greater health risk than fat stored elsewhere in the body (a "pear shape").

The plus side:
All you need is a tape measure and a simple calculation: waist measurement divided by hip measurement. You can use any units as it is only the ratio that is important. High risk is defined as a waist-hip ratio above 0.90 for males and above 0.85 for females.

The down side:
You need to know where to place the measuring tape – measure the circumference of your hips at the widest point of your buttocks. For your waist circumference you need to measure around the waist, midway between the bottom of your ribs and top of your hips.

5. Weight to height ratio - the "string challenge"

This is another way of looking at how much abdominal (belly) fat you have. Measure your height with a piece of string, then fold the length of string that matches your height in half and check to see if it fits around your waist. If it doesn't, it means you are at increased risk of type 2 diabetes and heart and circulatory disease.

The plus side:
You only need a piece of string (a tape measure will also work). It works for any race, age or gender.

6. Bio impedance – "smart scales"

Smart scales don't just give your weight, but also a host of body composition stats including your body fat percentage. They can look like normal scales with foot plates, or have additional hand plates.

They work by sending tiny electrical impulses through the body and measuring how quickly they return. This works because the current flows more easily through the parts of the body that are mostly made up of water, such as muscle and blood, than through fat or bone.

The plus side:
Simple and quick. The measurement can be taken as easily as standing on scales. The percentage of body fat is given instantly. Some will also connect to a fitness app so you can track your progress.

The down side:
The reliability of the results can vary – if you're dehydrated then the amount of body fat will be overestimated. You also need to take the measurements in similar conditions to get reliable and accurate results. They are not suitable for people with pacemakers. Some are relatively inexpensive but some models can be pricey.

Epidemiology of Heart Failure

Dr Jaideep C Menon
Consultant Cardiologist
Amrita Institute of Medical Sciences, Kochi

Background: Heart failure (HF) has been singled out as an epidemic and is a staggering clinical and public health problem, associated with significant mortality, morbidity, and healthcare expenditures, particularly among those aged e”65 years. The case mix of HF is changing over time with a growing proportion of cases presenting with preserved ejection fraction for which there is no specific treatment. Despite progress in reducing HF-related mortality, hospitalizations for HF remain frequent and rates of readmissions continue to rise. To prevent hospitalizations, a comprehensive characterization of predictors of readmission in patients with HF is imperative and must integrate the impact of multi-morbidity related to coexisting conditions. New models of patient-centred care that draw on community-based resources to support HF patients with complex coexisting conditions are needed to decrease hospitalizations.

Heart failure (HF) is a major public health problem, with a prevalence of more than 5.8 million in the United States and more than 23 million worldwide. In 1997, HF was singled out as an emerging epidemic. An epidemic can reflect increased incidence, increased survival leading

About 30% of Intensive care facility admissions in any cardiac care hospital would be related to treatment of heart failure. Conservative estimates put the prevalence of heart failure

to increased prevalence, or both factors combined. Delineating the respective responsibility of each of these factors is essential to understand the determinants of the HF epidemic. Progress in the primary prevention of HF would lead to decreasing incidence of the disease while improvement in medical care would result in improved survival, in turn increasing the prevalence of HF. Both incidence and survival in turn play a major role in the genesis of the burden of hospitalization among patients living with HF.

Definition-In the American Heart Association (AHA)/American College of Cardiology guidelines, HF is defined as "a complex clinical syndrome that can result from any structural or functional cardiac disorder that impairs the ability of the ventricle to fill or eject blood." The guidelines underscore that "it is largely a clinical diagnosis that is based on a careful history and physical examination." As HF is a syndrome and not a disease, its diagnosis relies on a clinical examination and can be challenging. To assess the burden of HF in populations and study its epidemiology, standardized criteria that can be used on a large scale for ascertainment from medical records are needed.

Approximately 1–2% of the adult population in developed countries has HF, with the prevalence rising to e"10% among persons 70 years of age or older. There are many causes of HF, and these vary in different parts of the world. At least half of patients with HF have a low EF (i.e. HF-REF). HF-REF is the best understood type of HF in terms of pathophysiology and treatment, and is the focus of these guidelines. Coronary artery disease (CAD) is the cause of approximately two-thirds of cases of systolic HF, although hypertension and diabetes are probable contributing factors in many cases. There are many other causes of systolic HF, which include previous viral infection (recognized or unrecognized), alcohol abuse, chemotherapy (e.g. doxorubicin or trastuzumab), and 'idiopathic' dilated cardiomyopathy (although the cause is thought to be unknown, some of these cases may have a genetic basis).

About 30% of Intensive care facility admissions in any cardiac care hospital would be related to treatment of heart failure. Conservative estimates put the prevalence of heart failure as between 1.3 to 4.6 million, with an annual incidence of 491,600-1.8 million. Extrapolating from western data there would be about 28lakh of heart failure patients with an estimated 280,000 admissions with heart failure in a year in India.

Before 1990, the modern era of treatment, 60–70% of patients died within 5 years of diagnosis, and admission to hospital with worsening symptoms was frequent and recurrent, leading to an epidemic of hospitalization for HF in many countries. Effective treatment has improved both of these outcomes, with a relative reduction in hospitalization in recent years of 30–50% and smaller but significant decreases in mortality.

EPIDEMIOLOGY

Transitions

India's economic development, industrialization and urbanization have been accompanied by transitions that contribute to the increase in the overall risk of HF. First, the population of India is ageing due to recent successes against communicable diseases such that the number of people >60 years old will increase from 62 million in 1996 to 113 million in 2016.8 HF is predominantly a disease of the elderly, as the lifetime risk for HF increases with age, so the burden of HF is likely to increase with the ageing population.

Burden of CVD and risk factors

CVD is currently the leading cause of death in India and its prevalence is projected to rise. In 2000, there were an estimated 30 million people with coronary heart disease (CHD) alone in India, or a nearly 3% prevalence. The annual incidence of HF for patients with CHD ranges from 0.4% to 2.3% per year, suggesting that 120 000–690 000 Indians could develop symptomatic HF due to CHD every year, assuming none has HF at baseline and the at-risk population does not diminish. After 5 years, the total number of HF patients accrued could range from 600 000 to 3.5 million; with an estimated 50% mortality at 5 years, the prevalence of HF due to CHD alone could be estimated to range from 300 000 to 1.75 million. Nevertheless, as the prevalence of patients with CHD rises, so too will the prevalence of patients with HF. The prevalence of other risk factors of HF is also rising in India. In addition to the ageing population described above, the prevalence of hypertension is projected to increase from 118 million (2000) to 214 million (2025). If the annual incidence of HF in patients with a systolic blood pressure (SBP) of 144–154 mmHg is 0.1% to 0.6%, as demonstrated in the Hypertension Optimal Treatment (HOT) and United Kingdom Prospective Diabetes Study (UKPDS) trials, respectively, then the number of new HF cases due to hypertension may increase from 118 000–708 000 per year in 2000 to 214 000–1.3 million per year in 2025, conservatively assuming that the bulk of patients with hypertension in India have a SBP in the 144–154 mmHg range. After 5 years of HF incidence based upon year 2000 estimates for hypertension, the total number of HF patients accrued could range from 590 000 to 3.5 million; with an estimated 50% mortality at 5 years, the prevalence of HF due to hypertension alone could be estimated to range from 295 000 to 1.8 million. However, this possibly represents an underestimate, due to conservative estimates of the prevalence of hypertension, as well as the linear relationship between risk of

Focus on the middle

That is, focus on *your* middle. Research in the Journal of the American College of Cardiologyhas linked excess belly fat to higher blood pressure and unhealthy blood lipid levels. If you're carrying extra fat around your middle, it's time to slim down. Eating fewer calories and exercising more can make a big difference.

Let the music move you

Whether you prefer a rumba beat or two-step tune, dancing makes for a great heart-healthy workout. Like other forms of aerobic exercise, it raises your heart rate and gets your lungs pumping. It also burns up to 200 calories or more per hour, reports the Mayo Clinic.

Stretch it out

Yoga can help you improve your balance, flexibility, and strength. It can help you relax and relieve stress. As if that's not enough, yoga also has potential to improve heart health. According to research published in the Journal of Evidence-Based Complementary & Alternative MedicineTrusted Source, yoga demonstrates potential to reduce your risk of cardiovascular disease.

HF and blood pressure that occurs for values even <140 mmHg. The annual incidence of HF due to obesity (body mass index [BMI] >30 kg/m2) has been estimated to increase by 0.3% in women and 0.5% in men, in the Framingham Heart Study, after adjustment for age, hypertension, left ventricular hypertrophy, myocardial infarction, valve disease, diabetes and cholesterol. Few studies in India have used a BMI threshold of 30 kg/m2, which makes it difficult to accurately estimate the prevalence of obesity. Reddy *et al*. estimated the prevalence of obesity (BMI >30 kg/m2) in 10 970 participants from urban Delhi and rural Haryana in 2002 to be 6.8%. Using these estimates as a benchmark, a 5% prevalence of obesity (BMI >30 kg/m2) in India would lead to an estimated 180 000–300 000 cases of HF annually. After 5 years of the incidence of HF based upon 5% obesity prevalence estimates, the total number of HF patients accrued could range from 900 000–1.5 million; with an estimated 50% mortality at 5 years, the prevalence of HF due to obesity alone could be estimated to range from 450 000 to 750 000.

Similarly, the prevalence of diabetes in India is projected to increase from 32 million (2000) to 70 million (2025). The incidence of HF has been demonstrated to increase from 2.3 per 1000 person-years for a HbA1c <6% to 11.9 per 1000 person years for a HbA1c >11.9%. Taking the estimate of HF incidence based upon optimal glucose control, the annual incidence of HF due to diabetes may increase from 73 600 (2000) to 161 000 (2025). After 5 years of HF incidence based upon the diabetes estimates for the year 2000, the total number of HF patients accrued could be 368 000; with an estimated 50% mortality at5 years, the prevalence of HF due to diabetes alone could be estimated at 184 000. However, this is likely to be an underestimate, due to conservative estimates of HbA1c.

An App a day could keep the doctor away

TECHNOLOGY IN THE FUTURE OF CARDIOLOGY

Dr. Salman Salahuddin,
MD, DM, MRCP(UK),
Cardiologist at Malabar Institute of Medical Science, Calicut,

30 year old Smita decides that it's time to get fit and get into shape, and she decides to resume her morning jogging routine after a long time. She takes her smartwatch and proceeds for her morning jog around the park. Ten minutes into her jog, an abnormal heartbeat is detected by her smartwatch which is transmitted to her physician instantaneously. Her digital assistant in her smartphone subsequently books an appointment for her with her physician, who then suggests an echocardiogram and a wearable cardiac monitoring device to monitor her cardiac rhythm. Subsequent evaluation revealed that she had valvular heart disease affecting the mitral valve with an intermittent rhythm disorder called atrial fibrillation. She is then initiated on appropriate treatment, and has been doing well thereafter.

This is not science fiction and is in fact the most basic application of digital healthcare delivery which is possible today. More than ever, people today are connected by mobile technologies. Nearly 80% of the population in India own a mobile phone, and nearly half of them have smartphones. The ever-increasing computing power and ability of smartphone technologies, wearable sensors and point-of-care diagnostic devices could transform cardiology and health care, potentially leading to better diagnosis, treatment and prevention of heart disease. The future of cardiovascular care will be transformed by advances in artificial intelligence, digital health technology and mobile devices as a means to prevent and treat heart disease. Artificial intelligence has clear potential to enhance every stage of patient care — from research and discovery, to diagnosis, to selection of therapy.

Let's have a look at a few methods in which modern day technology can transform health care services in our country.

mHEALTH

Mobile health, or mHealth, is the subset of digital health that focuses on the use of mobile and wearable devices and software applications. The growing recognition that "health" takes place outside of the hospital and clinic, plus recent advances in mobile and wearable devices, have propelled the field of mHealth. Cardiovascular disease and prevention are major opportunities for mHealth, as mobile devices can monitor key physiological signals (e.g., physical activity, heart rate and rhythm) for promoting healthy behaviors, detecting disease, and aid in ongoing care.

There is a plethora of mobile healthcare apps and platforms which help the public monitor their day to day health needs, and also to connect with their healthcare professional. Apps like *PatientConnect* and *HeartFailureStorylines* have been shown to reduce readmissions among heart failure patients. *Dhadkan* is an Indian app developed by IIT Roorkee in collaboration with AIIMS, New Delhi, that collects data on blood pressure, heart rate and weight and transmits it to a designated caregiver. Personal wearable technology like the Kardiamobile by AliveCor, and the Apple Watch instantly captures one's ECG onto his/her mobile which can be transmitted or saved for personal use. A recent research commissioned by Philips in 15 countries, in which India was included, found that about two-thirds (67%) of Indians feel comfortable or neutral about seeking medical advice from their doctor through a health application on their phone, suggesting a high willingness and openness to further adopt telehealth and unlock its benefits.

Apart from the Fitbits of today, there are several pocket devices (Skeeper, MOCA heart device) and even patches (Vital Connect's Patch) which can monitor more than the usual pulse rate- these are capable of measuring complex variables like heart rate variability , respiratory rate, blood pressure, stroke volume, etc.

ENHANCED HEALTHCARE DELIVERY

An important way how technology revolutionizes healthcare industry is by improving healthcare delivery for patients. The majority of India's population resides in the rural sector. Distances to regional healthcare centers can cause a significant problem to this set of population. Here, EMS (Emergency Medical Service) professionals can incorporate mobile technology to input data that is sent straight to the receiving hospital before the patient's arrival so that patients are attended immediately, minimizing the traditional paperwork tasks.

Imagine this scenario - a 55 year old fisherman, staying 50 kms from the main city, gets a sudden chest pain while having dinner. He alerts the emergency medical services of a nearby hospital- a mobile ICU reaches his home in 5 to 10 minutes. His general condition is assessed in the mobile ambulance- his vital statistics, oxygen saturation and ECG are obtained and these are transmitted immediately to the cardiologist in the hospital in the main city, who diagnoses a major heart attack. The doctor advises to start lifesaving medications and

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administer an injection called thrombolytic which can potentially save his life before he reaches the main hospital. The injection is given- there is good relief of pain - the patient reaches the main hospital in an hour in a stable condition. He subsequently undergoes an angioplasty for a residual block and is back home after a few days in good shape. Timely delivery of healthcare especially in heart attacks and strokes, makes a huge difference in saving lives.

TELEMEDICINE

Digital communication between patients and physicians or clinical staff can revolutionize healthcare delivery in rural areas. Patients visiting a telemedicine clinic are brought face-to-face with medical experts across India through video linking that allows patients and doctors to see one another.. Using telemedicine, the finest doctors in India can effectively offer their services to patients living even thousands of kilometres away.

A patient from a rural health center consulting a specialist in the city

Simple transmission of clinical data like ECGs from a rural centre to a cardiologist in a tertiary centre can help triage patients needy for higher care. A recent research estimates that the implementation of telemedicine technology could save India $4 billion to $5 billion every year and replace half of in-person outpatient consultations in the country.

3D PRINTING

3D (three-dimensional) printing is a compelling new technology that has the potential to revolutionize cardiac interventions. In the field of structural heart disease, this rapidly evolving technology can make a powerful impact. In patients with complex congenital heart disease (CHD), this allows precise understanding of the patient's anatomy and the resultant physiology, enabling more informed decisions and precise pre-surgical planning.

3-D printed anatomical models created from a patient's computed tomography (CT), magnetic resonance imaging (MRI) or 3-D ultrasound imaging datasets can be used for procedural planning and hands-on clinical education. These

Technology is all set to have an unprecedented impact on healthcare in terms of building the foundation blocks towards a connected home and healthcare ecosystem

models may be used for planning surgery also show in deciding the correct size of device for or structural heart interventions like TAVI (Transcatheter Aortic Valve Intervention). Utilization of this technology is growing, and, with time, the potential benefits of 3D printing will evolve drastically.

Apart from this, 3D printing also has its utility in making prosthetic implants. Researchers in Chennai have even made an artificial 3D implantable ear which has the ability to grow normally in rabbits. Orthopedic titanium 3D printed implants have been revolutionized options for restoring mobility to those in need, providing accurate customized sizing.

Technology is all set to have an unprecedented impact on healthcare in terms of building the foundation blocks towards a connected home and healthcare ecosystem. Going back to Smita- she has decided to buy an Apple watch for her 70 year old father too, to keep an eye on him and his heart- reinforcing her faith in technology.

Dr. Shaji Palangadan
Consultant – Cardio Thoracic & Vascular Surgery
Kerala Institute of Medical Science, (KIMS), Trivandrum

Newer Developments in Cardiac Surgery

The dynamic speciality of Cardiac surgery is relatively new in the field of Medicine. The first open heart surgery was done just 65 years back after the invention of heart lung machine in 1953 by Dr John Gibbon. Rapid advancement in the field is happening with gain in knowledge, introduction of technology and procurement of skills. Dramatic advances is expected in the near future which will make the cardiologist and cardiac surgeon work as a team developing patient friendly, less risky and less morbid procedures focusing on early recovery with good cosmetic appeal.

Ischemic Heart Disease

Primary culprit vessel angioplasty is the treatment for acute heart attack. Only very rarely is cardiac surgery indicated in the acute scenario, for example, when complications of heart attack occur like sudden severe valve leak or severe muscle damage causing holes between the chambers of the heart or when the heart muscle ruptures externally into the pericardial cavity. In the future, effective use of devices may help to tackle these complications without resorting to cardiac surgery.

In nonacute cases, there are circumstances where the interventional cardiologist and cardiac surgeon have difference of opinion regarding best line of management. Evolution of more scientific evidence will help to focus on best practices, reducing practice variation and unnecessary or harmful procedures.

Heart teams have evolved which will work in unison to combine interventional and less invasive surgeries and these hybrid procedures can be increasingly applied for coronary revascularisation, with minimally invasive or robotic surgery for left sided vessels and angioplasty for right sided blocks. A “hybrid room” where the catheterisation lab and operating room is combined, helps to perform both procedures in one sitting..

Valvular Heart Disease

Nonsurgical valve replacement procedures via catheters in cathlab are on the rise. The candidates for such procedures initially werethe frail and elderly patients with multiple comorbidities. The future will see more of these devices being used in lower risk and younger patients. The transcatheter valve replacement procedure which was started for aortic valveis now being expanded to cater to other valves also. Once a transcatheter valve fails that problem also can be tackled without surgery by introducing another valve inside the first valve,called a “valve-in-valve” procedure.

Tissue valve usage will be on the rise making mechanical valves obsolete. Tissue valve durability is being improved with better tissue preparation and preservation techniques.The future may bring the ‘ideal’ custom made bioengineered valves from patients own stem cells which will reduce the need for mechanical valves that require obligate lifelong blood thinners (anticoagulants) which need constant monitoring and carries risk of bleeding.

Cardiac Transplantation and Mechanical Circulatory Support

With advances in organ preservation, transport, better immunosuppression, reduction of infections and monitoring for rejection without biopsy from heart, the results of heart transplant are getting better day by day. Currently the upper limit of storage time of heart (time elapsed when heart is arrested in donor till it starts getting supply from the recipient –‘ cold storage time’ is around 5 hrs. Techniques and technologies to harvest the heart and then cannulate and make it beat again by a sterile device will allow transport to distant places. The organ is then rearrested again in the recipient hospital and transplanted

Patients with advanced heart failure who are functionally limited with symptoms at rest or minimal exertion, who require medications as continuous infusion to maintain blood pressure and patients awaiting heart transplant are candidates for Mechanical Circulatory Support (MCS). The current mechanical circulatory support device systems are more efficient, less bulky and more advanced with low complications. These devices can be used as bridge to transplant till suitable donor hearts are available or even as destination therapy. Short term and Long term devices are available. Temporary support is used to support patients through a high risk procedure till recovery or to provide time to assess prognosis and guide definitive treatment. Long term support devices support either one ventricle (Left Ventricular Assist Device – LVAD) or both ventricles (Biventricular Assist Devices – Bi VAD).The future focus of MCS will be to reduce infection, decrease clotting and bleeding complications, reduce the size of the devices and early implantation before the onset of organ failure.

Regenerative medicine in cardiovascular surgery holds great promise. The goal is to regenerate the myocardium with stem cells which can change the current reliance on cardiac transplantation and MCS devices.

Minimal Access Surgery

Minimally Invasive Cardiac Surgery (MICS) or Keyhole

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Cardiac surgery is performed through a small incision, often using specialised surgical instruments. The surgery is performed between the ribs without need to cut the breast bone (sternum). The potential benefits include less blood loss, lower infection rates, reduced pain and trauma, faster recovery, shorter hospital time and quicker return to normal activities with smaller less noticeable scars. In robot-assisted heart surgery, the surgeon works from a remote console with magnified high definition 3 D view on a video monitor and the surgeon's movements are translated precisely to the robotic arms at the operating table which moves similar to human wrist. A second surgeon and the surgical team assist at the operating table, changing surgical instruments attached to robotic arms. MICS holds great promise and in future about 80% of cardiac surgeries will be done via MICS

Conclusion

The newer developments in cardiac surgery points to bright future. The heart team has been a patient-focused advance that allows the expertise of all the relevant cardiovascular specialists to consult and recommend the best evidence-based treatment plan for each patient. These newer strategies, albeit a bit more expensive provide value, extend life and relieve human suffering.

Laugh out loud

Don't just LOL in emails or Facebook posts. Laugh out loud in your daily life. Whether you like watching funny movies or cracking jokes with your friends, laughter may be good for your heart. According to the AHA, research suggests laughing can lower stress hormones, decrease inflammation in your arteries, and raise your levels of high-density lipoprotein (HLD), also known as "good cholesterol."

Go fish

Eating a diet rich in omega-3 fatty acids can also help ward off heart disease. Many fish, such as salmon, tuna, sardines, and herring, are rich sources of omega-3 fatty acids. Try to eat fish at least twice a week, suggests the AHA. If you're concerned about mercury or other contaminants in fish, you may be happy to learn that its heart-healthy benefits tend to outweigh the risks for most people.

Move it, move it, move it

No matter how much you weigh, sitting for long periods of time could shorten your lifespan, warn researchers in the Archives of Internal Medicine and the American Heart AssociationTrusted Source. Couch potato and desk jockey lifestyles seem to have an unhealthy effect on blood fats and blood sugar. If you work at a desk, remember to take regular breaks to move around. Go for a stroll on your lunch break, and enjoy regular exercise in your leisure time.

Be a kid

Fitness doesn't have to be boring. Let your inner child take the lead by enjoying an evening of roller skating, bowling, or laser tag. You can have fun while burning calories and giving your heart a workout.

Take the scenic route home

Put down your cell phone, forget about the driver who cut you off, and enjoy your ride. Eliminating stress while driving can help lower your blood pressure and stress levels. That's something your cardiovascular system will appreciate.

Enhanced External Counter Pulsation (EECP) Therapy

Facts & Myths

Dr. Anish P G
MD (General Medicine), DM (Cardiology)
Assistant Professor in Cardiology
MOSC Medical College Hospital,
Kolencherry, Ernakulam, Kerala

The rising prevalence of symptomatic ischemic heart disease poses several challenges in the management of the varying spectrum of patients. The spectrum of symptomatic patients varies from those who are treatment-naïve to those who remain symptomatic after optimal revascularization to those who refuse to undergo revascularization. Now a days, patient preference plays a key part in deciding the optimum mode of treatment in any clinical scenario. The standard of care for the treatment of symptomatic ischemic heart disease include medical therapy and revascularization. There are nonpharmacological treatment approaches like EECP, spinal cord stimulation, myocardial laser revascularization, gene therapy etc. These approaches are generally considered for patients who have refractory ischemic symptoms after failed medical therapy and revascularization.

What is EECP therapy?

External counter pulsation therapy was

developed on the hemodynamic principle of diastolic augmentation of blood pressure in a manner similar to intra-aortic balloon counter pulsation and has evolved in to an alternative non-invasive tool for the management of patents with refractory angina.

EECP therapy consists of three sets of pneumatic cuffs attached to each of the patient's legs at the calf and lower and upper thigh. The patient's cardiac rhythm is monitored and the sequential inflation and deflation of the cuffs are electronically triggered using a computer in relation to specific time points in cardiac cycle. The adjustments on the timing of inflation and deflation provides optimal blood movement on a finger plethysmogram waveform. The inflation is timed with the R wave on the electrocardiogram. It produces a retrograde flow of blood in the aorta, resulting in a diastolic augmentation of blood flow and also an increase in venous return. These hemodynamic changes lead to an improved coronary perfusion pressure during diastole. The cuffs are deflated just before the onset of systole resulting in reduction in systolic vascular resistance and decreased cardiac afterload.

EECP therapy involves 35 one-hour sessions, 5 days a week over 7 weeks. Two sessions can be done in a day if the patient desires so and is able to tolerate. The course is extended if the patient do not start to develop improvement in the symptom status until late in the usual treatment course. Extension of duration of therapy is determined in a case by case basis by the individual treatment goals such as reduction in symptom frequency or intensity. Repeat therapy may be needed in some patients.

Which group of patients benefit from EECP therapy?

Patients with debilitating angina and chronic heart failure who are poor candidates for revascularization procedures and have suboptimal results from other therapies. The United States Food and Drug Administration (FDA) has approved EECP (Class IIb) for the management of refractory angina and heart failure. It has also been tried in patients with hypertension and acute coronary syndrome.

The noncardiac conditions where it has been tried are restless leg syndrome, retinal artery occlusion, erectile dysfunction, hepatorenal syndrome and syndrome X, even though the use of it in these conditions is not approved.

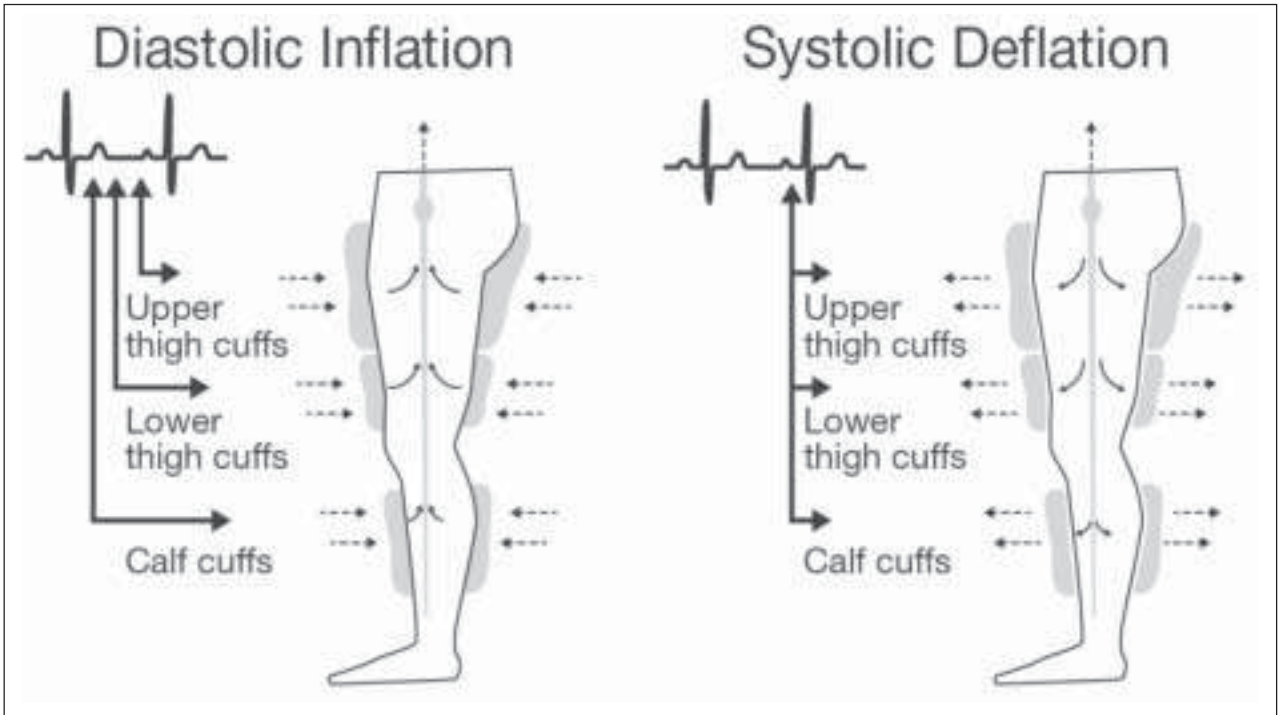


Figure 1. The timing of inflation and deflation of cuffs in EECP

Table 1. Contraindications for EECP

Contraindications for EECP	
Any surgical intervention within 6 weeks	Deep vein thrombophlebitis
Cardiac catheterization within 1–2 weeks	Severe hypertension (≥180/ 110 mm of Hg)
Uncontrolled arrhythmia or controlled arrhythmias that could interfere with equipment triggering	The presence of abdominal aortic aneurysm, local infection, vasculitis of the extremities, a burn, open wound, or bone fracture on any limb subjected to ECP treatment
Dual chamber pacemakers with atrial pacing may interfere with inflation timing sequence	Patients undergoing major anticoagulation therapy with prothrombin time >1.5
Aortic insufficiency	Heart rates <35 or >125 beats/min
Severe pulmonary disease	Bleeding disorders
Limiting peripheral vascular disease involving the iliofemoral arteries	Pregnant women and women of childbearing age who do not have a negative pregnancy test

What are the beneficial effects of this procedure?

The observed beneficial effects include reduced frequency of angina and use of nitroglycerin, improved exercise tolerance and quality of life, decreased myocardial oxygen demand, increased venous return and cardiac output, improved endothelial function, prolonged time to exercise-induced ST depression on 12-lead electrocardiogram and improvement or resolution of myocardial perfusion defects. Side effects are equipment-related, mostly leg and back pain, skin abrasion, bruising, blistering, edema, and paresthesias.

Mechanisms of benefit

Several mechanisms have been proposed to explain the therapeutic effects of EECP. They are 1) improvement in endothelial function, 2) promotion of angiogenesis and new collaterals, 3) reduction in atherosclerotic burden, 4) improvement in ventricular function, and 5) peripheral training effects analogous to that of exercise.

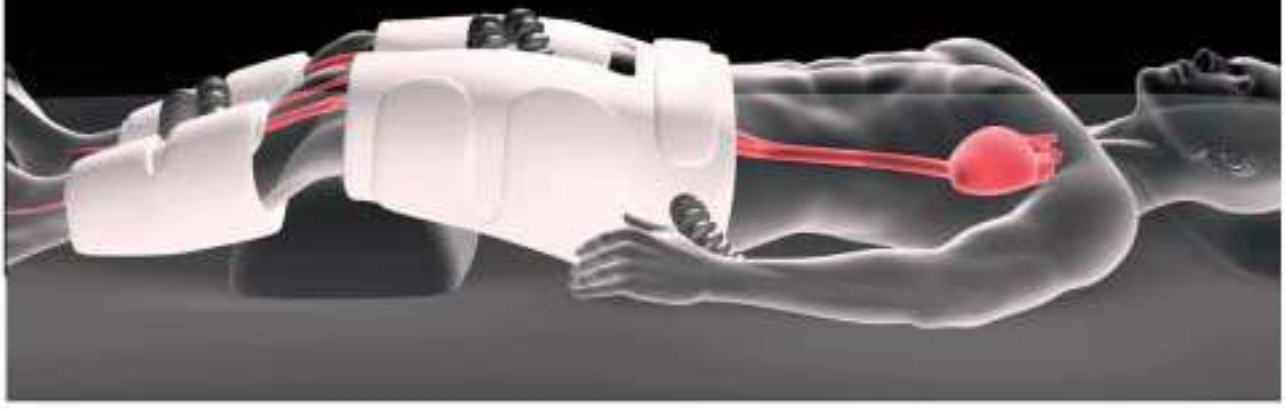
Endothelium plays an integral part in the vascular homoeostasis. Endothelial dysfunction leads to imbalance in the vasodilator and vasoconstrictor stimuli on the vasculature with strong adverse consequences in the coronary blood flow. EECP increases the shear stress on the vessel wall which leads to increase in the release of endothelial nitric oxide resulting in vasodilatation and improved coronary blood flow. Oxidative stress plays a key role in the pathogenesis of vascular atherosclerosis. EECP is believed to reduce the degree of oxidative stress by the reduction in the circulating levels of proinflammatory cytokines like TNF alpha, monocyte chemoattractant protein – 1 and hs-CRP.

Shear stress is a known stimulus for coronary collateral development and recruitment also. Upregulation of vascular endothelial growth factors (VEGFs) and platelet derived growth factors by shear stress aids in angiogenesis. A 6-week course of EECP has been demonstrated to increase the density of microvasculature per square mm in the infarcted regions in animal models. EECP may promote improvement in exercise duration with no change in peak double product by reduction in peripheral vascular resistance.

Are there any scientific clinical evidences supporting the beneficial effects of EECP?

Evidence on the performance of EECP comes from non-randomized studies and international registries involving approximately 15 000 patients and several small randomized, controlled trials. The Multicenter Study of Enhanced External Counterpulsation (MUST-EECP) randomized trial (n =139 patients) demonstrated a 15% rise in the time to the onset of 1 mm ST-depression and 25% fewer angina episodes per week. In the prospective evaluation of EECP in heart failure (PEECH) trial, 187 patients with chronic heart failure (70% with ischaemic background) were

EECP therapy involves 35 one-hour sessions, 5 days a week over 7 weeks. Two sessions can be done in a day if the patient desires so and is able to tolerate. The course is extended if the patient do not start to develop improvement in the symptom status until late in the usual treatment course



randomized to conventional treatment or EECP therapy, which was shown to improved exercise tolerance, quality of life, and New York Heart Association (NYHA) functional classification.

There are two randomized trials on the efficacy of EECP on the development of coronary collaterals. . Gloekler et al studied the effect on invasively measured collateral development, showed significant improvement in the invasive collateral flow index in EECP group compared to placebo. Buschmann et al demonstrated that collateral flow index and FFR increased significantly in the EECP group compared to the control group. In a meta-analysis of 949 patients, anginal class was improved by one CCS Class in 86% of patients.

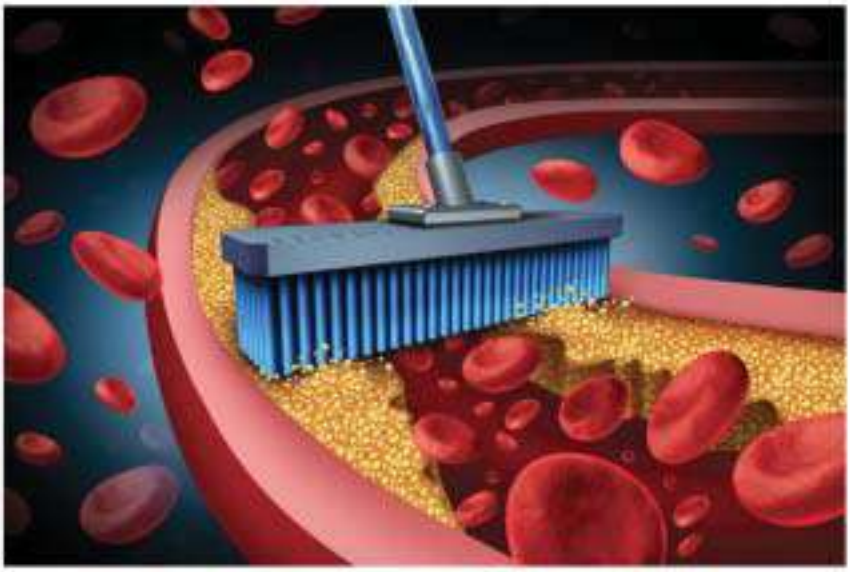
These results prove the concept and clinical effects of EECP treatment and prompted 2013 ESC guidelines on the management of stable coronary artery disease to the recommendation that EECP therapy should be considered for symptomatic treatment in patients with refractory angina (Class IIa, L.O.E- B). ACC AHA 2014 Focused Update of the Guideline for the Diagnosis and Management of Patients With Stable Ischemic Heart Disease provides a class IIb recommendation for EECP: EECP may be considered for relief of refractory angina in patients with SIHD. (L.O.E-B).

Know your numbers

Keeping your blood pressure, blood sugar, cholesterol, and triglycerides in check is important for good heart health. Learn the optimal levels for your sex and age group. Take steps to reach and maintain those levels. And remember to schedule regular check-ups with your doctor. If you want to make your doctor happy, keep good records of your vitals or lab numbers, and bring them to your appointments.

CHELATION THERAPY

What does science go to say



Dr Mathews Paul MD, DM, FIC
Consultant Interventional Cardiologist
Moulanahospital,Perinthalmanna,
Malappuram,Kerala

Coronary heart disease is a leading cause of death among both men and women in the modern world.

Majority of the people have been routinely following conventional,scientifically proven treatment modalities.

Lifestyle changes (such as quitting smoking), medicines, interventional and surgical procedures, and cardiac rehabilitation (a program consisting of education, counseling, and exercise training) are among the mainstays of conventional treatment. Some heart patients also turn to chelation therapy using disodium EDTA (ethylene diamine tetra-acetic acid), a controversial complementary health approach.

Chelation therapy has long been used as a treatment for mercury and lead poisoning, but it isn't a proven treatment for heart disease. It can potentially cause serious side effects when used as a heart disease treatment. Even so, some doctors and complementary health practitioners have used chelation therapy to treat heart disease and stroke.

In chelation therapy, you are given disodium ethylenediaminetetraacetic acid (EDTA) through a series of weekly intravenous (IV) treatments, each lasting about 30 minutes.

In general, the medication seeks out and sticks to metals and minerals in your bloodstream, creating a compound that your body removes when you urinate. Chelation therapy is promoted as a treatment for heart disease because it's thought that the medicine sticks to calcium found in fatty deposits (plaques) in the arteries.

However, chelation therapy for heart disease remains controversial. Here's what we know so far:

- The Trial to Assess Chelation Therapy (TACT) didn't provide enough evidence to support routine use for heart disease. But it did find that chelation therapy offered moderate protection against future cardiovascular

events, such as strokes and heart attacks, in those with diabetes. TACT2 is a new study whichwill focus specifically on people with diabetes.

- The American Heart Association and the American College of Cardiology say it's uncertain whether chelation therapy is helpful as a treatment for heart disease.
- The Food and Drug Administration hasn't approved chelation therapy for use as a heart disease treatment.
- However, the researchers also concluded that there is not enough evidence to support the routine use of chelation therapy for this population.
- Chelation therapy for heart disease has known risks and side effects. The most common is burning at the IV site. Other side effects include fever, headache, nausea or vomiting,Abnormally low blood-calcium levels (hypocalcemia,sudden drop in blood pressure,drop in bone marrow counts (bone marrow suppression),heart failure,kidneydamage,etc

Before trying chelation therapy as a heart disease treatment, discuss with your doctor about the benefits and risks.

The Cardiology organizations do not recommend Chelation therapy as a useful treatment option for coronary artery disease.However studies are going on to prove their benefits in diabetic patients who already had heart attack.

It has never been proved that chelation therapy dissolved any cholesterol plaques in the blocked arteries.It is never an alternative to the scientifically proven treatment modalities like angioplasty or bypass surgery.

Find your happy place

A sunny outlook may be good for your heart, as well as your mood. According to the Harvard T. H. Chan School of Public Health, chronic stress, anxiety, and anger can raise your risk of heart disease and stroke. Maintaining a positive outlook on life may help you stay healthier for longer.

Pump some iron

Aerobic fitness is key to keeping your heart healthy, but it's not the only type of exercise you should do. It's also important to include regular strength training sessions in your schedule. The more muscle mass you build, the more calories you burn. That can help you maintain a heart-healthy weight and fitness level.

Walk it off

The next time you feel overwhelmed, exasperated, or angry, take a stroll. Even a five-minute walk can help clear your head and lower your stress levels, which is good for your health. Taking a half-hour walk every day is even better for your physical and mental health.

Brush your teeth regularly

Good oral hygiene does more than keep your teeth white and glistening. According to theCleveland Clinic, some research suggests that the bacteria that cause gum disease can also raise your risk of heart disease. While the research findings have been mixed, there's no downside to taking good care of your teeth and gums.

Cardiac Drugs During Fasting

Dr Abdul Khader
MD, DM
Cardiologist, Amala Institute of Medical Sciences, Thrissur.

Fasting has been practiced from the very origin of human race. It has been strongly recommended by all religions and included in all religious scriptures. The duration and the methods of fasting are different in different religions.

The muslim community has one month long fasting during the month of ramadan apart from short term fasting during hajj and muharam

In ramdan fasting one has to abstain from solid and liquid food from early morning to sunset which includes essential medicines taken during day time . No other religion to my knowledge has such strict recommendation while they go through fasting. In 40 days or 8 days fasting bychristian community or during various occasions of fasting by hindus there are no restriction for taking food ,water or medicines

Avoiding essential medicines, food and water during ramadan rarely met with unforeseen consequences especially in those persons having cardiac , diabetic and neurologic diseases.

The diabetic patients are worse affected in the form of hypoglycemic spells , uncontrolled diabetes with all its accompanying complications like diabetic keto acidosis, acute coronary syndrome and cerebrovascular accidents .

Some staunch believers because of their very strong faith in religion over do taking less amount of food and water at night than required and they are the one who may land up in more troubles.

This article has been written with the twin idea of addressing this very important issue and to give tips to avoid such eventualities

Taking enough water before breakfast, each major meals and also before sleep at night has been recommended as a health tip by all type of medical practitioners including naturopathic healers .

Water taken in adequate quantity ,6 to 8 glass per day , is essential for proper urination and to excreat the toxic metabolic products generated by the organ systems in the human body.

During fasting when less amount of water is consumed the water and electrolyte metabolism can be deranged with accompanying malfunction of the body due to accumulation of toxic metabolites and hemoconcentration.

This can lead to the production various types of urinary stones causing diseases of kidney, ureter and urinary bladder

Elderly patients with heart disease and especially adult with heart disease and blueish discoloration of mucous membranes have a tendency to cause stroke and pulmonary infarction during fasting

So inorder to escape from these forms of eventualities ensure good in take of water after breaking the fast to compensate for the less intake during the time of fasting in day time especially when the ramadan month comes in summer season.

Other problems are related to the drugs taken and the timing of the drug.

Majority of the doctors ask their patients with heart disease to take antiplatelet agents like aspirin(Ecosprin) and clopidogrel (clopilet , clopitab, plagerin) during noon time after food . This can be changed and it is better that it is taken after breaking the fast .

Similar is the case with antidiabetic drugs also .

Diabetic patients better take less number of oral hypoglycemic drugs at the beginning of fasting in the morning. More strong medicines and Insulin ingections can be switched over to the evening time after breaking the fast when the patients take more food.

If by chance the amount of food consumed is less in quantity it is better to reduce the amount of oral hypoglycemic drugs taken on that particular day . The same is applicable to the dose of insulin injected . Tailor the dose depending on the requirements. It is better to consult your doctor before ramdan / fasting and get correct advise regarding medication and timing of intake of various drugs .

Gastero intestinal complications like gastritis, acidity , bleeding from stomach , bleeding from rectum ,constipation , nausea ,vomiting ,cramps and colics are very common during fasting .

Some of the tips regarding food and medicine intake found useful during fasting is discussed below

1. Take enough water .Adequate water intake likely to prevent colics due to stone formation and avoid constipation.

2. Take enough vegetables , wet and dry fruits and nuts . Diabetic patients can take orange ,apple , watermelon, pear, ground nut , cashew nuts , less ripe fruits . Vegetable and fruits increase the bulk and

fiber consumed and is good for preventing constipation

3. Avoid taking food containg too much chille, oil and gravy as the first food during the time breaking the fast . Avoid samusa puffs , lemon juice (contains citric acid) , strong coffe or tea and also smoking

4.Those addicted to smoking seen using cigarettes or beedies immediately after breaking the fast . This is to be avoided as the sudden increase in the blood level of nicotine or carbon monoxide from smoking can induce spasm of the heart blood vessels (coronary artery spasm)

5. Take all medicines after food with plenty of water to avoid gastric irritation and stomach bleeding .

6 Anti hypertensive requirements also

may change with fasting, hence frequent BP examination in sitting and standing position is essential during the time of fasting to adjust the dose . How ever never skip any medicines with out proper reason during fasting

7 There is no need to change the statin dose or time of intake during fasting .

Fasting has been found to improve the well being and over all heath of all persons

irrespective of the religion, provided you are little bit careful in your food and drug intake .

For muslims fasting is one among the five important rituals to be obeyed during their life so what ever may be the reason as far as possible they have to obey and adhere to it . Only very sick patients are exempted from fasting . If there is a likely chance of causing death by fasting then also it is exempted .

bp+

My Blood pressure is not controlled with usual medications

What should I do?

Dr. Bino Benjamin
MBBS, MD, DM,
Cardiologist
Jubilee Mission Hospital,
Thrissur.

High blood pressure is sometimes known as "the silent killer". This is because it increases the risk of heart disease and stroke, but often goes unnoticed due the lack of obvious symptoms.

Are you a hypertensive taking multiple drugs to bring it down? Is your BP still remaining high and uncontrolled? You are probably having resistant hypertension

Although most of the times hypertension is treated successfully with medications and lifestyle changes, resistant hypertension is not so easy to treat.

What is resistant hypertension?

If you're taking proper dose of atleast three blood pressure medications, and one of those is a diuretic (water pill), and still your BP is not under control, you are having resistant hypertension.

How to confirm this diagnosis?

Make sure you're getting accurate blood pressure readings. There are several reasons why you might get an inaccurate reading.

- The blood pressure cuff is too small - this usually happens whe your body weight is high
- You haven't taken proper rest before checking blood pressure.

- You experience "white coat hypertension," or elevated BP due to anxiety in the doctor's office.
- You smoke or have caffeine right before having your blood pressure taken

Even after ruling out all of these above factors, and your BP is still elevated, you have resistant hypertension.

What's reason for resistant hypertension?

1. Your wrong lifestyle is the commonest reason for this problem. If you're sedentary, smoking, eating a high sodium diet, consuming a lot of alcohol and overweight, your medications may not work optimally.

2. Medications you take for other ailments can worsen the problem. Pain killers such as ibuprofen, steroids, oral contraceptives and nasal decongestants, all can boost your blood pressure. Show all of your pills, including over-the-counter medications and herbal or food supplements to your doctor

3. Obstructive sleep apnoea can contribute to resistant hypertension. If you snore loudly or have excessive day time sleepiness inform this to your doctor.

4. After ruling out all the above possibilities, your doctor may look for other causes related to hormones or vascular problems.

Steps you can take to overcome resistant hypertension

- Exercise regularly

Managing hypertension is not always easy. By making these small changes in lifestyle, you can get a good control of your blood pressure most of the time

- Take a low-sodium diet (less than 2.3 grams per day)
- Reduce the amount of processed foods you eat — they're usually high in sodium.
- Follow healthy diet which includes lots of fruits, vegetables, whole grains and lean protein.
- Limit your alcohol intake.
- Make sure you're taking your BP medications correctly and at the scheduled time.
- If your medication is causing unpleasant side effects, inform your doctor and get alternative medicines - don't just stop taking it.
- Learn to check your BP at home. Log the results and show them to your doctor

Managing hypertension is not always easy. By making these small changes in lifestyle, you can get a good control of your blood pressure most of the time. These will help you in the long run, reducing your risk of heart disease and stroke.

Kick your housework up a notch

Vacuuming or mopping the floors may not be as invigorating as a Body Slam or Zumba class. But these activities and other household chores do get you moving. They can give your heart a little workout, while burning calories too. Put your favorite music on and add some pep to your step while you complete your weekly chores.

Go nuts

Almonds, walnuts, pecans, and other tree nuts deliver a powerful punch of heart-healthy fats, protein, and fiber. Including them in your diet can help lower your risk of cardiovascular disease. Remember to keep the serving size small, suggests the AHA. While nuts are full of healthy stuff, they're also high in calories.

Some Fatty Myths

Dr. Iwin Varghese
MRCGP, GP
Principal (Family Physician)
Ashford Medical Partnership
Ashford, Kent.

Butter is high in saturated fat, so restrict yourself to small amounts and use alternatives for everyday eating

Myth: All fats in food are the same

Reality

All fats are high in energy and have an identical calorie value (9kcal per gram), so their effect on your waistline is the same. The big difference is their effect on your cholesterol levels, so it's important to consider the type as well as the amount of fat you are eating.

Industrially produced **trans fats** (in India most hotel and fast food are cooked in hydrogenated vegetable oil which is high in transfat) and too much of this worst form of fat can increase the risk of coronary heart disease by raising the level of harmful LDL cholesterol, which can contribute to blood vessel blockage.

Even home cooked food can be high in **saturated fats**. These include butter, lard and ghee, plus coconut and palm oil (often found in confectionery and biscuits). Saturated fats are also in whole milk, cream, cheese, cakes and chocolate.

Swapping saturated fats in your diet for **unsaturated fats** (monounsaturated and polyunsaturated) can help lower cholesterol levels. Find unsaturated fats in avocados, olive, rapeseed and sunflower oils, oily fish, seeds and nuts.

Myth: I need to eat a low-fat diet to look after my heart

Reality

As our understanding develops, it's clear we need to consider the overall balance of our diets.
A Mediterranean-style diet is famously associated with lower rates of cardiovascular disease, attributed to the inclusion of olive oil, grains, beans, lentils, fruit, vegetables, oily fish and nuts.

This is not a low-fat diet, but the fats are mostly unsaturated. It seems to be the overall combination that makes it so successful.

Myth: Cutting out all fat is good for my heart

Reality

Such a drastic approach isn't necessary, and excluding fat can mean missing out on nutrients and fatty acids that our bodies need, such as omega-3 and omega-6 fats.

These polyunsaturated fats are found in oily fish, nuts, seeds and the oils made from them.

Myth: Butter is better

Reality

Butter is high in saturated fat, so restrict yourself to small amounts and use alternatives for everyday eating.

Try mono or polyunsaturated spreads, such as olive oil or sunflower spreads (a new manufacturing process solved past concerns about their trans fat content). Liquid oils can also be used for cooking and baking instead of butter.

Myth: Any kind of meat is bad for my heart

Reality

Lean meats such as chicken , without the skin, are healthier options, as they are lower in saturated fat. Red and processed meats can be high in saturated fats and may also have added salt.

Watch out for the white bits of fat in Beef, Pork and Mutton and trim them off where possible.

Make time for breakfast

The first meal of the day is an important one. Eating a nutritious breakfast every day can help you maintain a healthy diet and weight. To build a heart-healthy meal, reach for:

- whole grains, such as oatmeal, whole-grain cereals, or whole-wheat toast
- lean protein sources, such as turkey bacon or a small serving of nuts or peanut butter
- low-fat dairy products, such as low-fat milk, yogurt, or cheese
- fruits and vegetables

Eating after Heart Valve Surgery

Dr.Rachel Daniel
MD (General Medicine),
DNB (General Medicine),
DNB (Cardiology)
Chief Interventional cardiologist
N.S Hospital
Kollam, Kerala

Two important parts of recovery and continuing health after any heart surgery are a good diet and a regular exercise routine.

If your doctor has recommended a particular diet, it's important that you follow it. If a special diet has not been recommended, balanced, heart-healthy nutrition can speed healing and lessen fatigue. Weight control is also important for your heart health; excess weight increases the work of the heart and slows recovery.

After your heart surgery you may find that you do not feel hungry. Certain foods maynot taste the same. This may be because of the surgery itself or the pills that you aretaking. You need to be sure to eat foods that will supply your body with enough caloriesand protein to allow your body to heal and recover.

What steps should I take to eat a heart- healthy diet?

- **Ideal portion breakdown:** Eat small amounts of food throughout the day. The ideal daily diet should include 4 servings of whole grains, 5

servings of vegetables, and 2 servings of fruits. However, this may vary depending on the actual energy requirements of the patient.

- **Good protein foods** are (1) fish - different variety of fish such as salmon, sardines, and mackerel are a rich source of **omega-3 fats**. Omega 3 fats help protect the heart and will allow your body heal faster than usual.(.2)Other good protein sources are skinless poultry,egg white, yogurt, legumes and nuts.
- **Salty foods:** Limit your intake of salty foods. Try to keep salt intake to less than 3g per day unless your doctor has given you a different amount. Prepare meals with minimal salt as it will help prevent water retention and keep blood pressure normal.
- **Vegetables and fruits**:incorporate high fibre foods like fruits & vegetables to maximize fiber intake.
- **Green leafy vegetables**:A person after heart valve surgery will be prescribed blood thinning drugs, i.e Oral anticoagulants which are Vitamin K antagonists. It is mandatory to keep the level of these drugs in a particular level in blood by regular monitoring . So patients on oral anticoagulants have to restrict the intake of Vitamin K rich foods like green leafy vegetables.
- **Whole grain benefits:** Whole grain food items such as whole grain bread, brown rice, oats, barley, and rice help improve your energy levels and are considered good for your heart. Make sure to include a couple of servings of whole grain in your daily diet.
- **Eggs:** Eat up to 2 egg yolks per week. Use egg substitute or egg whites when you are cooking or baking.
- **Controlled fat consumption:**

  1.Limit your consumption of fats like processed fats, red meats, organ meats.

  2. Switch to healthy fats derived from nuts, avocados, seeds, fish ,fat trimmed meat, skin removed chicken.

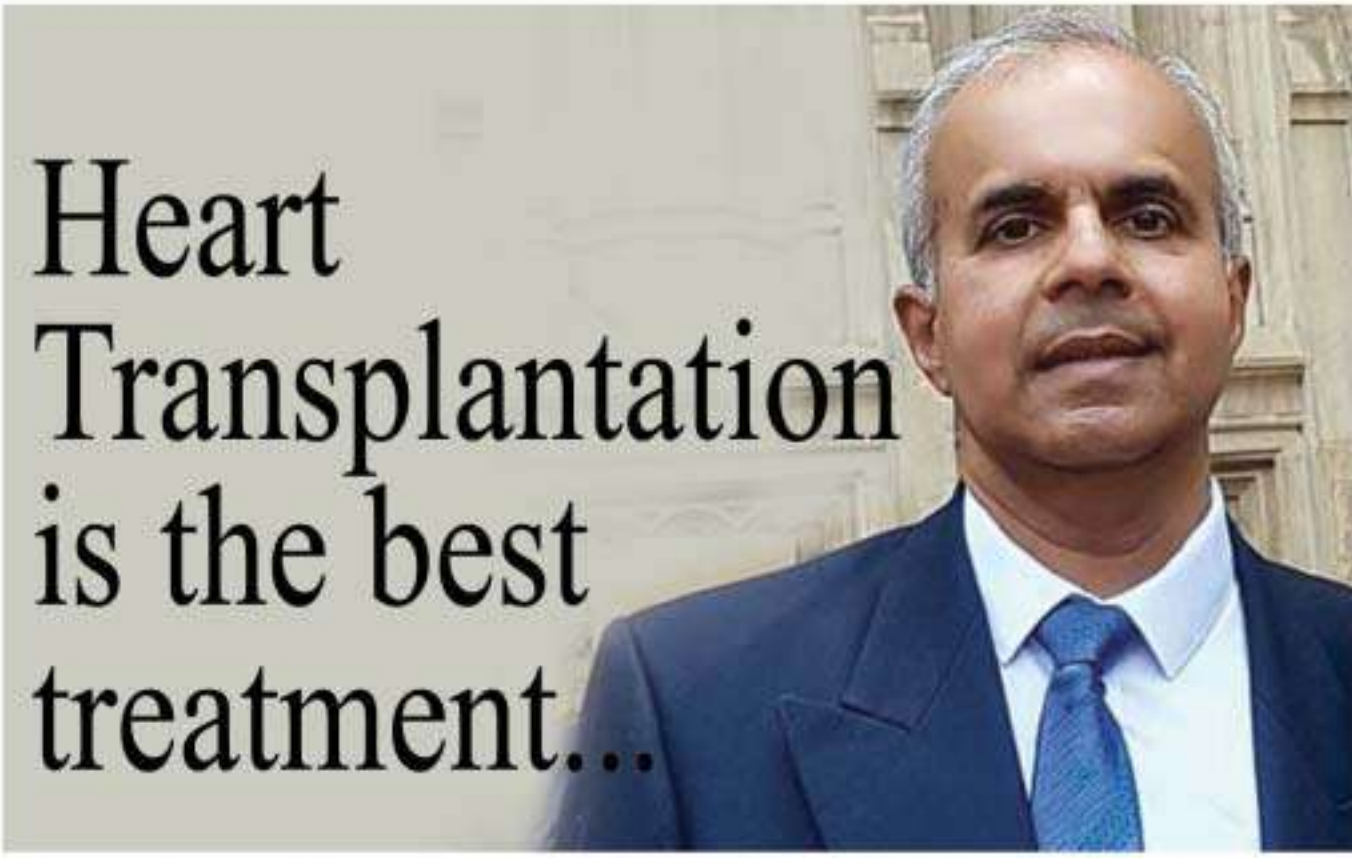
  3. Limit the usage of oil while cooking. Use unsaturated oils, like olive oil , sun flower oil, rice bran oil. Most important is to limit the amount of oil for cooking per day.

After heart valve surgery, during recovery and beyond, make sure to eat a variety of fruits, vegetables, whole grains, breads, lean meats including fish and low-fat dairy products

- **Dairy:** Switch to low-fat dairy such as skim milk, yogurt, cheese and include it in your everyday diet
- **Sugary foods:** Try to avoid sugary foods completely. These may make you gain weight.
- **Water consumption:** Take adequate fluids daily to maintain proper fluid balance in the body.
- **Alcohol** intake may interfere with the effect of some medications or increase your blood pressure.
- After a valve replacement, do not use **supplemental calcium** without approval from your healthcare provider.

To summarise, after heart valve surgery, during recovery and beyond, make sure to eat a variety of fruits, vegetables, whole grains, breads, lean meats including fish and low-fat dairy products. Foods that are high in saturated fats, sugar, salt, and sodium should be limited. Processed meats should be avoided. In general, a low-fat, low-cholesterol, high-fiber diet is best.

Heart Transplantation is the best treatment...



For selected patients with advanced heart failure

Interview with

Dr Jayan Parameshwar

Consultant Cardiologist
Royal Papworth hospital, Cambridge

Dr Parameshwar did his undergraduate medical training in Pondicherry, India followed by residency in Internal Medicine in New Delhi. His cardiology training was in Hillingdon Hospital and at the National Heart and Brompton Hospitals. He was actively involved in research into predicting prognosis in heart failure and exercise testing in heart failure.

He joined the transplant programme at Royal Papworth hospital in 1991 and became a consultant in 1996. He is recognised nationally and internationally for his work in heart transplantation. He has published over 100 papers in the field of heart transplantation and has a national and international profile in the field. He was involved in setting up the advanced heart failure and mechanical circulatory support programme with surgical colleagues. He is the Chairman of the Cardiothoracic Advisory Group at NHS Blood and Transplant.

***Q** . Could you briefly describe about your family and education?*

I was born in Bombay (now Mumbai) where my father spent a lot of his working life. I did my MBBS in JIPMER, Pondicherry which I think gave me an excellent foundation for the rest of my medical career. I was fortunate to get a place for MD (Medicine) at AIIMS, New Delhi. Six months after my MD I left for the UK. I spend a few years doing general medicine and then cardiology (research and clinical). In 1991, I joined the Transplant Unit at Papworth hospital; I intended to stay a year or so but never left!

***Q.** As a cardiologist who is treating*

patients who are undergoing or underwent heart transplants, What are the indications for heart translate?

Heart Transplantation is the best treatment for selected patients with advanced heart failure. The most common diagnosis in our patient group is Dilated Cardiomyopathy (unlike thirty years ago when Coronary Artery disease was more common). Most patients are under 65 years of age. The donor heart allocation algorithm has changed several times over the last twenty years, at present about 80% of patients in the UK are in-patients requiring intravenous medication. A significant proportion of patients are waiting on mechanical circulatory support.

Q. *How many transplants done under your care?*

Papworth hospital has carried out 1540 heart transplants (starting in 1979); since I joined the programme we have done just under 1100.

Q. *Do you think that the indications in India are the same as in UK?*

I think the indications are likely to be the same though the proportion of the different diagnoses may differ (perhaps more CAD in the Indian cohort).

Q. *Having taken part in more than >1000 transplants, do you really think that this therapy really works?*

Yes! Taking care of these patients for the last 28 years has shown me how worthwhile it is. Of course, not all patients do well but at Papworth we now have 1 year survival of 90%, 5 year survival of 80% and 10 year survival of nearly 70%. There is a significant cohort who have survivedmore than 20 year survivors. These patients are not just alive; they enjoy a good quality of life.

Q. *What is your longest survivor?*

Our longest survivor has crossed the 35 year mark in April this year.

Q. *In Kerala, we initially thought that donation may not be an issue, but getting recipients may be the issue, as patients and physicians are not aware about the therapy. But now it is the other way round. Recipients are there, but there is practically no donations. What is the situation in UK?*

In the UK, the number of potential recipients greatly exceeds the number of donors. There are about 275-300 patients on the waiting list in the UK at any given time. As heart transplantation has been part of the NHS for nearly 40 years, referral pathways are reasonably well established though there are still likely to be patients who are not referred appropriately. The advent of long-term LVADs also increases the number of patients waiting for a transplant. In my first year in the field, the UK did 310 heart transplants, last year it was down to about 180. The number of deaths from road traffic accidents has fallen markedly over the last 30 years due to seat belt laws and better care of patients with head trauma. Donor age (which is an important factor in heart transplant outcome) has been increasing in most European countries which isalso a problem. This is in contrast to the US where donor age has actually decreased slightly and median donor age is now almost 20 years below that in Europe.

Q. *In Kerala,the main concern is the certification of brain death. Do you think that the process of brain death certification is different in both these places or they follow the same principe?*

In the UK brain stem death testing is done by two independent doctors who are not part of the transplant team. As far as I know the same principles are followed in India but I am not familiar with protocols. There were some concerns in the early 1980s (in the UK) but these have been largely allayed over the years.

Q. *Here video recording of the process of brain death verification is mandatory. Do you have such mandatory non medical protocols there?*

Video recording is not carried out in the UK.

Q. *How people voluntarily come for organ donation in UK? Is there any public campaigns, incentives for the family ?*

Public campaigns are constant, when people for a driving license or join university they are automatically asked if they want to join he Organ Donor Register. NHS Blood and Transplant has a section devoted to educating the public and running campaigns. They employ Specialist Nurses in Organ Donation (SNOD) who are called for every potential donor and speak to the families of these potential donors. They also support the families during the process and afterwards. Good news stories are constantly on the TV, there is an annual British, European and World Transplant Games for recipients which is also good publicity. There is no financial or other incentive for donor families.

Q. *How often you visit your home place?*

For the last 9-10 years I have been visiting Kerala virtually every year though I am only there for about two weeks. It is difficult for me to take more time off work, when I stop working perhaps I will be able to spend more time in India!

Q. *Are you involved in the transplant programs in India and Kerala ?What is your experience? Do you think that the transplant program inn Kerala is at par with those in other countries in terms of long term success?*

I have been fortunate enough to be in contact with heart transplant programs in Kerala, Chennai and Bengaluru. All I can do at present is provide advice by email on patient selection and on dealing with problems in immunosuppression etc. Some Indian cardiologists have spent time at Papworth gaining experience in advanced heart failure medicine including the care of transplant recipients.

Unfortunately I have not seen any data on long-term outcome from any centre in India. I think it is time a Register is set up with mandatory reporting of results. This is one way to monitor results and drive up standards. In the UK, we are compelled to submit data to our national registry and outcomes are continuously monitored. If a centre shows poor early outcome, an external review is carried out.

Q. *What will be the approximate cost of a usual transplant procedure in UK?As you are aware programs in Kerala are one of the cheapest in the country. What is your comments regarding this?*

It is very difficult to answer this question as patients are not charged. The true cost is covered by different departments (surgery, intensive care, pathology). An organisation called NHS England commissions heart transplantation and pay a certain fixed cost to each unit plus a marginal cost for each procedure.

It is good Kerala has been able to provide the service at a relatively low cost; this will enable more people to benefit from the procedure. In the West, heart transplantation is almost never paid for by individuals; it is covered by medical insurance or the State.

Q. *I think that you may be aware about the near total shut down of the program in Kerala because of some false allegations and as a result patients have to be*

In the West, heart transplantation is almost never paid for by individuals; it is covered by medical insurance or the State

shifted to other places and some are dying while waiting in the wait list. As a person who have got a fair idea about the situation in Kerala, do you think that these allegations are blown out of proportion?

While I have not participated personally in organ donation procedures in Kerala, the people I have dealt with (in the transplant world) have been principled, and interested in providing a service rather than personal gain. Of course all allegations need to be investigated but allegations with no data should not be published. Regaining the trust of the population is not easy and will unfortunately take time.

***Q.** Could you suggest some public awareness campaigns like in UK which can be implemented here to increase the donations?*

The campaigns in the UK are run by organisations that are funded by the NHS. A lot of money is spent on this aspect of transplantation. Perhaps India should look to countries in Asia that have been successful in implementing transplant programmes, I believe Thailand is one. Of course, different cultures pose different problems. In the UK, donation figures are lower in Afro-Caribbean and Asian groups (this poses particular problems in renal transplantation where HLA matching is carried out). My answer to Question 10 also covers some of the answers to this question.

***Q.** Sir, I know that there is an option of donating organs after death in UK. Could you briefly describe about this concept? What was the need for such a concept?*

When heart transplantation first started (in the 1960s), hearts were explanted from donors after circulatory death (cessation of heart beat). Donors and recipients were co-located (both in the same hospital), so there was no transport time. During the process of circulatory death there is potential ischaemic damage to the heart as blood pressure falls. As time went on, distant procurement became more common adding an element of transport time during which there is potential damage to the organ. With multi-organ donation, transporting the donor was not feasible either. Brain-stem death laws were passed in most of Europe and the US in the 1970s and DCD transplants were no longer carried out.

DCD kidney transplantation re-started about 15 years ago and liver and lung about 10 years ago. With the paucity of donor hearts and the fall in the number of suitable DBD donors, the need for expanding the donor pool was great. One of my surgical colleagues at Papworth hospital (Stephen Large) started lab research in this field about ten years ago and it is his work that led to the success of the clinical program. One of the key developments that allowed DCD hearts to be used was the introduction of platforms for machine perfusion of the donor heart during transport. This removed the "cold ischaemic time" element; current data (we have done 70 DCD transplants at Papworth) indicates that outcomes at one year are similar to DBD transplantation. We are more conservative with donor acceptance criteria in the case of DCD organs while we learn more about long-term outcome.

***Q.** Do you think that DCD as a possible option in Kerala to increase the potential donor pool?*

Introducing DCD transplantation will require changes in the legal framework and in regulation. It is not easy to implement. At present DCD transplantation is also much more expensive because of the need for perfusion technology rather than cold storage of the donor organ during transport. (It doubles the marginal cost of a transplant in our setting). In the future the cost of these technologies may fall as they are more widely used. At present cost may be prohibitive, the NHS is still struggling with finding a way to fund this procedure and we have been dependent on charitable money.

As an aside, the DCD concept has not been accepted in all countries. Germany, for instance does not allow donation after circulatory death.

Why Rehab for Cardiac Patients

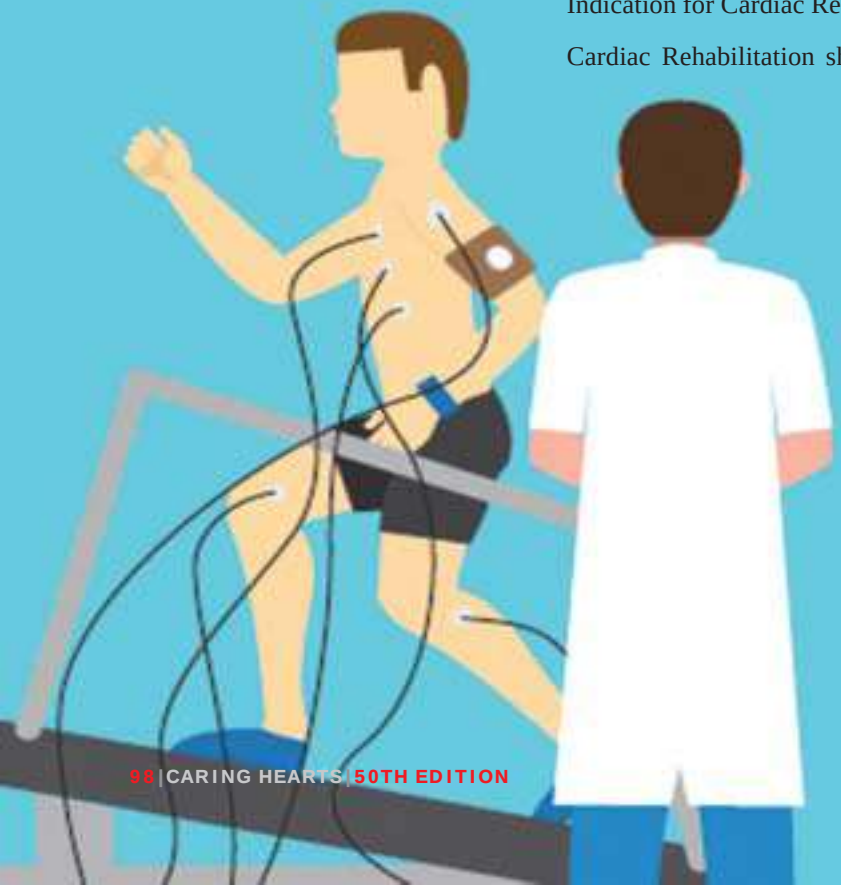
Mr. Felvin Mathew
Physical Therapist
Lisie Hospital.

Cardiac Rehabilitation is the process by which patients with cardiac disease, in partnership with a multi-disciplinary team of health professionals are encouraged to support and achieve and maintain optional physical and psychological health. The involvement of family members, take carers are all important for this.

Cardiac Rehab or CR isfor management of people with cardiac disease. Initially, this rehab was offered mainly to people recovering from a Myocardial Infraction (MI) but now it is for a wide range of cardiac problems.

Indication for Cardiac Rehabilitation:

Cardiac Rehabilitation should be offered to all cardiac patients who would benefit. CR is mainly prescribed to patients with Ischaemic heart diseases, with Myocardial Infarction, aftercoronary angioplasty, after CABG surgery and to patients with chronic heart failure.CR begins as soon as possible in Intensive Care Units (ICU) only if the patient is in stable medical condition. Intensity of rehabilitation depends on patient's condition and complicationsof disease.



Goals of Cardiac Rehabilitation: Main goal of CR is to promote secondary prevention and to enhance quality of life and to bring back the patient to same normal life as soon as possible.

a) Medical goal
b) Social or psychological goal
c) Health service goal

- Improve the cardiac function
- Return to work of appropriate or previous level of functional capacity
- Restore self confidence
- Reduce the risk of sudden death and re- infarction.
- To promote independence of ADL'S for those compromised.
- Relieve anxiety and depression in patients in their careers.
- To make heart healthy dietary decision.
- To promote early mobilization and discharge from hospital
- Reduce symptom such as breathlessness and angina.
- Reduce cardiac related hospital admission
- Restore good sexual health
- Prevent progression of underlying atherosclerotic process.

Phases of Cardiac Rehabilitation: Comprises of four phases.The secondary prevention component of CR requires delivery of exercise training, education and counseling risk factor intervention and follow up.

Phases of Cardiac Rehabilitation:

Phase 1: In hospital patient period

Phase 11: Post discharge pre exercise period

Phase 111: Exercise and education program

Phase 1V: Maintenance

Every cardiac rehab must consist of a warm up phase, exercise phase and cool down phase.

a) Warm up phase: purpose is to prepare the body for exercise by raising the pulse rate in a increased and safe way. It redistributes blood to active tissues. It prepares the mind,prepare muscles for the movements involved in the conditioning period

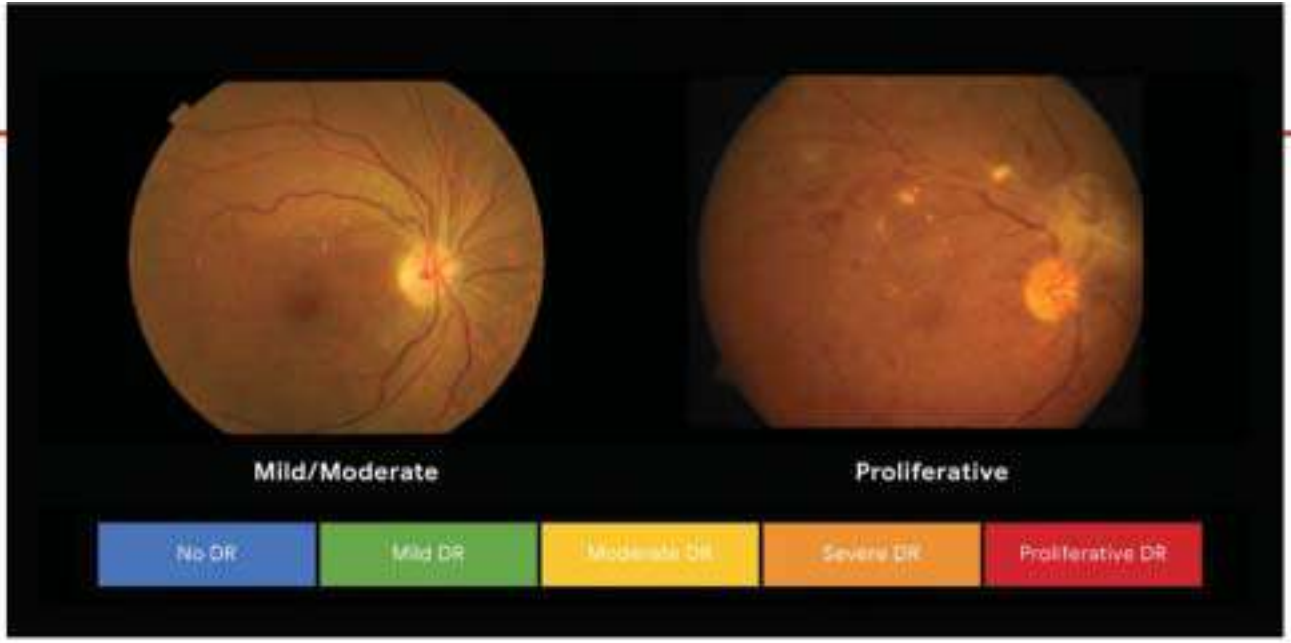
b) Exercise Phase: is set according to the status and functional capacity of the patient. Gradually we can increase the intensity for the phase according to the tolerance level of thepatient.

c) Cool down Phase: goal is to bring the body back to itsresting state. It should incorporate movementsof diminishing intensity.This phase is significant because raised sympathetic activity during exercise increase the risk of arrhythmias immediately post exercise. Older hearts take longer to return to resting levels.

Conclusion: Cardiac rehabilitation is an inexpensive treatment that saves lives. It helps heart patients get back on their feet,physically and emotionally, through exercise, education and support.

Eat chocolate

Dark chocolate not only tastes delicious, it also contains heart-healthy flavonoids. These compounds help reduce inflammation and lower your risk of heart disease, suggest scientists in the journal Nutrients. Eaten in moderation, dark chocolate — not oversweetened milk chocolate — can actually be good for you. The next time you want to indulge your sweet tooth, sink it into a square or two of dark chocolate. No guilt required.



Emerging technology trends in healthcare

Mr. Robin Tomy
Head - Incubation,
Tata Consultancy Services,
Thiruvananthapuram

Remember the days when you had to wait for hours to get an appointment and consult a doctor or if you had done any tests, you had to go back to the hospital to collect the result? Thankfully, you may call it a past era (or at least it's getting there). The healthcare industry like any other industry is also experiencing a huge shift driven by the need for a better customer experience.Still healthcare industry continues to be largely unpredictable. Even when the "how" of regulation of health care industry in future is a subject of ongoing debate, scientists come up with new medicines, treatments and technological implementations supporting healthcare industry on a daily basis. In addition the industry is moving at a fast pace from products or special equipment to solutions like medical platforms based on big data and health care analytics. The focus is shifting to preventive care and how the latest technology can be efficiently used for the same. Let's look at few of the technology trends in healthcare industry below.

Artificial Intelligence: The modern healthcare industry has already introduced AI based technologies which helps in various scenarios like care management, accelerate drug discovery and match clinical trials with patients. It is likely that AI will become even more advanced to carry out tasks even without human monitoring in the near future. For example AI tools can help reduce human errors in diagnosis and treatment and give more time for the doctors to work with patients. Deep learning can help in processing huge data sets thereby reducing the time taken to identify the drug candidates in drug discovery with higher probability of success. AI can also reduce staff overload by automating monotonous tasks such as accounting, scheduling, managing electronic health records, and paperwork. Even AI is used today in drawing conclusion on the Clinical Study Reports. AI is also extensively used in analyzing images (XRays, MRI, etc)

and provide appropriate inferences. Today Artificial Intelligence is used to predict medical events. Machine learning applied on retinal image provides information like gender, BMI, A1C, etc.

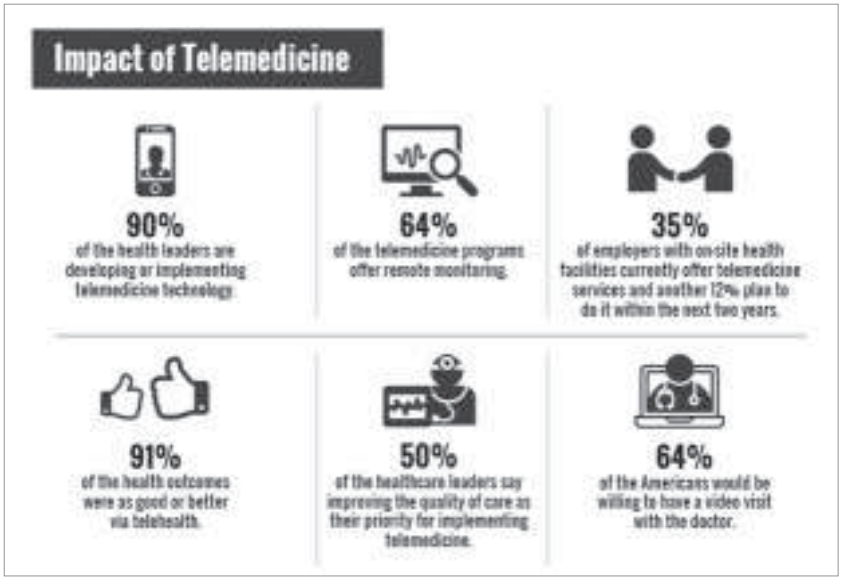
IoMT (Internet of Medical Things):IoMT includes various health monitoring devices connected to each other. In IoMT, using wearables health is monitored remotely. In addition IoMT also help in gathering huge data which can act as the input for health care analytics.

3D printing: 3D printing, a rather recent advancement, is helping a lot in changing the face of healthcare industry. It finds application in a variety of areas like patient specific instrumentation – helps physicians in creating personalized 3D printed tools to minimize risks during surgery and to make the process more effective. It can also help in the surgery planning process since anatomically accurate models of the patient's body will help the surgeon in deciding on the intervention procedure with better precision. 3D printing is also used to create customized implants as in the case of orthodonticsand prosthetics.

Telemedicine: This is again another relatively new concept where consultation and diagnosis is done remotely using mobile. The system provides virtual appointments with doctors around the clock saving time and money. In addition it allows patients to access immediate care on urgent but small issues. Telemedicine thus allows anyone to access the best healthcare at any time irrespective of geographical and financial barriers.

Blockchain: Blockchain helps in giving access to the complete medical history to the allowed doctors and physicians. It could also help in solving some of the important data protection issues and helps the insurance companies and hospitals in securely storing the patients' records. All the critical data which include patient health information, insurance claims and electronic health records can be encrypted and secured using Blockchain. In addition it can also aid in reducing the number of fake drugs on the market since customers will be able to track the supply chain of the registered drug manufacturer. In turn this also helps in increasing the transparency and trust between the customers and drug manufacturers.

AR/VR: AR and VR are revolutionizing the healthcare industry. For example AR can help doctors to plan on dangerous procedures, Specialists in mental health is using AR to treat who cannot come to the medical facility, etc. AR and VR applications are also used in treatment and diagnosis of range of diseases. In addition it is also helps in emotionally motivating patients with Alzheimer's and dementia.The AR and VR healthcare market is predicted to be worth about $5.1 billion in a few years, with 3.4 million users worldwide according to a report by Goldman-Sachs.



Value based healthcare:As technology allows us to measure patient outcomes in more precise manner, value based care payments model will also grow where the payments to the physicians would be based on their patients' health outcome.

The digital transformation has revolutionized every industry, but in healthcare specifically, technology is helping us live longer and lead safer, healthier, more productive lives.The overall healthcare technology trend is toward preventive care, enhanced patient experiences, lower expenses, and big data processing.

History of Medicine in pictures

Dr. Jo Joseph
MD, DM (AIIMS)
Cardiologist,
Lisie Hospital

Medicine in Ancient Egypt

An Egyptian physician of the Eighteenth Century (1500-1400 B.C.), clothed in clean white linen and a wig, as became the dignity of his status, is confronted with a patient having symptoms of lockjaw (described in an ancient scroll now known as the Edwin Smith papyrus). With sure, sympathetic hands, the physician treats the patient, who is supported by a "brick chair." Directions for treatment appear on the scroll held by his assistant. Specially trained priests observe prescribed magico-religious rites. Egyptian medicine occupied a dominant position in the world of the ancients for 2500 years.

Trephening in Ancient Peru

On the dry, sun-swept Pacific coastline of the Paracas peninsula, a first-century Peruvian surgeon is beginning a trephining operation with the aid of knives of glass-hard obsidian, a crude plant narcotic, cotton, and bandages. Assistants immobilize the patient, and a priest seeks supernatural intervention throuh incanations and prayers as the slow and highly hazardous operation proceeds. Peru was the center of intensive practice of trephining in the New World, where the operation (opening of the skulls of living patients) can be traced from well before dawn of the Christian era to the twentieth century

Code of Hammurabi

The clay tablets of ancient Mesopotamia document the practice of medicine as early as 3000 B.C. Of significance to medicine, too, is one of the oldest regulatory laws, the Code of Hammurabi, promulgated by that Babylonian ruler about 2000 B.C. In a Babylonian throne room, a physician is defending with diginity his professional practices against the complaints of a dissatisfied patient who seeks invocation of the drastic penalties of the Code. The King, the scribe, court attachés, guards, priests, friends of the plaintiff and of defendant, comprise the cast of the critical drama of law and of medicine 4000 years ago.

Native Healing

Primitive medicine is timeless. It is as old as the cave dweller, yet in many remote parts of world its practice is as new as today. The sandpainting ceremonies of American Navaho Indians are unusually beautiful examples of primitive medicine, embodying all its elements - physio -and psychotherapy, religion, magic, singing, and drug lore. In a medicine "hogan" family and friends join in the Mountain Chants' nine-day ceremonies, in which this sandpainting has an important part. The "singer" (medicine man) sings, prays, and manipulates magico-religious artifacts. Herb preparations given the patient are shared by the "singer" and by the spectactors too in this primitive health-seeking rite.

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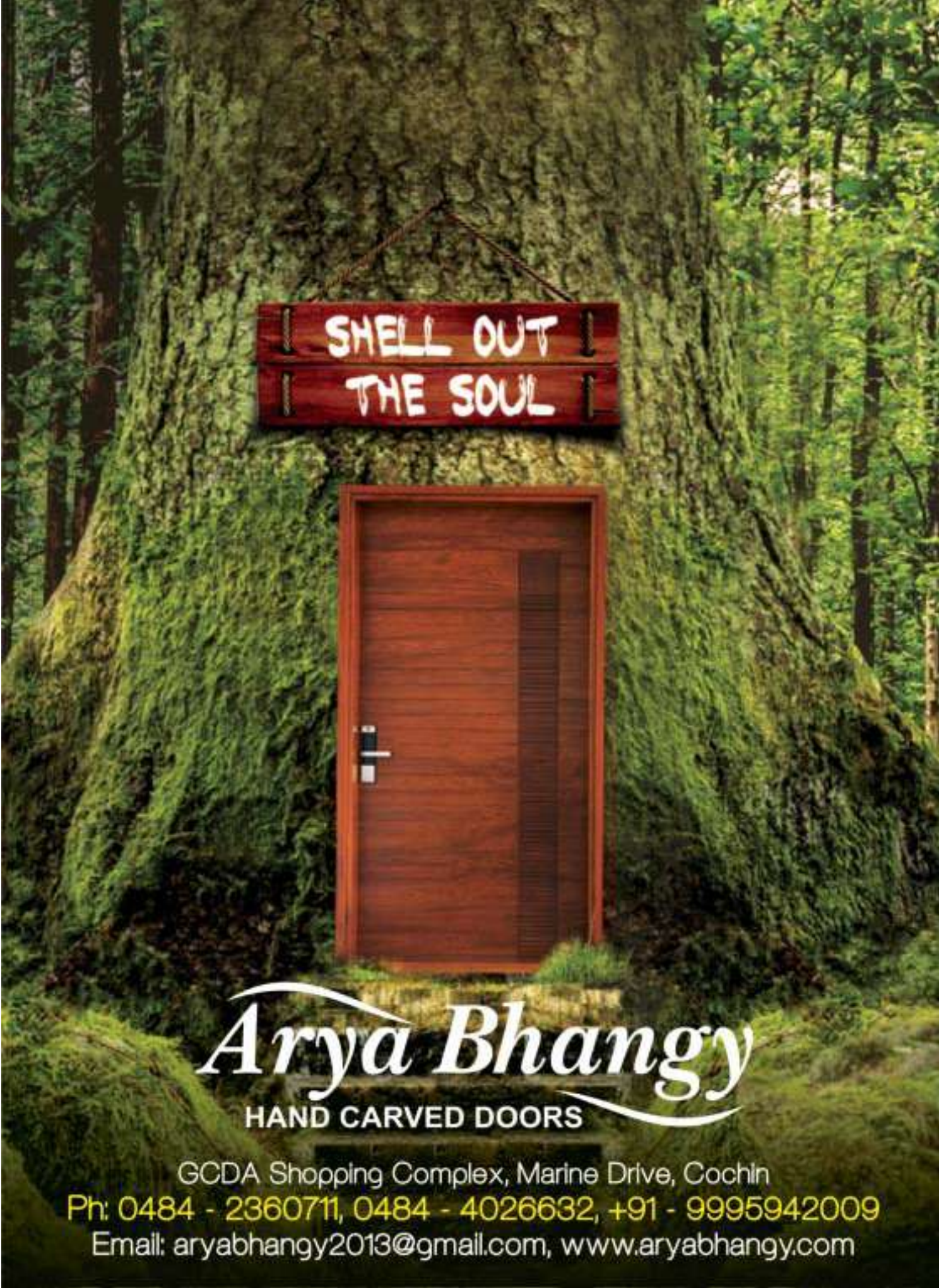
Susruta - Suregeon Of Old India

Susruta, famed Hindu surgeon, is depicted in the home of a noble of ancient India, about to begin an otoplastic operation. The patient drugged with wine, is steaded by friends and relatives as the great surgeon sets about fashioning an artificial ear lobe. He will use a section of flesh to be cut from the patient's cheek; it will be attached to the stump of the mutilated organ, treated with hemostatic powders and bandaged. Details of this procedure, and of Suruta's surgical instruments, are to be found in the "Susruta-samhita," ancient Indian text. Plastic surgery was practiced in India more than 2000 years ago.

The Temples and Cult of Asclepius

Every night for nearly a thousand years (500 B.C. - 500 A.D.), sick and afflicted pilgrims flocked to the Grecian Temples of Asclepius to take part of a ritual called incubation. The ancient kindly god of medicine was expected to visit them during a dream state and either heal or prescribe drugs, diet, and modes of treatment. Only requisites were that they should be clean and "think pure thoughts." To show their appreciation, recipients of Asclepius' favor caused votives (stone or terra cotta images of the afflicted parts which supposedly had been healed) to be made, suitably inscribed, and presented to be hung as testimony on the temple walls. More than 200 such temples existed.



Arya Bhangy

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GCDA Shopping Complex, Marine Drive, Cochin

Ph: 0484 - 2360711, 0484 - 4026632, +91 - 9995942009

Email: aryabhangy2013@gmail.com, www.aryabhangy.com

My Heart Care Foundation

Mr. Krishna Kumar P.
Software Consultant
Managing Partner,
deCode Conference Solutions
Program Co-ordinator,
Heart Care Foundation

Recently I was on a bus at a signal in Trivandrum and saw a beautiful sight. Given the situation, "beautiful sight" may sound a bit callous. Please bear with me. I saw a destitute woman collapsing and a passerby rushing to her and starting CPR. The Good Samaritan might have been a nurse, given the number of hospitals in the vicinity or she could have been just someone who had learned CPR from one of the good organizations taking initiatives to teach CPR, just like Heart Care Foundation! The signal turned green and I moved on. However that "beautiful sight" of someone starting CPR instantly on another in dire need remained with me for long, giving me a warm feeling. Whatever fate had in store for that unfortunate victim, her guardian angel had put someone with the right knowledge near her and whatever could have been done at that instant was being done.

Contrary to this, another incident comes to mind from around 23 years back. A 39 year old friend of mine, staying in Valanjambalam, Kochi, had a cardiac arrest immediately after lunch. Instead of rushing to a multi-specialty hospital, literarily within a stone's throw away, he instructed his driver to take him to his regular hospital a couple of kilometers away, only to reach there DOA. If only he had understood the symptoms correctly or even if his driver had understood the gravity of the situation, my friend still would have been very much with his family.

So many dismiss clear signs of a cardiac arrest or heart attack, as just gas or muscular pain and wait out the night, typically when the symptoms usually manifest. If we make more people understand the symptoms of heart attack or cardiac arrest and teach the basic first aid CPR to a lot more, so many lives can be saved. This is one of the main focuses of HCF, to educate, to prepare, not to feel helpless andto act rather than panic.

I met Dr.JoseChackoPeriappuram when he was the Organizing Secretary of the National Conference of Cardio Thoracic Surgeons in 2005 and he roped me in to assist him computerize its registration process. Heart Care Foundation then was just a concept being discussed at the conference secretariat. With zero medical knowledge, I too contributed my enthusiastic bit to the discussions, especially on the need for a concentrated effort for organ donation. Dr. Jose then promised me that Organ Donation also will be a focus of the Foundation and from then on, I became the spokesperson and program coordinator for HCF. What impressed me most was the dedication and simplicity of a nationally acclaimed heart surgeon, decorated with Padmashree, working tirelessly, literally from dawn to dusk, being passionate about helping those in dire need in the area of Heart Care. I am indeed honored to be a part of this noble venture and just as my family and I have pledged our organs, we will continue to be an integral part of HCF, as long as we physically can.

Know your Aging process and learn to prevent

Dr Nisha Vikraman
Assistant Professor
Department Of Home Science
St. Theresa's College Ernakulum

Good nutrition plays a significant role in determining the health and well-being of older people and in delaying or reducing the risk of diseases such as stroke, heart disease, diabetes etc. Eating less fruits and vegetables is responsible for close to three million deaths worldwide every year. In addition, dietary fat seems to be associated with various cancers and nutritionally unbalanced diets, which are often associated with diabetes, can play a significant role in increasing the risks of developing coronary heart disease.

Your cardiovascular system

What's happening?

The most common change in the cardiovascular system is stiffening of the blood vessels and arteries, causing your heart to work harder to pump blood through them. The heart muscles change

to adjust to the increased workload. Your heart rate at rest will stay about the same, but it won't increase during activities as much as it used to. These changes increase the risk of high blood pressure (hypertension) and other cardiovascular problems.

What you can do

To promote heart health:

Include physical activity in your daily routine. Try walking, swimming or other activities you enjoy. Regular moderate physical activity can help you maintain a healthy weight and lower your heart disease risk.

Eat a healthy diet. Choose vegetables, fruits, whole grains, high-fiber foods and lean sources of protein, such as fish. Limit foods high in saturated fat and salt.

Don't smoke. Smoking contributes to the hardening of your arteries and increases your blood pressure and heart rate. If you smoke or use other tobacco products, ask your doctor to help you quit.

Manage stress. Stress can take a toll on your heart. Take steps to reduce stress, such as meditation, exercise or talk therapy.

Get enough sleep. Quality sleep plays an important role in the healing and repair of your heart and blood vessels. Aim for seven to nine hours a night.

Your bones, joints and muscles

What's happening?

With age, bones tend to shrink in size and density, weakening them and making them more susceptible to fracture. You might even become a bit shorter. Muscles generally lose strength, endurance and flexibility — factors that can affect your coordination, stability and balance.

What you can do

To promote bone, joint and muscle health:

Get adequate amounts of calcium. The National Academy of Science, Engineering, and Medicine recommends at least 1,000 milligrams (mg) of calcium daily for adults. The recommendation increases to 1,200 mg daily for women age 51 and older and men age 71 and older. Dietary sources of calcium include dairy products, broccoli, kale, salmon and tofu. If you find it difficult to get enough calcium from your diet, ask your doctor about calcium supplements.

Get adequate amounts of vitamin D. The recommended daily intake of vitamin D is 600 international units for adults up to age 70 and 800 IU for adults over 70. Many people get adequate amounts of vitamin D from sunlight. Other sources include tuna, salmon, eggs, vitamin D-fortified milk and vitamin D supplements.

Include physical activity in your daily routine. Weight-bearing exercises, such as walking, jogging, tennis, climbing stairs and weight training can help you build strong bones and slow bone loss.

Avoid substance abuse. Avoid smoking and limit alcoholic drinks. Ask your doctor about how much alcohol might be safe for your age, sex and general health.

Your digestive system

What's happening?

Age-related structural changes in the large intestine can result in more constipation in older adults. Other contributing factors include a lack of exercise, not drinking enough fluids and a low-fiber diet. Medications, such as diuretics and iron supplements, and certain medical conditions, such as diabetes, also might contribute to constipation.

With age, bones tend to shrink in size and density, weakening them and making them more susceptible to fracture. You might even become a bit shorter. Muscles generally lose strength, endurance and flexibility — factors that can affect your coordination, stability and balance

What you can do

To prevent constipation:

Eat a healthy diet. Make sure your diet includes high-fiber foods, such as fruits, vegetables and whole grains. Limit high-fat meats, dairy products and sweets, which might cause constipation. Drink plenty of water and other fluids.

Include physical activity in your daily routine. Regular physical activity can help prevent constipation.

Don't ignore the urge to have a bowel movement. Holding in a bowel movement for too long can cause constipation.

Your bladder and urinary tract

What's happening?

Your bladder may become less elastic as you age, resulting in the need to urinate more often. Weakening of bladder muscles and pelvic floor muscles may make it difficult for you to empty your bladder completely or cause you to lose bladder control (urinary incontinence). In men, an enlarged or inflamed prostate also can cause difficult emptying the bladder and incontinence.

Other factors that contribute to incontinence include being overweight, nerve damage from diabetes, certain medications, and caffeine or alcohol consumption.

What you can do

To promote bladder and urinary tract health:

Go to the toilet regularly. Consider urinating on a regular schedule, such as every hour. Slowly, extend the amount of time between your toilet trips.

Maintain a healthy weight. If you're overweight, lose excess pounds.

Don't smoke. If you smoke or use other tobacco products, ask your doctor to help you quit.

Do Kegel exercises. To exercise your pelvic floor muscles (Kegel exercises), squeeze the muscles you would you use to stop passing gas. Try it for three seconds at a time, and then relax for a count of three. Work up to doing the exercise 10 to 15 times in a row, at least three times a day.

Avoid bladder irritants. Caffeine, acidic foods, alcohol and carbonated beverages can make incontinence worse.

Avoid constipation. Eat more fiber and take other steps to avoid constipation, which can worsen incontinence.

Your memory and thinking skills

What's happening

Your brain undergoes changes as you age that may have minor effects on your memory or thinking skills. For example, healthy older adults might forget familiar names or words, or they may find it more difficult to multitask.

What you can do

You can promote cognitive health by taking the following steps:

Include physical activity in your daily routine. Physical activity increases blood flow to your whole body, including your brain. Studies suggest regular exercise is associated with better brain function and reduces stress and depression — factors that affect memory.

Eat a healthy diet. A heart-healthy diet may benefit your brain. Focus on fruits, vegetables and whole grains. Choose low-fat protein sources, such as fish, lean meat and skinless poultry. Too much alcohol can lead to confusion and memory loss.

Stay mentally active. Staying mentally active may help sustain your memory and thinking skills. You can read, play word games, take up a new hobby, take classes, or learn to play an instrument.

Be social. Social interaction helps ward off depression and stress, which can contribute to memory loss. You might volunteer at a local school or nonprofit, spend time with family and friends, or attend social events.

Treat cardiovascular disease. Follow your doctor's recommendations to manage cardiovascular risk factors — high blood pressure, high cholesterol and diabetes — that may increase the risk of cognitive decline.

Quit smoking. If you smoke, quitting smoking may help your cognitive health.

If you're concerned about memory loss or other changes in your thinking skills, talk to your doctor.

Your eyes and ears

What's happening

With age, you might have difficulty focusing on objects that are close up. You might become more sensitive to glare and have trouble adapting to different levels of light. Aging also can affect your eye's lens, causing clouded vision (cataracts).

Your hearing also might diminish. You might have difficulty hearing high frequencies or following a conversation in a crowded room.

What you can do

To promote eye and ear health:

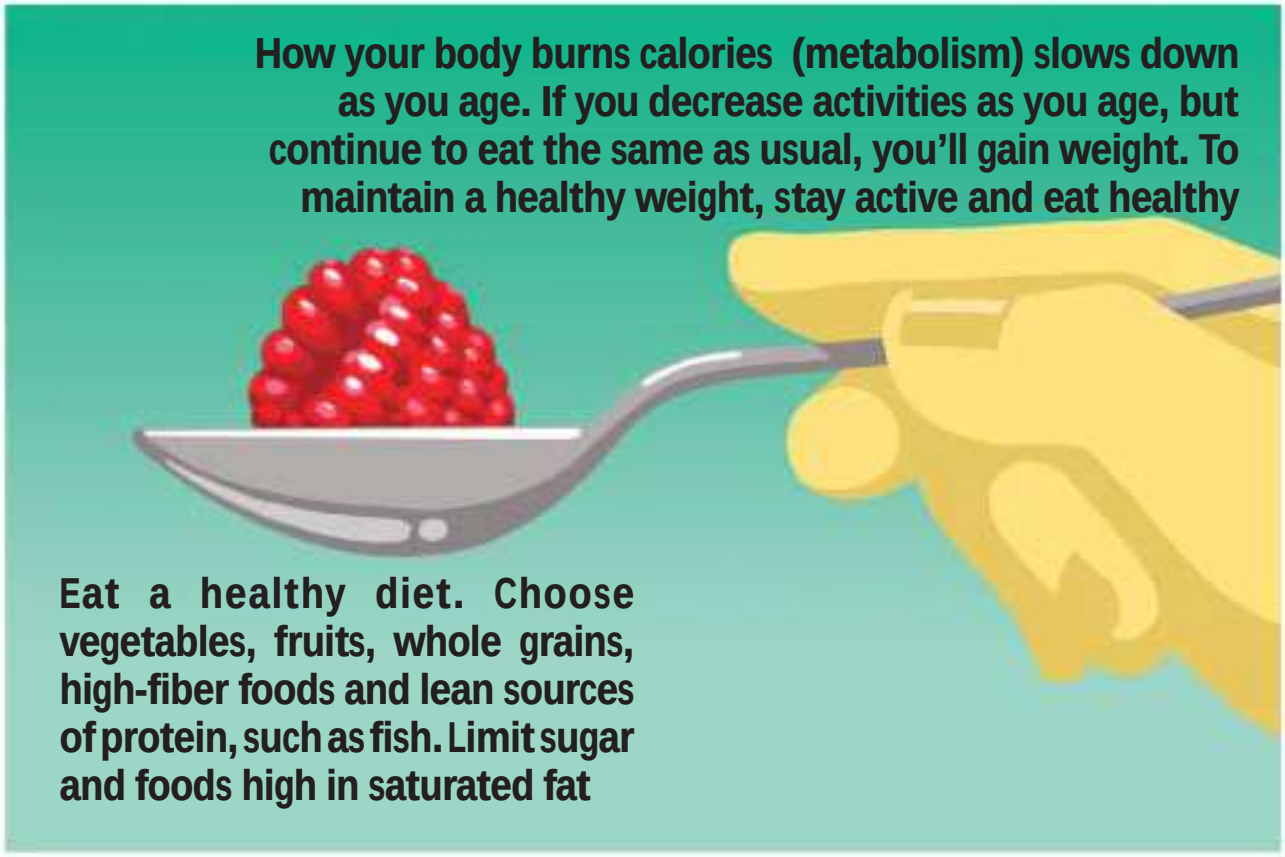
Schedule regular checkups. Follow your doctor's advice about glasses, contact lenses, hearing aids and other corrective devices.

Take precautions. Wear sunglasses or a wide-brimmed hat when you're outdoors, and use earplugs when you're around loud machinery or other loud noises.

Your teeth

What's happening

Your gums might pull back from your teeth. Certain medications, such as those that treat allergies, asthma, high blood pressure and high cholesterol, also can cause dry mouth. As a result, your teeth



and gums might become slightly more vulnerable to decay and infection.

What you can do

To promote oral health:

Brush and floss. Brush your teeth twice a day, and clean between your teeth — using regular dental floss or an interdental cleaner — once a day.

Schedule regular checkups. Visit your dentist or dental hygienist for regular dental checkups.

Your skin

What's happening

With age, your skin thins and becomes less elastic and more fragile, and fatty tissue just below the skin decreases. You might notice that you bruise more easily. Decreased production of natural oils might make your skin drier. Wrinkles, age spots and small growths called skin tags are more common.

What you can do

To promote healthy skin:

Be gentle. Bathe or shower in warm — not hot — water. Use mild soap and moisturizer.

Take precautions. When you're outdoors, use sunscreen and wear protective clothing. Check your skin regularly and report changes to your doctor.

Don't smoke. If you smoke or use other tobacco products, ask your doctor to help you quit. Smoking contributes to skin damage, such as wrinkling.

Your weight

What's happening

How your body burns calories (metabolism) slows down as you age. If you decrease activities as you age, but continue to eat the same as usual, you'll gain weight. To maintain a healthy weight, stay active and eat healthy.

What you can do

To maintain a healthy weight:

Include physical activity in your daily routine. Regular moderate physical activity can help you maintain a healthy weight.

Eat a healthy diet. Choose vegetables, fruits, whole grains, high-fiber foods and lean sources of protein, such as fish. Limit sugar and foods high in saturated fat.

Watch your portion sizes. To cut calories, keep an eye on your portion sizes.

ഡോ.ഗൂഗിൾ

ഇന്റർനെറ്റ് വൈദ്യത്തിന്റെ കാണാപ്പുറങ്ങൾ

Dr. Anil Balachandran
Consultant Cardiologist,
Lakshmi Hospital, Kochi.

ചിന്തകളിലും പ്രവർത്തികളിലും ബുള്ളറ്റ് ട്രെയിനിന്റെ വേഗതയുള്ള പുത്തൻ തലമുറയുടെ പുതുപുത്തൻ ലോകത്തിലാണ് നാമെല്ലാം. ഇത് കൈവരിക്കാൻ വിവരസാങ്കേതികവിദ്യയിലെ പുരോഗതികൾ കുറച്ചൊന്നുമല്ല നമ്മെ സഹായിച്ചിരിക്കുന്നത്. രാവിലെ വീട്ടിൽ നിന്നിറങ്ങുമ്പോൾ കുട എടുക്കണമോ എന്ന ചോദ്യം മുതൽ ചന്ദ്രോപരിതലത്തിലെ രഹസ്യങ്ങൾ വരെ നൊടിയിടയിൽ നമ്മുടെ വിരൽത്തുമ്പിൽ ലഭ്യമാണ്. ഒരു നേരത്തെ ഭക്ഷണം നാം ചിലപ്പോൾ വേണ്ടെന്ന് വെയ്ക്കും, പക്ഷേ ഇൻറർനെറ്റ് ഇല്ലാത്ത ഒരു ദിവസത്തെ പറ്റി ചിന്തിക്കാൻ കൂടെ പലർക്കും ബുദ്ധിമുട്ടാണ്. നമ്മുടെ ജീവിതത്തിൽ അത്രത്തോളം ശക്തമായ ഒരു സാന്നിദ്ധ്യം അത് കയ്യടക്കി കഴിഞ്ഞിരിക്കുന്നു.

വൈദ്യശാസ്ത്ര രംഗത്തും ഇൻറർനെറ്റ് വളർച്ച പലമാറ്റങ്ങൾക്കും വഴി തെളിച്ചിട്ടുണ്ട്. ഈയിടെ സാധാരണയായി കണ്ടുവരാറുള്ള രോഗങ്ങളെ പറ്റിയുള്ള വിവരങ്ങൾ Google അവരുടെ ഡേറ്റാബേസിൽ ഉൾപ്പെടുത്തുകയുണ്ടായി.

ഇതെല്ലാം എങ്ങനെയാണ് ആണ് നമ്മുടെ ജീവിതത്തെ സ്വാധീനിക്കുന്നത്? എന്തെല്ലാം ആണ് ഇതിന്റെ ഗുണദോഷഫലങ്ങൾ?

സാധാരണയായി രോഗികൾ ഇന്റർനെറ്റിൽ പരതാറുള്ള വിഷയങ്ങളിലൂടെ നമുക്ക് ഈ വിഷയം അപഗ്രഥിക്കാം. ഭൂരിപക്ഷം ആളുകളും തങ്ങൾക്ക് എന്തെങ്കിലും അസുഖങ്ങൾ ഉണ്ടാകുമ്പോൾ അത് എന്തെന്ന് അറിയാനാണ് സാധാരണ ഇൻറർനെറ്റ് ഉപയോഗിക്കാറുള്ളത്. അതെങ്ങിനെ നമ്മെ സ്വാധീനിക്കുന്നു എന്ന് നോക്കാം.

ഒരു ഹൃദ്രോഗ വിദഗ്ദ്ധൻ എന്ന നിലയിൽ നെഞ്ചുവേദനയിൽ നിന്ന് തന്നെ തുടങ്ങാം. നമുക്കെല്ലാവർക്കും അറിയാം നെഞ്ചുവേദന കേവലം ഒരു രോഗലക്ഷണം മാത്രമാണെന്ന്. പല കാരണങ്ങൾകൊണ്ടും നെഞ്ചുവേദന ഉണ്ടാവാം. അതുകൊണ്ടുതന്നെ നെഞ്ചുവേദനയെ പറ്റി പരതുമ്പോൾ ചുരുങ്ങിയത് പതിനഞ്ചു കാരണങ്ങൾ നമുക്ക് തീർച്ചയായും ഇന്റർനെറ്റിൽ ലഭിക്കും. അറിവും പരിശീലനവും സിദ്ധിച്ച ഒരു ഡോക്ടർക്ക് നിങ്ങളുടെ രോഗലക്ഷണത്തിന്റെ ഹേതുവിലേയ്ക്ക് എത്താൻ ഒട്ടും പ്രയാസം കാണുകയില്ല.

ഒരു സാധാരണക്കാരനെ സംബന്ധിച്ചിടത്തോളം ആരും തന്നെ തന്റെ നെഞ്ചുവേദന അറ്റാക്ക് ആയിത്തീരണമെന്ന് ആഗ്രഹിക്കുന്നവരല്ല. അതുകൊണ്ടുതന്നെ നമ്മൾ ഇന്റർനെറ്റിൽ പരതുമ്പോൾ താരതമ്യേന അപകടം കുറഞ്ഞ കാരണങ്ങളായിരിക്കും നമ്മൾ ആദ്യം നോക്കുക. അതിനാൽ തന്നെ നല്ലൊരു ശതമാനം ഹൃദ്രോഗം മൂലമുള്ള നെഞ്ചുവേദനകൾക്കും ചികിത്സാതാമസം നേരിടേണ്ടി വന്നു കണ്ടിട്ടുണ്ട്. ഹൃദ്രോഗ ചികിത്സയിൽ ഏറ്റവും വിലപ്പെട്ട ഘടകമാണ് സമയം. ഇന്റർനെറ്റ് ഈ വിലപ്പെട്ട നിമിഷങ്ങൾ കാർന്നുതിന്ന പല അനുഭവങ്ങളും ഡോക്ടറെന്ന നിലയിൽ സാക്ഷിയായിട്ടുണ്ട്.

ഏതൊരു ഹൃദ്രോഗ വിദഗ്ധനും നിസ്സംശയം പറയുന്ന ഒരു കാര്യമാണ് ഈ അസുഖത്തിന്റെ പ്രവചനാതീത സ്വഭാവം. അതുകൊണ്ടുതന്നെ നമ്മൾ വായിച്ചറിഞ്ഞ പോലെയുള്ള നെഞ്ചിനകത്ത് ഭാരം കയറ്റി വെച്ച പോലത്തെ വേദനയും വിയർപ്പും എല്ലാവർക്കും ഉണ്ടായിക്കൊള്ളണമെന്നില്ല.

ആ അവസരങ്ങളിൽ നാം ഇന്റർനെറ്റിൽ ഇതിനെപ്പറ്റി പരതുമ്പോൾ ഹാർട്ട് അറ്റാക്കിനുള്ള സാധ്യത പോലും നമുക്ക് അറിഞ്ഞുകൊള്ളണമെന്നില്ല. അതുകൊണ്ടുതന്നെയാണ് ഇത്തരം സാഹചര്യങ്ങളിൽ ഏറ്റവും

അടുത്തുള്ള ഒരു ഡോക്ടറുടെ സ ഹായം തേടണം എന്ന് എപ്പോഴും ഉ പദേശിക്കാറുള്ളത്.

അടുത്തതായി പ്രധാനപ്പെട്ട മറ്റൊ രു ഒരു വിഷയത്തിലേക്ക് കടക്കാം. മരുന്നുകളും അവയുടെ പാർശ്വഫല ങ്ങളും. സർവ്വസാധാരണമായി എ ല്ലാവരും ഇന്റർനെറ്റ് പരതാറുള്ള ഒ രു വിഷയം.

ഇന്റർനെറ്റിൽ നിന്നും ലഭിക്കുന്ന വിവരങ്ങൾ ഒരിക്കലും ഒരു അത്യാഹിത ചികിത്സ വൈകിപ്പിക്കാൻ ഇടവരുത്തരുത്

എല്ലാ മരുന്നുകൾക്കും effect എ ന്നപോലെതന്നെ Side effect കളും ഉ ണ്ട്. അതെല്ലാം അപഗ്രഥിച്ച് അ തിന്റെ വരുംവരായ്കകൾ കൂടി ആ ലോചിച്ചിട്ടാണ് നിങ്ങളുടെ ഡോക്ടർ നിങ്ങൾക്ക് ഒരു മരുന്ന് കുറിയ്ക്കുന്ന ത്. പലപ്പോഴും ഇന്റർനെറ്റ് കാരണം ജീവൻ രക്ഷ മരുന്നുകൾ വരെ നിർ ത്തി അറ്റാക്കായി വന്നവരുണ്ട്.

സുഹൃത്തായ ഒരു ന്യൂറോളജി ഡോക്ടർ പറഞ്ഞ ഒരു ഒരനുഭവം ഇ വിടെ പങ്കുവെയ്ക്കുന്നു. നട്ടെല്ലിലെ ഡിസ്കിന് ഉള്ള അസുഖം മൂലം വേദന സഹിക്കാൻ വയ്യാതെ ഒരാൾ ഒരു ഓർത്തോ ഡോക്ടറെ കണ്ട് ചി കിത്സ തേടിയ ശേഷം ഇദ്ദേഹത്തി ന്റെ അടുത്ത് വന്ന് പരാതി പറഞ്ഞ ഒ രു സാഹചര്യമാണ് ചർച്ചാവിഷയം .

അദ്ദേഹത്തിന്റെ വേദന മാറി പ ക്ഷേ ഇന്റർനെറ്റിൽ പറയുന്നത് ഡോക്ടർ തനിക്ക് നൽകിയത് മാന സിക പ്രശ്നം ഉള്ളവർക്ക് നൽകു ന്ന ഒരു മരുന്നാണ് എന്നാണ്. വൈ ദ്യശാസ്ത്രത്തിൽ ഒരു മരുന്ന് ത ന്നെ തന്നെ പല ഉദ്ദേശങ്ങൾക്കും കൊടുക്കാറുണ്ട് എന്നും, ഞരമ്പുക ളുടെ ശല്യം മൂലമുണ്ടാകുന്ന വേദ നയ്ക്ക് ഉത്തമമായ ഒരു മരുന്നാണ് അത് എന്നും അദ്ദേഹത്തെ പറഞ്ഞു മനസ്സിലാക്കാൻ ആ ഡോക്ടർ ഏറെ ബുദ്ധിമുട്ടി.

ഒരു ഡോക്ടർ - രോഗി ബന്ധ ത്തിന്റെ വിശ്വാസ്യതയിൽ കാര്യമാ യ ഒരു വിള്ളൽ സൃഷ്ടിക്കാൻ ഈ തെറ്റിദ്ധാരണ കാരണമായി. ഇതോ ടൊപ്പം തന്നെ ചേർത്തു പറയേണ്ട ഒരുദാഹരണം പറയാം. ശ്വാസകോ ശങ്ങളിലേയ്ക്ക് രക്തമെത്തിക്കുന്ന പൾമണറി ധമനികളുടെ പ്രഷർ കു റയ്ക്കാൻ ചെറിയ കുട്ടികളിൽ വരെ ഉപയോഗിയ്ക്കുന്ന ഒരു മരുന്നാണ് വയാഗ്ര. ഇന്റർനെറ്റ് പ്രേമിയായ രോഗിയാണെങ്കിൽ ഹൃദ്രോഗ വിദ ഗ്ദ്ധന്റെ ഭാവി അധോഗതി എന്നു കരുതണ്ടേ.

ഇതിന്റെ എല്ലാം പരിണിതഫല മായി IDIOT (Internet Derived Information Obstructing Treatment)

സിൻഡ്രോം എന്ന ഒരു പദം തന്നെ നിലവിൽ വന്നിട്ടുണ്ട്. മറ്റൊരർത്ഥത്തിൽ പറഞ്ഞാൽ സൈബർ കോൺട്രിയ (Cyber chondria) സ്വന്തം ഡോക്ടറെക്കാൾ ഉപരി ഇന്റർനെറ്റും അത് നൽകുന്ന വിവരങ്ങളും വിശ്വസിച്ചു പേടിച്ച് മരുന്നുകൾ നിർത്തുന്ന ഒരു അവസ്ഥ. ഒന്ന് ഓർത്തു നോക്കിയാൽ ഭയാനകം അല്ലേ അത്?

അടുത്തതായി ചർച്ചചെയ്യപ്പെടേണ്ടത് സമൂഹ മാധ്യമങ്ങൾ വഴി നമുക്ക് ലഭിക്കുന്ന മെഡിക്കൽ സന്ദേശങ്ങളെ പറ്റിയാണ്. ഒരർത്ഥത്തിൽ നോക്കിയാൽ ഹൃദ്രോഗവും, ഹൃദ്രോഗ ചികിത്സയും, കാൻസർ ചികിത്സയും ആണ് ഇത്തരം സന്ദേശങ്ങളിൽ പ്രധാന ചർച്ചാവിഷയം. കൊളസ്ട്രോളിനെ പറ്റിയും സ്റ്റാറ്റിൻ ഗുളികകളെ പറ്റിയും എല്ലാം എത്രയോ സന്ദേശങ്ങൾ നമ്മൾ വായിച്ചു കഴിഞ്ഞിരിക്കുന്നു .

ഇത്തരം സന്ദേശങ്ങൾ കണ്ണടച്ച് വിശ്വസിക്കുന്നതിന് മുൻപേ അതിന്റെ ആധികാരികതയും കൂടെ നമ്മൾ പരിഗണിക്കണം. ഇന്റർനെറ്റ് എന്നുള്ളത് ഒരു വിഷയത്തെ പറ്റിയുള്ള വിവരത്തിന്റെ കലവറയാണ്. അതിനാൽ തന്നെ അതിൽ നിന്നും ലഭിക്കുന്ന വിവരങ്ങൾ ശാസ്ത്രീയാടിസ്ഥാനം ഉള്ളവയാണോ എന്ന് ഉറപ്പുവരുത്തുക.വൈദ്യശാസ്ത്ര സംബന്ധമായ കാര്യങ്ങൾ നോക്കുന്നതിനായി ശാസ്ത്രീയമായ വിവരങ്ങൾ അടങ്ങിയിട്ടുള്ള നല്ല വെബ് സൈറ്റുകൾ നിലവിലുണ്ട്. കഴിയുന്നതും ഇത്തരം സൈറ്റുകൾ നോക്കാനായി ശ്രമിക്കുക.

തുല്യ പ്രാധാന്യമർഹിക്കുന്ന മറ്റൊരു വിഷയമാണ് ഇന്റർനെറ്റിൽ നിന്നും ലഭിക്കുന്ന വിവരങ്ങൾ ഒരിക്കലും ഒരു അത്യാഹിത ചികിത്സ വൈകിപ്പിക്കാൻ ഇടവരുത്തരുത് എന്നുള്ളത്. ഹാർട്ടറ്റാക്ക് പോലത്തെ അവസ്ഥകളിൽ ചികിത്സ സമയനഷ്ടം ഒഴിവാക്കാൻ ചികിത്സിക്കുന്ന ടീമിന്റെ നിർദ്ദേശങ്ങൾ അവരോട് തന്നെ ചർച്ച ചെയ്തു എത്രയും പെട്ടെന്ന് ഒരു തീരുമാനത്തിലെത്തുക.

ഒരു നാണയത്തിന് രണ്ട് പുറങ്ങൾ എന്ന പോലെ തന്നെയാണ് എല്ലാ കാര്യവും. ഇന്റർനെറ്റിന്റെ നല്ല വശങ്ങൾ എന്തെല്ലാമാണ് എന്ന് നോക്കാം. ഡോക്ടർമാരുടെ കാര്യമെടുക്കാം, പലപ്പോഴും ഹൃദ്രോഗ ചികിത്സയിൽ ഇസിജി യിലെ വ്യതിയാനങ്ങളിൽ ഞൊടിയിടയിൽ വിദഗ്ധോപദേശം ലഭിക്കാൻ ഇതിലൂടെ ഇപ്പോൾ നമുക്ക് സാധിക്കും. പക്ഷേ നമ്മൾ ഒന്ന് ആലോചിക്കേണ്ടത് രോഗിയെ കണ്ടു രോഗവിവരം ഗ്രഹിച്ച് പ്രാഥമികമായ പരിശോധന നടത്തിയ ഒരു ഡോക്ടർ ഇസിജിയോടൊപ്പം തന്നെ ആ വിവരം ഹൃദ്രോഗ വിദഗ്ധന് കൈമാറുമ്പോഴാണ് കൃത്യമായ രോഗനിർണയം ലഭിക്കുന്നത് എന്നതാണ്.

ഇനി രോഗികളുടെ കാര്യം എടുക്കാം. ഇന്റർനെറ്റ് എങ്ങനെ ഫലപ്രദമായി ചികിത്സയ്ക്ക് ഉതകുന്ന രീതിയിൽ ഉപയോഗിക്കാം?

ഹൃദ്രോഗം തന്നെയെടുക്കൂ. ഞാൻ പലപ്പോഴും രോഗികളോട് പറയാറുള്ള ഒരു കാര്യമുണ്ട്. രോഗം എന്തെന്നും, അതെങ്ങനെ നമ്മുടെ ആരോഗ്യത്തെ ബാധിക്കുന്നു എന്നും ഒന്ന് വായിച്ചുനോക്കൂ എന്നത്. ചികിത്സയിലും, മരുന്നിന്റെ പ്രാധാന്യത്തിലും, ജീവിതശൈലി നിയന്ത്രണത്തിലും പലപ്പോഴും രോഗിക്ക് അത് സഹായകരമായി മാറാറുണ്ട്. ഹൃദ്രോഗമുള്ള ഒരാൾക്ക് ഏത് സാഹചര്യത്തിലാണ് അടിയന്തരമായി വൈദ്യസഹായം തേടേണ്ടത് എന്ന് മനസ്സിലാക്കാനും ഇത് വളരെ ഉപകാരപ്രദമാണ്.

ജീവിതശൈലി രോഗങ്ങളായ ഷുഗർ പ്രഷർ കൊളസ്ട്രോൾ മുതലായവ ഉള്ളവർക്ക് ആ അസുഖങ്ങളെ പറ്റിയുള്ള അവബോധം ഉള്ളത് അവരുടെ ചികിത്സയിൽ നല്ല പുരോഗതിക്ക് വഴിവെക്കാറുണ്ട്. അതിന് ഇന്റർനെറ്റ് വളരെയേറെ സഹായകമാവും

ഒരർത്ഥത്തിൽ ഇന്റർനെറ്റ് എന്നത് ഇരുതല മൂർച്ചയുള്ള വാൾ പോലെയാണ്. വിവേകവും വിവേചനവും ഉള്ള ഉപയോഗം രോഗം എന്നുള്ള നമ്മുടെ ശത്രുവിനെ ഫലപ്രദമായി കീഴടക്കാൻ ഉള്ള ഒരായുധം ആക്കി മാറ്റാൻ നമുക്ക് സാധിക്കും. അതോടൊപ്പം തന്നെ അതിന്റെ ദൂഷ്യഫലങ്ങളെ പറ്റിയുള്ള ഒരു മുന്നറിയിപ്പ് നമ്മുടെ മനസ്സിൽ എപ്പോഴും ഉണ്ടാവണം. രോഗചികിത്സയുടെ അടിത്തറ എന്നുള്ളത് എന്നും ഡോക്ടർ രോഗി ബന്ധത്തിന്റെ ഊഷ്മളതയും പരസ്പര വിശ്വാസവും തന്നെയാണ്. വിവരസാങ്കേതികവിദ്യയിലെ പുരോഗതികൾ ആ ദൃഢബന്ധം ഊട്ടി ഉറപ്പിക്കാൻ തക്കവണ്ണം ഉപകാരപ്രദം ആവട്ടെ എന്ന് പ്രതീക്ഷിക്കാം.

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