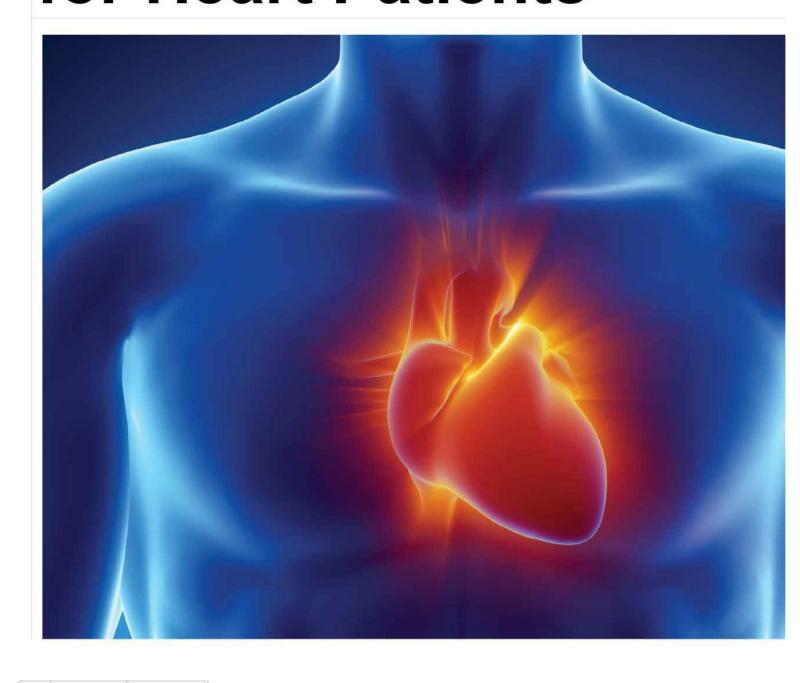


EECP Huge Hope for Heart Patients





It's a revolution in the treatment of heart disease. **EECP therapy** started in the US in the 1990s. and is slowly, steadily gaining popularity in India. It is a totally noninvasive, painless therapy that needs no hospitalization and involves no surgery, no needles or injections. Dr. S. Ramasamy, International Medical Director of EECP Therapist Association (IETA). USA, gives a total picture of EECP, the new wonder in the treatment of heart diseases.

The heart is one of the most important organs in the entire human body. It is really nothing more than a pump, essentially a muscle (a little larger than the fist) which pumps blood throughout the body. Coronary Artery Disease is the leading killer disease worldwide. The World Health Organization has projected that India will have 69 million diabetics and 214 million people with hypertension by the year 2025. These are the two main risk factors that lead to cardiovascular diseases. Their impact will cost our country \$237 billion, say WHO estimates.

When the blood vessels of the heart are affected, it is called "Artherosclerosis"; and the death of most heart patients is usually caused by a "heart attack" or its consequent "heart failure" resulting from this disorder. New breakthroughs in medical research, new machines. new medicines and new procedures have of course cut down the death rate in recent times. Interventional procedures like Angioplasty and By-pass surgery have contributed much in challenging heart diseases. but there are people who have undergone all of the above; or are not fit to undergo these invasive procedures due to reasons like advanced age, complex diseases and risk from the procedure itself.

So the question is - have they reached the end of their life? Do we let them die in peace or do we venture out to the new emerging techniques to treat them? A few therapeutic options that many would have heard of are stem cell therapy, the cardiac pacemaker, the artificial heart or the heart transplant. But I am sure you would not have heard of a non-invasive treatment called EECP, which could

really change the quality of life of a cardiac patient.

Coronary vascular disease in human evolution

The word 'heart disease' has become synonymous with blocks in the heart for most of us. Well it is wrongly understood so. In fact, blocks in the heart and other blood vessels of the body do begin as small fatty deposits called fatty streaks right from one's teen years or even earlier. These 'fatty streaks' can develop into larger blocks over a period of time and can decrease blood flow to a specific area. Some of these blocks may suddenly rupture, which ultimately result in blood vessels getting totally blocked. This is a heart attack. And it is extremely necessary to revive the blood flow within the shortest period of time either by clot thinning medicines or a primary angioplasty to prevent critical muscle death and mortality.

Diabetes, high blood pressure, smoking, sedentary life style, high LDL cholesterol and low HDL cholesterol are all risk factors for heart disease. Genetic risk and the risk from ageing are considered as non-modifiable risk factors (ones that you have little or no control over) which accelerate the process of the block or plaque formation. All of the blood vessels throughout your body are susceptible and affected by this disease. When there is sudden blockage of blood flow to the brain - it is called a stroke; when the same occurs in the heart it is called a heart attack.

Existing options for treating heart disease

The best way to manage heart disease as of now, is by preventing and controlling the risk factors. In



cases where life style changes do not help to control the risk factors, as the next step medical drugs are prescribed to control the situation. In case the patient has significant blocks that cannot be managed with medicine, or when the patient comes in after the disease is already far progressed, then interventional approaches like angioplasty and bypass surgery are advised. Unfortunately, in many cases, the first symptom of illness may be a heart attack and only three out of five may survive the first attack to receive further treatment.

There are two basic principles involved in treating heart disease. One - increase the blood supply to the heart muscle that is not getting enough; two - decrease the effort of heart muscle and the burden it is facing, while pumping blood. Cardiac drugs mainly work by decreasing the heart's effort to pump the blood into circulation by making the blood vessels dilate. This ensures that less resistance is present when the pumping takes place. Other drugs act by thinning the blood and some others de-sensitises the blood cells from clumping together if an injury was to occur.

Still, there are limitations for these treatments; drugs do not always provide adequate relief. The invasive surgical procedures have their own associated risks, such as serious hospital-induced infection, changes in mental status or memory and blood clots in the brain or lungs and in some cases stroke or even death.

Limitations of Interventional **Therapies**

As nothing in medicine is absolute, an angioplasty or a bypass surgery may not last forever. Approximately, 6-10% of bypass surgeries fail - meaning that a re-operation is needed. This step carries a mortality rate of two to three times more than that of the initial procedure. In patients undergoing angioplasty, about 10% have a recurrence in the first 6 months and 20-30% have a relapse in about four years following the procedure. Repeat re-operation increases the risk of blockages reoccurring and reports suggest this to be as high as 50%!

In the 70's, bypass surgery was the main procedure used to re-establish blood flow to the deprived muscle in cardiac patients. In the 80's balloon angioplasty evolved as a less invasive treatment for heart attacks and chronic coronary artery disease. Unfortunately, a good number of patients undergoing these procedures relapsed after a few



years of the procedure. Among them many patients with liver failure, severe heart failure, renal failure, stroke, and kidney failure were not eligible for further interventional procedures like bypass surgery and angioplasty. For these patients research continued and technology came up with answers like the artificial heart, the pacemakers, the stem cell therapy and the heart transplant. Sadly, all of these are invasive; some are expensive beyond imagination and therefore not accessible to many.

"EECP is very unique because its mode of action is on the smaller vessels in the heart, which are too small for bypass surgery or angioplasty. The treatment works in different areas of the circulatory system, which Bypass surgery and Angioplasty cannot access. This is well suited for Indian patients-who are diabetics with smaller vessel diameter diffusely diseased, involving multiple vessels which are difficult to bypass or angioplasty."



Dr.S.Ramasamy (EECP Expert & Consultant)
Frontier Lifeline Hospital (Chennai)
International Medical Director
(International EECP Therapist Association), USA

The EECP Advantage

Doctor and clinicians have constantly been trying to figure out a better and safer way to treat heart disease and this search led them to a treatment which is safe, non-invasive and does not require any hospitalisation. The treatment is known as Enhanced External Counter Pulsation, or more commonly known as EECP therapy. Though it is not the primary choice of treatment for treating coronary heart disease as of now, it is a very effective therapy. EECP is an approved therapy currently reserved for treating patients with stable cardiac chest pain on optimal medication, inoperable heart disease, recurrent chest pain after intervention and heart failure. Since it works well in the worst of patients, the question arises, "why not use it as a primary form of treating non critical heart disease as

a preventive option?" The debate is on and the verdict is left to individual judgement.

Growth of EECP therapy

The USA FDA cleared EECP as a non-invasive treatment option for heart disease patients in the 1990's. It was approved for treating patients with 'angina' cardiac chest pain and for patients who would be at risk for further intervention. Since then it has surprised both cardiologists and patients in its effectiveness in providing patients with a better quality of life. It is literally evolving as a revolution in the treatment of cardiovascular disease.

In the USA alone, there are more than 1000 EECP treatment centres where the treatment is reimbursed by medical insurance companies. The treatment is viewed as clinically proven, safe and cost effective for

treating patients suffering from refractory angina and heart failure.

EECP in India

In India EECP was first introduced in 2000 at 'Dr K M Cherian's -Frontier Heart Institute' Chennai and the Escorts Heart Hospital Delhi. Since then, the therapy has spread to more than 80 centres in India, which include big hospitals like - Asian Heart Institute, Apollo Hospitals Delhi, Chettinad Hospital -Chennai, Fortis Group of Hospitals, Harvey Heart Hospital - Chennai, B. M. Birla Heart Foundation, KIMS hospital Hyderabad, Global Hospital Group and the Sri Sri Ravi Shankar Ayurveda and Holistic Healing Centre Bangalore, among many others.

Science of EECP Therapy

EECP is a mechanical therapy which increases blood flow to the

"The robust effectiveness of EEP as a Non-Invasive device, together with its relatively low start up and recurrent cost, makes it an attractive consideration for treating patients with milder refractory angina in addition to the patient with severely disabling angina treated in current practise"



Dr. William E. Lawson Professor of Medicine Director, Preventive Cardiology Director, Interventional Cardiology Fellowship Program Stony Brook, State University of NY.

like the US and UK discuss the effectiveness of EECP. But still EECP is seldom mentioned as an option in India unless the patients firmly asked about it.

EECP after Bypass surgery or Angioplasty

As far as heart disease is concerned. medication can slow the progress of the disease and provide clinical improvement and interventional procedures do improve quality of life for a time period. But it is not a permanent cure. Every bypass patient has to pursue an active exercise regimen with a healthy life style if they hope to sustain the benefits of the surgery or treatment they have received. If long term sustained exercise training is not provided after the treatment, the disease may again surface and adversely affect the bypass grafts. This is how a repeat block in the artery or the stent happens.

Many cardiologists and physicians recommend EECP when the graft gets obstructed and the stent is closed as the first option rather than recommending yet another bypass or angioplasty. EECP is recommended during this course of the disease to stimulate the natural mechanism to promote new vessel formation around blocked arteries. So it is called 'A NATURAL BYPASS'. Unfortunately, by this time the disease would have grown to the aggressive stage and the patient is termed as inoperable or as a no-option patient. There is only one option left - EECP.

Facts that every cardiac patient should know about **EECP**

♦ SAFE: This is one of the biggest benefits - that it's a safe alternative to a more risky and

invasive procedure.

- ♦ SCIENTIFIC: Scientific studies have shown EECP to be as effective as bypass or angioplasty procedures in selected patient groups. EECP is USA FDA approved for chest pain and poor heart function and is the first truly non-invasive outpatient treatment.
- ♦ DOCUMENTED : More than 160 research articles are published worldwide supporting EECP. These articles prove EECP relieves the patient from chest pain and shortness of breath in cardiac patients. It also decreases the dependence on medication and improves the overall quality of life. The benefits last up to five years.

♦ PROVEN:

EECP has been proven to

- improve blood flow to the heart
- improve cardiac function
- Improve vascular health
- decrease and sometimes elimination of cardiac symptoms
- increase blood flow to other parts of the body

♦ AVAILABLE:

EECP is practised in major hospitals worldwide, including India.

The physician is bound to tell the patient all options for managing the patient's disease and to have an unbiased dialogue with patients. Those who don't include EECP are definitely withholding information.

There is no justification for it. Currently only a fraction of patients who could immensely benefit from the treatment are referred to EECP. When we have a treatment which has nothing negative about it and has shown amazing clinical benefits, it's shocking to note that it's still sparsely used.

The Option for Patients with NO Option

The famous terminology adopted is "EECP IS AN OPTION FOR PATIENTS WITH NO OPTION".

Even at this seemingly end stage, EECP therapy gives many benefits to the patient. The irony is that doctors still hesitate to provide or recommend EECP therapy during the initial phase of the disease.

Ideally, treating cardiac disease should focus on not just the patient's cardiac health, but on restoring vascular health. We all know that a block in the blood vessels carrying blood to the heart leads to poor blood supply, which in turn leads to heart attack and further complications.

What we have not understood is that block has been created by the dysfunction of the entire vascular system; it's not just a malfunction in the vascular supply to the heart alone. If the patient has a poor vascular health, the chance of getting heart attack is high irrespective of how mild or severe the blockages are.

That is why interventional treatment like bypass surgery and angioplasty which restore cardiac health is always combined with regular exercise, risk factor modification and medication- which are all shown to restore the vascular health. Which is what EECP also does.



EECP to Save Diabetic Limbs?



Dr. Sreekumar RC Vascular Surgeon Thiruvananthapuram

Time has proven that EECP works wonders in treating heart disease. Many cardiologists all over the world have accepted this as a good treatment for heart failures. The same mechanism is applicable for 'peripheral vascular diseases'.

Many people, especially men over the age of 50, suffer from this condition - in which the blood vessels in the body become narrower and harder over time due to poor lifestyle choices and other illnesses. People who have cholesterol problems, diabetes mellitus, heart disease, high blood pressure and who are regular smokers are all prone to having poor blood vessel (vascular) health. This is significant, because a lot of diabetic patients who are at risk for limb amputation could be helped with EECP. Since EECP is only gaining acceptance in India, there

are currently no large volume studies to testify to its efficacy as a therapeutic option in peripheral vascular diseases like non repairable diabetic foot.

Since we were convinced that it would be helpful, we tried an approach by combining EECP therapy and skin grafting in a few cases - and found the results encouraging. EECP may not be a substitute for revascularization, but it is definitely a good 'limb salvaging' technique for uncontrolled non healing ulcers. Diabetes affects the major blood



Before EECP

vessels as well as very small vessels and it is the injury happening to the small vessels (microvascular) that cannot be tackled with routine procedures.

But now, there are strong indications that microvascular diseases can be better tackled by EECP. But more data would be required to prove this theory. In my practice it has certainly helped a few patients and the improvement shown certainly points to this theory.

On the other hand, in cases where patients cannot have a major procedure due to uncontrolled infection or poor general condition, EECP is an alternative that should definitely be tried out to increase blood flow to the affected limb. It will probably open up a temporary window to initiate antibiotic therapy. It is also observed that in a few patients, diabetic neuropathy (tingling and numbness) has also improved, which is strongly believed to be due to better circulation happening in the smaller blood vessels. This could happen either because new small vessels are developing due to the EECP, or because the peripheral resistance of blood vessels drops when the patient is under EECP. EECP improves blood circulation, gives better muscle tone and improves nerve conduction in patients with vascular problems in foot and hence helps in limb salvage.



After EECP & Skin Graft

Ayurveda with EECP: **Winning Combination**



Sri. Sri. Ravisankar with Dr. Ramaswamy

The Art of Living International Center now offers the winning combination therapy of EECP and Ayurveda, which will soon be available at all of their centers.

The Art of Living International Center at Bangalore, India has become the first institution in India to incorporate EECP therapy into a natural healing program. At the inauguration of the program on December 14, 2011, His Holiness Sri Sri Ravi Shankar said that "EECP is the first allopathic



treatment which does not involve invasive procedure or medication. but provides clinical improvement to cardiac patients in a natural way. Hence this natural treatment will work synergistically with our Ayurvedic therapies to enhance health without adverse side effects." The combined therapy is being offered at the Sri Sri Ayurveda Panchakarma, the Ayurveda and Wellness Spa at the Art of Living International Centre in Bangalore. They have formulated a special package which offers this highly specialized, yet affordable treatment with a focus on holistic heart care. The therapy is a combination of EECP therapy, given with proven herbal medicines and potent ayurvedic/panchakarma therapies.

The understanding is that cleansing, healing Ayurvedic therapies, together with enhanced blood flow and circulation will yield the maximum benefits for heart patients. An announcement from the Art of Living International Center says that they will also be encouraging an educational program through which people who are already suffering from cardiovascular disease, as well those who are at high risk for developing heart diseases, will get to know about this combination therapy. EECP will be implemented across India at Art of Living centers.

This is definitely a shot in the arm for cardiologists and doctors who have been working relentlessly over the past decade to reveal the myriad benefits of EECP therapy to the Indian public.

Sri Sri Ayurveda Panchakarma is an initiative of the Art of Living Foundation, established with the global vision of bringing the best of Ayurveda to the world.

Who's Afraid of EECP?

When the *Health Café* team started researching EECP, we were quite surprised to find that this therapy is being extensively used in over 900 hospitals and centers in the USA. What's more, it was featured in the Time magazine in 2004, as a successful new therapy. It's proven to be safe, and is completely non-invasive, and has seen wonderful success. So why has it taken so long to take hold in India? Resistance to change and lack of awareness seem to lie at the root of this sorry situation.

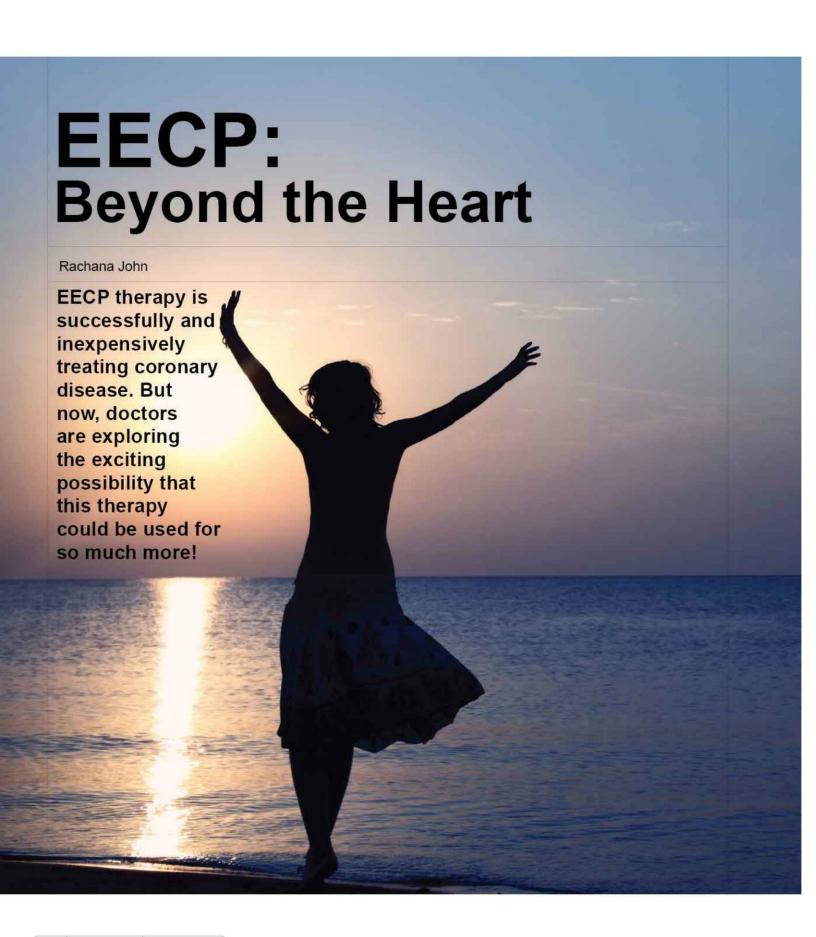
Now that you know what it is and how it works, take a positive stand and check out the options open to your loved ones who have heart disease, to see how well this therapy could help them. When it comes to heart disease, 40% of patients who get rushed off to emergency interventions, due to simple ECG changes may actually only require life style changes. Another 40% who are post-intervention and presumably doomed to a sedentary life of pain, and restrictions can now explore this effective option to improve quality of life through EECP therapy.

Here's a list of centers that offer EECP therapy in India:

- Asian Heart Institute, Mumbai
- ♦ Narayana Hrudayalaya Health City, Bangalore
- ♦ Metro Hospital, Delhi
- Medanta Medicity, Gurgaon
- ♦ Fortis Escorts Heart Institute, New Delhi
- ♦ Fortis Vasant Kuni, New Delhi
- Frontier Lifeline Hospital & K. M. Cherian Heart Institute, Chennai, Tamil Nadu
- ♦ Fortis Mohali Hospital, Mohali
- ♦ B. M. Birla Hospital, Kolkata
- ♦ Indrapastha Apollo Hospital, Delhi
- Chettinad Health City & Chettinad University, Chennai, Tamil Nadu
- Medlinks Cardiocare Pvt Ltd, Trivandrum, Kerala
- ♦ Global Heart Foundation, Pune
- ♦ K. G. Heart Hospital, Coimbatore, Tamil Nadu
- Krishna Cardiac Care Hospital, Mumbai
- People General Hospital, Bhopal
- ♦ Samarpan General Hospital, Jamnagar
- ♦ Apollo Gleneagles Hospital, Kolkata
- ♦ Moolchand Medcity, New Delhi
- ♦ PSG Hospitals & Medical College, Chennai, Tamil Nadu
- Krishna Institute of Medical Sciences, Hyderabad
- Harvey Super Speciality Hospital, Chennai, Tamil Nadu
- ♦ BAPS Swaminarayan Temple, Ahmadabad, Gujarat

List of International EECP therapy centers:

- ♦ The Mayo Clinic USA
- ♦ Harvard Medical School USA
- ♦ John Hopkins Medical Center USA
- ♦ The Cleveland Clinic USA
- ♦ Beth Israel Medical Center, New York
- ♦ University of California, San Francisco
- ♦ University of California at San Diego
- ♦ The Ochsner Foundation Hospital, USA
- ♦ JFK Medical Center, Atlantis, Florida
- ♦ University of Florida, Gainesville- USA
- ♦ University of New York, Stony Brook
- ♦ Trinitas Hospital, Baltimore USA
- Miami Heart Institute, USA
- ♦ University of Pittsburgh, USA
- ♦ Centre de Médicine Préventive Cardio-vasculaire, Fürth, Germany
- ♦ Heart Institute Hadassah University Hospital, Jerusalem, Israel
- Centre de Médicine Préventive Cardio-vasculaire, Paris, France
- King Fahed Hospital, Jeddah, Saudi Arabia
- Hong Kong Adventist Hospital and Heart Centre
- ♦ The National Refractory Angina Centre, Liverpool, UK
- ♦ Hammersmith Hospital, London, UK
- Hull Royal Infirmary, East Yorkshire, UK
- ♦ Beaumont Hospital, Dublin, Ireland
- ♦ Lyford Cay Hospital, Bhamas
- ♦ Kyoto University Hospital, Japan
- ♦ Dokkyo University Hospital, Japan
- ♦ Memorial Hastanesi, Turkey
- ♦ Heart Institute of Nevada, Las Vegas





It's a given that as technology advances, newer, less invasive therapies evolve. But it is also a given that resistance to change is part of the human psyche. This is usually why new therapies don't catch on quickly. One of the best examples of this that we have in modern medicine today is that of a new therapy called EECP. It would not be an exaggeration to say that EECP is the best kept secret among treatment options in cardiology. A recent study says that only 20% of cardiologists are aware of its existence! But judging by the immense potential of its usefulness to many cardiac patients, it's believed that it's high time we exposed EECP's secret to the junta. Here's your scoop on this optional treatment that is truly effective in treating uncontrolled angina, ischemia and heart failure. Experts around the world are unanimous in their opinion that EECP needs to be emphasized since it is non-invasive, yet highly effective. But recently the medical fraternity has been finding out that EECP therapy is useful for so much more than just tackling heart disease.

EECP was developed at Harvard University about 50 years ago; perfected in China and has been approved by the FDA, USA, for its use in unstable angina, congestive heart failure, myocardial infarction, heart failure and cardiogenic shock. It has been in use in the US since 1990.

New Benefits

The buzz on EECP is taking on new dimensions. Doctors have been noticing that other ailments like diabetes, vascular erectile dysfunction, Alzheimer's, Parkinsonism, peripheral vascular disease, movement disorders, kidney dysfunction, memory loss, stroke, diabetic retinopathy, minor complications of stroke and vascular dementia improved dramatically when their EECP patients were being treated for heart disorders. These unexpected improvements lead to further research on each of the above and the current conclusion is that EECP could definitely give many benefits in solving these disorders too. Of course, further larger studies are required before incorporating EECP to routine patient management protocols.

EECP Therapy and Hypertension:

As the body ages, the blood vessels get stiffer, and conditions like diabetes accelerate this stiffening. This means the heart is pumping blood into stiffer blood vessels, which means the pressure on the blood vessels are increasing. This condition is called hypertension. EECP therapy decreases blood

vessel stiffening all through the body- exactly what happens when one exercises regularly. Many centers are now adopting EECP to treat patients with high blood pressure. They implement it as a combination therapy with medicines, and slowly get the patient to an optimal level. Having an ideal diet, with proper exercise and EECP seems to be the best solution for patients who are unable or unmotivated to follow regular exercise. This method will be of huge importance to patients who are obese or bariatric patients who are unable to exercise.

The most interesting information is that patients with mild to moderate hypertension were seen to improve significantly on EECP therapy alone. Combination therapies have shown reversal or reduction of arterial stiffness also.

Diabetes

High blood sugar levels affect your blood vessels and this damage can have a long-term effect. If left untreated, organs like the eyes, heart, nerves and kidneys can become permanently damaged. A new study done at the University of Florida, published in the Journal of Applied Physiology(December 2011) says EECP therapy is effective in improving peripheral artery function, glucose tolerance and glycemic control in patients



"Recent scientific evidence shows EECP improves vascular health which will pave way for giving this treatment not only for patients who have established coronary artery disease, but also for patients who are at high risk of developing cardiovascular disease in future."

Dr. Vishnu Vardhan Reddy MD (Internal Medicine), USA Medical Director- WALK IN CLINICS, Hyderabad. "I have been using EECP therapy for my patients for the past five years. We are happy with the system's performance and its clinical outcomes for our patients"

Dr Pradeep G Nair, MD, DNB (Card),MNAMS, FIMSA,FACC, FSCAI Director Cardiology – Institute of Cardiovascular Disease and Robotic Surgery Centre, Chettinad Hospital & Research Institute, Chennai.

who are borderline diabetic (whose blood sugar is a little high, but not high enough to be termed diabetic) with impaired glucose tolerance. This means that the therapy has great potential in the prevention and treatment of diabetes. This is the first scientific paper that demonstrates the fact that EECP could be used as a preventive tool in treating diabetes and as a salvage technique in peripheral vascular disease. Of course many larger studies would have to be conducted for this to reach mainstream therapy for pre-diabetes. But what this means is that if you are at a point where diabetes may be just setting in, you could use EECP to ensure that your health gets better, without having to start off on the medication cycle right away.

Vascular Erectile Dysfunction

Patients with refractory angina often suffer from erectile dysfunction (ED). In most cases, patients resort to taking drugs like Viagra and Cialis to improve the condition. However, for heart patients, these medications can be risky, especially if they are also using nitrates for their angina.

An article published in the International Journal of Clinical Practice (May 2007) suggests that EECP therapy can be effective in improving erectile function in patients who have angina, peripheral vascular disease and diabetes mellitus. Many other studies have documented this improvement.



Many men suffering from diabetes have erectile dysfunction, and going the EECP way would be a wonderful alternative to pumping chemicals into your body.

Parkinson's Disease

For patients with Parkinson's disease, the most widely used form of treatment is L-dopa. Studies have shown that when results from EECP sessions and L-Dopa were

compared, EECP was much more effective than the medication. This is probably because EECP increases the cerebral blood flow, which means that brain function would be improving. A published article from the Clinical Practice of EECP in Non-Cardiac Disease in China, also quotes the same benefits.

Alzheimer's Disease

A three-year study found that circulation in the brain was found to be significantly improved after EECP therapy. When a patient has Alzheimer's, he will be suffering from decreased blood flow and poor metabolism of oxygen and glucose. EECP increases circulation, and could therefore immensely benefit these patients. There are publications that show a documented increase in brain blood flow by 20% while a patient is on EECP therapy.

Dr T Rajagopal (Neurosurgery), currently working at Sneham Charitable Trust Hospital at Mudalamada, Palakkad, kerala states "I had a 65 year old female patient, presenting with dementia and three years duration of diagnosed Alzhiemer's disease, with symptoms of not recognizing her husband, son or any of the relatives. She was not able to manage anything on her own. She underwent EECP therapy for 40 sessions and started showing improvement by her 21st session. Now she can recognize her husband, son and relatives

"EECP is a good treatment for managing patients who are otherwise not amendable to bypass surgery or intervention. This may be due to extensive diffuse coronary disease, co-morbidity or by choice."

Dr. Sanjay Mittal MD, DM (Cardiology)
Director – Research & Clinical Cardiology
Medanta Heart Institute- Medanta Medicity, New Delhi



"Enhanced External Counter Pulsation (EECP) is useful to treat patients with refractory angina who are not suitable for revascularization procedures. I am also convinced that EECP helps patients with heart failure. I believe that the patients should be given a chance to go for EECP treatment, where there is no other option in the above subset of patients."

Dr. D. Seshagiri Rao, MD, DM (Cardiology).

Prof & HOD of Cardiology, Nizam's Institute of Medical Sciences, Hyderabad



and can even take a bath, eat and manage her day-to-day affairs by herself. Her improvement was not recorded by any molecular imaging tool, like brain SPECT imaging, but her clinical improvement justifies the findings of others who have published similar results with documented brain SPECT improvement."

Stroke

EECP improves the symptoms of stroke, which is probably due to an increase in circulation and regeneration in the brain cells. Although this theory has not been proven by large volume studies, numerous researchers have commented on the improvement they witnessed in muscle tone function and motor function of patients who had earlier suffered a stroke, but were on EECP for their heart failure.

There are instances were post-stroke hearing defects have improved and similar visual defects have improved after EECP. Experts attribute this to the possibility that increase in blood flow would have caused these improvements in walking, balance, speech and vision.

Kidney Disease

Diabetic renal failure is the cause for renal damage in 80% of the patients undergoing dialysis around the globe. The maximum number of renal transplants also is done for this affected group of patients. Studies show that patients have shown improvement in creatinine values after one full EECP therapy session. This is the reading of improvement in kidney function. It's possible that the improvement in heart function could have improved the blood flow to the kidneys and therefore there has been better filtration and increased urine output.

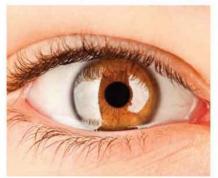


"EECP is a novel approach for patients with angina and heart failure. This completely non –invasive treatment method can be called "Natural Bypass "because it forms physiological revascularization by stimulating collaterals and angiogenesis."

Prof. Dr. M. Dhanapal, MD, DM (Cardiology) Former Director of Medical Education (OSD) Dean, Madras Medical College, Chennai

Retinopathy

Many studies have indicated that EECP brings about improvement in ischemic eye disease, including



central retinal artery thrombosis, ischemic optic nerve disease, optic nerve atrophy and retinitis. After EECP therapy, there is dilation of arteries and veins, dissolution and clearance of thrombus to an extent. improvement of pigmentation at times, increased aqueous humor occasionally, as well as normalization of increased intraocular pressure probably due to improved blood flow.

Multiple Benefits

EECP therapy enhances the blood flow in the body. This increased blood flow delivers better oxygen and nutrient delivery at the cellular level. It is believed that a good diet, exercise, and healthy living help one age normally. But 'life in the fast lane' has accelerated cellular aging and has resulted in the early onset of life style disorders. Of course, the best therapy of all is healthy living and prevention. But when the damage is done and one needs

to treat such disorders, then EECP fares as an excellent comprehensive or complimentary tool alongside widely practiced established therapies of modern medicine. The studies cited above only serve to show us that EECP could be the single most effective therapy that helps with almost all lifestyle ailments. This is a phenomenal breakthrough, especially because it's a non-invasive, affordable therapy. Doctors, patients and the common man need to be aware that the medical community has such a wonderful device at its fingertips for helping us regenerate and rejuvenate our bodies. But the bottom line is that anything that is good, remains good only when it is used for the right reason at the right time.

"EECP is a very appealing treatment as it is totally non-invasive and also a hope for all the cardiac patients who are not amenable to CABG's.

Dr. Syed Abid Hussain, MBBS, FIEM, PG Diploma Cardiology (London), Consultant Cardiologist. And Dr. B. Jayanthi, MBBS, MD, DNB (card), Consultant Cardiologist. Aditya Hospital, Hyderabad



"EECP treatment offers my patients significant reduction of chest pain and shortness of breath."

Dr.Rajesh Sangani MD (Internal Medicine) Director - Sangani EECP Center Sangani Hospital, Keshod, Gujarat.



"EECP is definitely a source of hope for patients with refractive angina, post CABG and post PTCA patients where all the existing treatments have been tried. It needs encouragement, as patients also prefer non-invasive options."

Dr. V. Surya Prakasa Rao, MD, DM, Consultant Cardiologist, Coordinator, Interventional Cardiology, Global Hospitals, Hyderabad

"All my patients who underwent the treatment have reported improvement in heart function and exercise capacity. I am happy to see them walking more distance without chest pain and improved quality of life. To conclude, I think EECP is a valuable outpatient procedure providing long-term relief of anginal symptoms and improved quality of life."

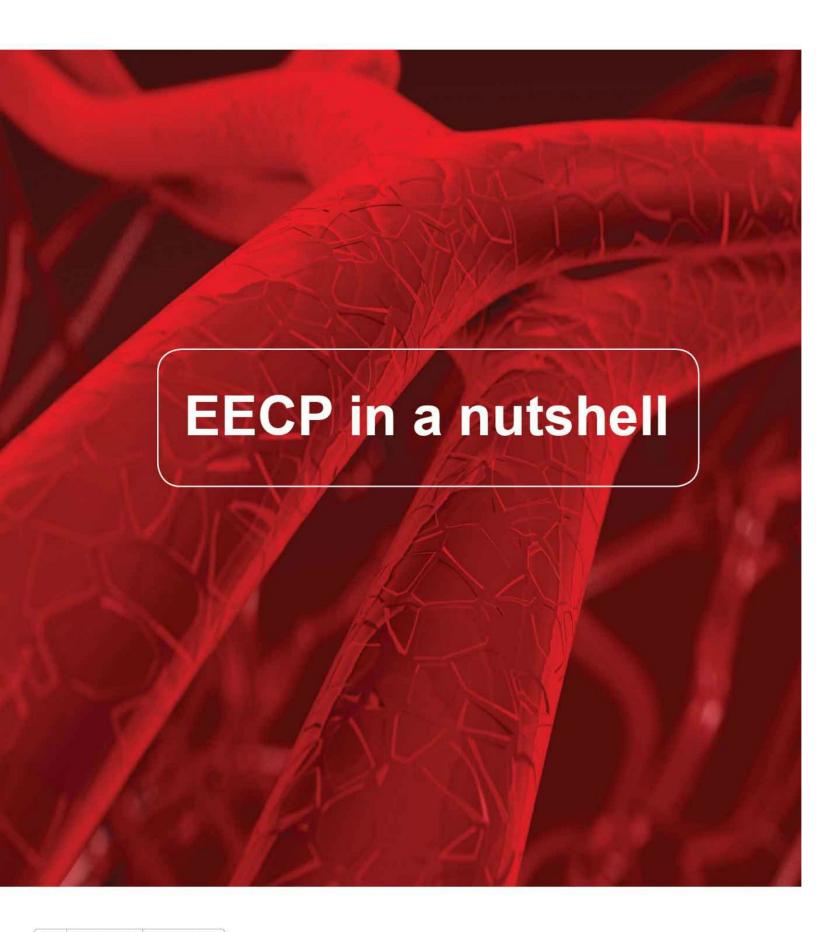
Dr. P.L.N. Kapardhi, MBBS, DM, Sr. Interventional Cardiologist, Global Hospitals, Hyderabad

EDASSERY Kayal Resort



a backwater paradise...







Heart disease as we know it, need not be as scary as you thought it was! It's true. An effective, non-invasive therapy that makes a world of a difference in the lives of millions of heart patients has been around for almost two decades. But chances are that you would NOT have heard about it. So here's your introduction – it's called EECP (Enhanced External CounterPulsation).

35 EECP sessions will give your body the benefits of a whole year's exercise, without any of the stress and strain on your body! Imagine what that could mean for a heart patient – better blood flow, improved health condition – without hurting the body!

Here's how it works. Each time your heart beats, there is a fraction of a second, when the heart is in limbo - just before all the blood pumped out gushes back in. This is when the heart gets its own blood supply and gets ready to pump out the next round of blood. In the EECP session, inflatable cuffs wrapped around the patient's calves, thighs, and buttocks sequentially compress from below upwards to force blood up into the filling heart. So in a 'whoosh' the blood is pumped back into the relaxed heart, giving the heart muscle more oxygenated blood. The heart has an easier time pumping this blood out again, since

there is no resistance to the return flow.

Now how does this help your body? First of all, every human body primarily or actively uses only 1/3 of the blood vessels that it is born with. The blood vessels that are minimally used are the small ones and the capillaries.

When a certain portion of a blood vessel gets blocked – if the block is developing slowly, then some of the surrounding small blood vessels start working to compensate for the lack of blood flow through the main vessel by opening up other vessels called collaterals. The force that the EECP therapy exerts on the blood vessels makes sure millions of tiny new collaterals are established. The therapy also decreases the workload of the heart. One hour a day, a heartbeat at a time, this continual filling rejuvenates the heart and strengthens heart muscle mass. This means that the patient gets better blood flow using his own internal mechanism! The effects of one such session is known to last for about 3-4 years.

Think of the blocked blood vessel as a river – whose flow is disrupted. If the water flowing through the river gets a bit of force at the source, then when the water arrives at the blocked area, it immediately flows around it through numerous tiny tributaries to continue its onward

journey. The pulsation that the EECP therapy provides is this helpful force which stretches the vessel walls, releases neo-vascular regenerating factors, creates new collaterals and re-establishes blood flow. As we all know, 'every action has an equal and opposite reaction' - which is at the root of the theory of muscle elasticity. When you stretch a rubber band before release it recoils at a stronger force. So does heart muscle. When the heart fills up more by stronger and higher volume of return blood flow due to EECP, its muscles are more stretched than usual. This makes the consecutive contraction stronger. So more blood is pumped out with each cardiac cycle. This increase in blood flow grows stronger by the beat, just like when you start swinging a pendulum, each consecutive swing gets stronger.

For the patient, this means that there is much better blood flow happening throughout the body – bringing with it all its benefits. And this process happens without putting a strain on his heart. It is estimated that the added blood flow from 35 One-hour sessions of EECP gives one the physical benefit of walking more than 5 kilometers a day for about a year. EECP consequently helps to reduce blood pressure, reverses vascular aging and stiffening and improves heart rate. A simple and perfect solution.

"EECP is a non-invasive option to improve myocardial blood flow. The treatment has good utility in heart failure patients with poor quality of life. This treatment is also approved by US-FDA for use in patients with refractory angina, who are not amendable by other revascularization procedures like angioplasty and By-pass surgery."

Dr. S. Balaji, MD, DM, MRCP (UK), FRCP (E). Consultant Cardiologist, Dr. K. M. Cherian's Frontier Lifeline Hospital, Chennai





Surgery? No, Thank You!

Mr. V. Somasekharan Nair

walks up to my desk briskly and smiles engagingly as he sits. I am a bit confused. I was told that a heart patient who had three blocks in his blood vessels would be coming to meet me. "No, I am the right person," he insists, again with a smile, as I quiz him on it.

"In 2006, I had three blocks in my arteries, and was told that surgery was not possible. I had only 13% heart function- that's what they told me after an angiogram." Somasekharan had retired from his job as a heavy duty driver in the K.S.R.T.C. in 2004, when his heart disease made it difficult for him to continue in this line of work. "It just kept getting worse. The medications couldn't help and I was not a candidate for surgery. My health condition was terrible - I was always extremely breathless, had no appetite, and could not pass urine it was a living hell. I got to a point where I began to wish I could die. That would be better than living like this."

"I was referred for a nuclear viability scan to assess how much heart muscle was still alive and what was the function to a nuclear medicine centre. When I came for the scan, I couldn't even walk by myself. Two people had to support me constantly. Again, the result of the scan showed very poor heart function, but the good news was about 40% of my heart muscle was alive by was not pumping at all. The bad news was I may not survive a surgery if attempted now. So I was asked to be on medication until my condition could improve and if it did they would attempt a surgery. The nuclear scan centre people told me that there would be a new therapy starting soon as a sister centre called Medlinks Cardiocare Pvt Ltd, and asked if I would like to be on it. I was 54 years when I started EECP – that was in 2006. In ten days I could feel the difference in my health. A few days after that, I actually started coming for the therapy by myself – can you imagine? Just a few weeks before I had two people almost carrying me in. But now I could sit in an auto rickshaw and then walk in for the therapy slowly and go back home on my own!"

Mr. Somasekharan's excellent recovery made him a good candidate

for a double session. Usually an EECP treatment covers 35 sessions. For him, after 20 sessions, he began getting a session in the morning and another one in the evening. "I was so grateful for this change in my health. I could finally start moving around. First I could walk for five minutes, and then gradually this increased till I could walk for up to 8 kilometers!" A few months after his EECP therapy was finished, Mr. Somasekharan was feeling strong enough to start working again. He started by driving an auto rickshaw, then a car and a few months later he was actually working for a gas delivery company taking gas cylinders to houses! "But I realized that the last job was a bit too strenuous," he laughs. He is now a college bus driver in Thiruvananthapuram.

"My heart function is now 33%. And this makes me eligible for heart surgery now. My treating doctors have advised me to give it a good thought to undergo surgery since the benefits might last for 10 plus years. But there's no way I will put my body through surgery, when EECP exists." He's really quite adamant about it. Why? "I am totally satisfied with this treatment. It has helped me recover so well. Why should I put myself at risk by cutting open my body? And my life does not come to a halt. I just have to come in the morning, take the treatment for one hour and then go to my job and continue my daily life as usual. Anyway – this is more affordable for me too, but it is not really the expense that makes me choose this. I trust this treatment. That's why I continue with it once every four years. It has made a world of difference to my life, and I would not choose any other way, now."

Celebrity Squeezers!

What do Michael Jackson, Shaquile O'Neil, Stevie Wonder, Muhammad Ali, Bill Duke, Cicely Tyson and Rev Dr. Michael Beckwith and Dick Gregory have in common? Well. they're of African American origin, for one...and they have all used EECP to help with their health! When Michael Jackson opted to try out EECP, a machine from Global Cardio Care was taken into his ranch. Neverland. Michael is reported to have used the treatment to counter the stress and fatigue caused by his sensational media trials.

Shaquile O'Neil and several other athletes, who use EECP to improve their circulation and physical fitness. have their own EECP technicians on their staff to administer the therapy to them. One of EECP's foremost supporters in the USA was Coretta Scott King, who had regular sessions. Hollywood actress Cecily Tyson, musician Stevie Wonder and Muhammed Ali have all experienced the benefits of EECP.

Rev Dr. Michael Beckwith is a religious scientist, and the founder of Agape International Spiritual Center in California. He was one of the experts featured on the popular documentary 'The Secret' and has

participated with the Dalai Lama in 'The Synthesis Dialogues'. He is an advocate for EECP and provides educational messages discussing the benefits of EECP. Actor Anthony Anderson, famous for his role in the Martin Scorcese movie 'The Departed', says he believes in the power of EECP for himself and his family. Bill Duke is the face of the tough guy - actor in movies like Predator, and other movies. His interest in EECP stemmed from the direct benefit that he received from the therapy, and he now works with Health for Peace, giving people more information about this cutting edge medical therapy. Since the therapy basically improves

circulation, it should basically be able to address a host of problems. Better circulation means better cell health – which means slower aging; it means vascular fitness, which again helps to reverse aging. On another note, could this not mean that nerve cells could gain better health? Is it possible that diabetic patients who face limb problems due to poor circulation could greatly benefit? The answer to these questions can only be answered if doctors and patients begin to use this safe therapy more extensively.

