NEWSLETTER OF THE FRIENDS OF THE ISRAEL HEART SOCIETY

Editor's Note: Welcome to the Fall 2015 FIHS Newsletter. We hope all of you had a terrific summer.

This issue will include its usual features- a message from our President, Jeff Goldberger, announcements of Cardiology Meetings, and recently published research from Israel.

Congratulations to our President Jeff Goldberger on becoming the Chief of Cardiology at the University of Miami Miller School of Medicine.

There is also an interview of the new President of the Israel Heart Society, Professor Michael Glikson.

We are trying to gauge the interest amongst our readership for a Medical Mission to Israel, to coincide with the Israel Heart Society Annual Conference in Tel Aviv, April 12-13, 2016. If you would be interested, please contact Jeff Goldberger at: j-goldberger@northwestern.edu.

In this issue we have included pictures from the 62nd Annual International Conference of the Israel Heart Society 2015 in Tel Aviv.

Please note- description of new technology in our Newsletter does not constitute an endorsement. We just want to give our readership a sense of the vast scope of Israeli ingenuity in the fields of Cardiology.

Remember, this Newsletter and Society belong to you, the membership. We look forward to enhancing this Society and the connections that we hope to foster between Israeli and non-Israeli cardiologists and their

institutions. Please feel free to email us with questions, answers, comments, criticisms, or just to tell us to keep working harder!

Our immediate goal is to try to grow our membership and participation to include any and all cardiologists and fellows from around the world who would be interested in supporting this bridging relationship. If you know of any cardiologists or cardiology fellows who we can contact, please email me (my email is jackstroh@usa.net) and feel free to forward this Newsletter.

Message from the President

We extend to all the Friends of the Israel Heart Society our best wishes for a happy and healthy new year!

The Friends of the Israel Heart Society has continued its activities sponsoring fellow exchanges, supporting Israeli fellows to attend US meetings and American fellows to attend Israeli meetings. This year, I had the privilege to attend the Israel Heart Society with the Presidents of the ACC and AHA. It is a remarkable meeting combining science, fraternity, and the opportunity to visit Israel and marvel at its progress. We are excited once again to be participating in the Fellow's Case Competition for the upcoming International Dead Sea Symposium in 2016. We are hoping to rally support for a contingent of US cardiologists to attend the Israel Heart Society meeting. If you are interested in joining a North American contingent to attend the meeting, please let me know as soon as possible.

As the support that we are able to provide the Israel Heart Society stems predominantly from the engagement and support of our membership, please feel free to contact me if you have any ideas that you would like to pursue/lead.

We are now entering our seventh year of the newsletter. Special thanks to Jack Stroh for his continued energy and enthusiasm for leading the newsletter and kudos to all the contributors

The Friends of the Israel Heart Society has certainly grown over the last several years, but we know that we need to reach many more cardiologists or other cardiac-related specialists who are still unaware of the Friends of the Israel Heart Society and would be interested in our activities. **WE NEED YOUR HELP** to reach these people! Please take a few moments to forward this newsletter to a few colleagues. If you have a few more moments, contact them to find out if they have signed up for membership.

It is also a good time to check if you have renewed your membership for 2015. We appreciate, in particular, those of you who have joined at one of the sponsorship levels. All the information is available on our website. Annual membership can be paid through the FIHS website at: http://www.friendsihs.org/index.html.

Finally, I want to thank all of our members who have donated their time and effort for the benefit of the Israel Heart Society. Please remember that our members are encouraged to send in news – personal and/or professional – to include in our **FIHS Heart Beats** section.

Thank you for your continued support!

Once again, best wishes for a happy and healthy new year,

Jeff Goldberger, M.D.

President, Friends of the Israel Heart Society

Meetings

The 20th International Conference for Innovations (ICI) Meeting 2015

December 13-15, 2015

David Intercontinental
Convention Center, Tel Aviv

http://2015.icimeeting.com/

Main Topics-

- TAVR
- Personalized Medicine
- Stents- Coating, Eluting and Beyond
- Digital Health
- Electrophysiology
- Complex Cases
- Stroke
- Brain Protection
- Technology Parade
- Drug Eluting Balloons
- Mitral Repair or Replacement
- Renal Denervation /Sympathetic Modulation
- Funding
- Peripheral Intervention
- Acute Coronary Syndrome Interventions
- Biodegradable Scaffolds
- Heart Failure
- Imaging and Physiology in the Cath Lab
- Structural Heart Disease
- Device Innovation
- The Cath Lab of the Future
- Cell and Gene Therapy
- Regulatory Aspect in New Devices

13th International Dead Sea Symposium (IDSS) on Innovations in Cardiac Arrhythmias and Device Therapy

http://idss-ep.com/

March 6-9, 2016

David Intercontinental
Convention Center, Tel Aviv

The last IDSS which was attended by more than 800 participants from 38 countries was a success.
This biannual international symposium has been held in Israel since 1992, and contributes to making our country one of the leaders in innovative electrophysiology.
The 2016 symposium will focus broadly

on emerging technology and therapies and will comprise all phases of the innovation process, e.g. ongoing or recently completed studies on devices, ablation, and mapping. This approach will facilitate comprehensive exposure to medical device and biotechnology innovations.
The International Program Committee in close collaboration with leading scientific societies are preparing a stimulating, multidisciplinary scientific program for professionals in all disciplines of arrhythmia: electrophysiologists, clinical cardiologists and internists, for physicians working in sport medicine and family physicians, an innovative scientists, biomedical engineers, entrepreneurs and the industry.
Presidents of IDSS are:

I. Eli Ovsyshcher, MD, PhD,
FESC, FACC, FHRS, MAHA
Professor of Medicine/Cardiology
President of the IDSS

Michael Eldar, MD,
FESC, FACC, FHRS
Professor of Cardiology
Co-President of the IDSS

Michael Glikson, MD,
FESC, FACC
Professor of Cardiology
Co-President of the IDSS
President of Israel Heart Society

The 63rd Annual Conference of the Israel Heart Society in Association with the Israel Society of Cardiothoracic Surgery

April 12-13, 2016

David Intercontinental
Convention Center, Tel Aviv

http://2016.en.israelheart.com/

There will be Joint Sessions with the following

European Society of Cardiology (ESC)

American College of Cardiology (ACC)

American Heart Association (AHA)

L'Association Franco-Israe`lienne de Cardiologie (AFICARDIO)

Participants are invited to submit abstracts for presentation (oral or poster).
The scientific committee will conduct a blind review of the abstracts and notification of acceptance will be sent by email
no later than **December 21, 2015.**

Interview with Professor Michael Glikson, President of the Israel Heart Society

Michael.Glikson@sheba.health.gov.il

ED: Tell us about Professor Michael Glikson- your background and training, areas of interest in research, current academic positions, and your family.

MG: I am a graduate of the Hebrew University Medical School in Jerusalem. My cardiology training was at Sheba Medical Center in Tel Hashomer. I did my electrophysiology training as a fellow at Mayo Clinic in Rochester, Minnesota. I have been the head of the Arrhythmia Center at Sheba Hospital since 2002. I am the Chair of the Europace Scientific Program, Professor of Cardiology at Tel Aviv University, and President of the Israel Heart Society.

My research interest revolves around EP devices, and for the past few years I have been rone of the people behind the National ICD Registry, which is a major source of interest for research.

I am married to Esty Glikson and we have 3 children- our oldest just recently married. Unfortunately, he has decided to become an Ear, Nose, and Throat surgeon instead of a cardiologist.

ED: What are the biggest problems in Israel today from a cardiac health standpoint?

MG: As far as Heart health we are doing well, with decreasing CV mortality, easy access to excellent cardiology departments almost everywhere, and cath labs and cardiac surgery readily available. Longevity in Israel is the fifth in the world.

We do face problems with unequal treatment and access to advanced treatments between periphery and center of the country and we still have challenges with heart health in specific populations such as the Arab population.

As far as advanced therapies we are lagging a little behind some western European countries and much behind the USA. There is a yearly budgetary struggle with limits on the use of new technologies. Our indications for expensive therapies such as implantable valves, LV assist devices, subcutaneous ICDs, and Life Vests are still somewhat restricted by national economic considerations.

ED: What are your main goals as President of the IHS?

MG: When I started my term this past April along with Professor Ronen Rubinshtein, my Secretary General, we set a list of aims that we would like to achieve. Let me name just a few- We are trying to change the course of cardiology training that now takes too long due to many years spent in Internal Medicine. We would like to start subspecialty training in Israel as we have excellent training programs and fellowship positions abroad are becoming more and more difficult to get. Nevertheless we do try to fund and help as many fellows as possible in training abroad. We currently offer two fully funded training positions at prestigious Cardiology centers in the USA and we are looking for more. These efforts are designed to encourage young trainees to choose cardiology as their future career

We are moving toward more extensive activity in the area of prevention with the aim to achieve collaboration with non-pharmaceutical companies as well as financial firms for promotion of heart health in our population.

Another goal that we would like to achieve is to attract more women into careers in Cardiology. Currently our profession in Israel is not attracting enough women, who are now more than 50% of the graduates from our medical schools

ED: What role do you see the Friends of the Israel Heart Society playing in the short and long-term in helping to foster the growth of Israeli Cardiology, and how can we help you attain your goals?

MG: We are glad to have the FIHS working along with us on various projects. I believe that the FIHS are very important for the future of the IHS in several areas:

Encouraging training of Israeli cardiology fellows in American centers (both positions and funds)

Positions for research fellows in the USA

Encouraging American cardiologists and fellows to come to visits and meetings in Israel and consider longer training periods in Israel

Lobbying Israeli medicine and academy in adverse political situations as occurred last year with the famous Lancet letter and the FIHS' quick response

Getting to know better the strengths and quality of Israeli cardiology may help to achieve better position in the international organizations

Involvement in startup initiatives in Israel.

Innovative Research-

Weizmann Institute researchers regenerate heart cells in mice

http://www.jpost.com/Israel-News/Health/Weizmann-Institute-researchers-regenerate-heart-cells-in-mice-396944

*By **JUDY SIEGEL-ITZKOVICH** \04/13/2015*

But the new discovery offers insight into the question of why the mammalian heart fails to regenerate and opened up the possibility of reversing this in adult mice.

The possibility that mammalian -- including human -- heart cells could eventually regenerate after suffering damage from heart attacks has been brought closer by scientists from the Weizmann Institute of Science who induced

mouse heart cells to take a step backwards so they can be renewed.

When a heart attack strikes, heart muscle cells die and scar tissue forms, paving the way for coronary insufficiency and cardiovascular diseases, which are one of the leading causes of death around the world, partly because the cells in our most vital organ do not get renewed.

Unlike blood, hair or skin cells that can renew themselves throughout life, heart cells stop dividing soon after birth, with very little renewal in adulthood. But the new discovery, by Prof. Eldad Tzahor of the Rehovot institute's biological regulation department offers insight into the question of why the mammalian heart fails to regenerate and opened up the possibility of reversing this in adult mice. This research appeared on Monday in the journal *Nature Cell Biology*.

Tzahor thought that part of the answer to the regeneration puzzle might lie in his area of expertise -- embryonic development, especially of the heart. In fact, a protein named ERBB2, which is well studied because it can pass along growth signals promoting certain kinds of cancer, plays a role in heart development.

ERBB2 is a specialized receptor – a protein that transmits external messages into the cell. ERBB2 usually works together with a second, related, receptor by binding a growth factor called Neuregulin 1 (NRG1) to

transmit its message. NGR1 is already being tested in clinical studies for treating heart failure.

Dr. Gabriele D'Uva, a postdoctoral fellow on Tzahor's team, wanted to know exactly how NRG1 and ERBB2 function in heart regeneration. In mice, new heart muscle cells can be added up to a week after birth; newborn mice can regenerate damaged hearts, while seven-day-old mice already cannot. D'Uva and research student Alla Aharonov observed that heart muscle cells called cardiomyocytes that were treated with NRG1 continued to proliferate on the day of birth; but the effect dropped dramatically within a week, even with ample amounts of NRG1. They then found that the difference between a day and a week was in the amount of ERBB2 on the cardiomyocyte membranes.

The team then produced mice in which the gene for ERBB2 was knocked out only in cardiomyocytes; this had a severe impact, as the mice had hearts with walls that were thin and balloon-like – a cardiac pathology known as dilated cardiomyopathy. The conclusion was that cardiomyocytes lacking ERBB2 do not divide, even in the presence of NRG1.

Next, the team reactivated the ERBB2 protein in adult mouse heart cells, in which cardiomyocytes normally no longer divide. This resulted in extreme cardiomyocyte proliferation and hypertrophy – excessive growth of the

individual cardiomyocytes – leading to a giant heart (cardiomegaly) that left little room for blood to enter. Tzahor explained: "Too little or too much of this protein had a devastating impact on heart function."

The team reasoned that If one could activate ERBB2 for just a short period in an adult heart following a heart attack, it might be possible to cause the renewal of heart cells without negative results such as hypertrophy and scarring. Testing this idea, the team found that they could, indeed, activate ERBB2 in mice for a short interval only following an induced heart attack and obtain nearly complete heart regeneration within several weeks. "The results were amazing," said Tzahor. "As opposed to extensive scarring in the control hearts, the ERBB2-expressing hearts had completely returned to their previous state."

They investigated the regenerative process through live imaging and molecular studies and found that cardiomyocytes "de-differentiate" -- revert to an earlier form -- something between an embryonic and an adult cell, which can then divide and differentiate into new heart cells. In other words, the ERBB2 took the cells back a step to an earlier, embryonic form; and then stopping its activity promoted the regeneration process.

Tzahor warned that clinical trials of patients receiving the

NRG1 treatment might not be overly successful if ERBB2 levels are not boosted as well. He and his team plan to continue researching this signaling pathway to suggest ways of improving the process, which may, in the future, point to ways of renewing heart cells.

Because this pathway is also involved in cancer, well-grounded studies will be needed to understand exactly how to direct the cardiomyocyte renewal signal at the right place, the right time and in the right amount. "Much more research will be required to see if this principle could be applied to the human heart, but our findings are proof that it may be possible," he says.

Pomegranate-date cocktail winning combination in keeping heart healthy

Israeli scientists report blend of pomegranate juice and dates provide maximum protection against atherosclerosis.

http://www.israel21c.org/pomegranate-date-cocktail-winning-combination-in-keeping-heart-healthy/?utm_source=Israel21c Weekly Newsletter&utm_campaign=ab2c6c345a-2015_04_29&utm_medium=email&utm_term=0_a2ed5ed71b-ab2c6c345a-250418217

By Viva Sarah Press APRIL 23, 2015, 8:10 AM

Health benefits of the pomegranate are well known. Now, Israeli scientists have shown that the combination of pomegranate juice and dates along with their pits

provide maximum protection against atherosclerosis (plaque buildup or hardening of the arteries), which can cause a heart attack or stroke.

A number of risk factors are involved in the development of atherosclerosis, including cholesterol oxidation, which leads to accumulation of lipids in the arterial wall, according to the team of researchers at the Technion-Israel Institute of Technology

Natural antioxidants can slow down the oxidation process in the body, and serve to reduce the risk of heart attack. For the past 25 years, Professor Michael Aviram, of the Rappaport Faculty of Medicine and Rambam Medical Center, and his research team have been working on isolating and researching those antioxidants, in order to keep plaque buildup at bay.

Dates stimulate the removal of cholesterol from lipid-laden arterial cells. Photo courtesy of Hadiklaim Israeli Date Growers Cooperative

Going into the most recent study, the team was aware of the individual benefits provided by pomegranates and dates. Pomegranate juice, rich in polyphenolic antioxidants (derived

from plants), has been shown to most significantly reduce oxidative stress. Dates, which are rich sources of phenolic radical scavenger antioxidants, also inhibit the oxidation of LDL (the so-called “bad cholesterol”) and stimulate the removal of cholesterol from lipid-laden arterial cells.

Prof. Aviram had a hunch that since dates and pomegranate juice are composed of different phenolic antioxidants, the combination could thus prove more beneficial than the sum of its parts.

In a trial performed on arterial cells in culture, as well as in atherosclerotic mice, the Technion team found that the triple combination of pomegranate juice, date fruits and date pits did indeed provide maximum protection against the development of atherosclerosis because the combination reduced oxidative stress in the arterial wall by 33% and decreased arterial cholesterol content by 28%.

The researchers report that people at high risk for cardiovascular diseases, as well as healthy individuals, could benefit from consuming the combination of half a glass of pomegranate juice (4 ounces),

together with 3 dates. Ideally, the pits should be ground up into a paste and eaten as well, but even without the pits, the combination is better than either fruit alone.

The findings were published in Food & Function, a journal of The Royal Society of Chemistry.

Pacemakers could be passé with new genetic therapy

By injecting the heart with light-stimulated genes, doctors will be able to help heart patients without electronic devices,

Technion researchers believe

BY DAVID SHAMAH June 25, 2015, 6:53 pm

http://www.timesofisrael.com/pacemakers-could-be-passe-with-new-genetic-therapy/?utm_source=Start-Up+Daily&utm_campaign=f07c3dddaa-2015_06_26_SUI6_26_2015&utm_medium=email&utm_term=0_fb879fad58-f07c3dddaa-54609981

A new genetic technique developed by Israeli researchers could enable individuals with heart problems to forgo the use of pacemakers to keep their heart pumping, replacing the electrical device with light-sensitive genes injected into the heart that use flashes of blue light to pace the heart.

The new method for cardiac pacing and resynchronization was developed by Prof. Lior Gepstein and Dr. Udi Nussinovitch of the Technion-Israel Institute of Technology's Rappaport Faculty of Medicine, and Rambam Medical Center. Results of a study of the method were published this month in the journal Nature Biotechnology.

Pacemakers have undoubtedly saved many lives, but they are not without risks. Some 3 million people are walking around with the devices, and chances are most would be dead if they didn't have one. Using electrical signals delivered by electrodes attacked to the heart, the device monitors the heart's natural beat, and if it does not detect one within a specific time, it delivers a short low voltage pulse to "wake up" the heart. More advanced devices go beyond simple beat monitoring and keep track of body temperature, adrenaline levels, etc., pacing the heart to match physical exertion.

But pacemakers aren't a perfect solution. Problems associated with pacemakers include infections, mechanical failure, dislodging, and other issues. The new method allows users to skip the pacemaker altogether – and

avoid the surgery required to insert one.

"Our work is the first to suggest a non-electrical approach to cardiac resynchronization therapy," Gepstein said. "Before this, there have been a number of elegant gene therapy and cell therapy approaches for generating biological pacemakers that can pace the heart from a single spot. However it was impossible to use such approaches to activate the heart simultaneously from a number of sites for resynchronization therapy."

The use of light to stimulate genes has been researched for years as part of a field called optogenetics, in which light is used to control neurons that have been genetically developed to be sensitive to light. Most use of the method is still experimental, but the method shows a great deal of promise. In one study, for example, optogenetic stimulation of the spine in deaf mice enable them to hear again. Researchers working in the field have been taking light-sensitive genes from algae and placing them in cells where they act like a switch, turning certain behaviors on or off when the cells are exposed to pulses of light.

The Technion-Rambam experiment was done on rats. The researchers injected one of these algae genes (channelorhodopsin-2) into a

specific area of rat heart muscle. The scientists then showed that the light-sensitive protein expressed at this site could be turned on with flashes of blue light and drive the heart muscle to contract. By altering the frequency of the flashes, Gepstein and Nussinovitch could control and regulate the heart rate. They went on to deliver the gene to several places in the heart's pumping chambers, and demonstrated the ability to simultaneously activate the heart muscle from many places in an effort to synchronize the heart's pumping function.

Scientists will need to do more research for this optogenetic-based pacemaker strategy to become a reality in human health, Gepstein said. For instance, the gene injected in the rat experiments is sensitive to blue light, which has poor tissue penetration potentially limiting its utility in large animals or humans.

"This means that the affected cells have to be relatively superficial–near the surface of the heart–and that an optical fiber should be implanted bringing the illumination beam as close as possible to the cells," Gepstein said. "A potential solution in the future may be the development of similar light-sensitive proteins that will be responsive to light in the near-red or even infra-red spectrum, which penetrates tissue much better, allowing illumination from a long distance."

"This is a very important proof-of-concept experiment, which for the first time, demonstrates a mechanism to pace the heart without the need for wires and allows for simultaneous pacing from multiple sites," said Dr. Jeffrey Olgin, chief of the Division of Cardiology and co-director of the Heart and Vascular Center at the University of California, San Francisco.

"The most common site of failure of current pacemakers are the leads or wires that connect the heart muscle to the electrical impulse. The approach demonstrated in this paper has the potential to eliminate these wires or have a single lead excite multiple sites simultaneously."

ENTREPENEURSHIP

Israeli medical tech company joins billion dollar exit club

Valtech Cardio is to be acquired by US heart tech firm HeartWare International, in a huge mega-deal

BY DAVID SHAMAH September 2, 2015, 11:48 pm 3

http://www.timesofisrael.com/israeli-medical-tech-company-joins-billion-dollar-exit-club/?utm_source=Start-Up+Daily&utm_campaign=4feb0c99cd-2015_09_03_SUI9_3_2015&utm_medium=email&utm_term=0_fb879fad58-4feb0c99cd-54609981

In the biggest deal ever for an

Israeli medical device company – and one of the biggest in any industry in Israel – Massachusetts-based HeartWare International is acquiring Israeli biotech start-up Valtech Cardio.

According to the terms of the agreement, Valtech shareholders will receive some six million shares of HeartWare stock in incremental stages over the next year, depending on milestones. Between the stock transfers and cash payments that accompany several of the milestones, the deal is worth more than $900 million, and could reach as much as a billion dollars.

Valtech specializes in the development of innovative surgical and transcatheter valve repair and replacement devices for the treatment of the most prevalent heart valve diseases, including mitral valve regurgitation (MR) and tricuspid valve regurgitation (TR).

MR is a condition in which the leaflets of the mitral valve – between the left atrium and the left ventricle of the heart – fail to close properly, allowing backflow of blood from the left ventricle into the left atrium during the contraction of the heart's valves during its normal course of activity. A related condition, TR involves the leakage of blood backwards through the tricuspid valve each time the right ventricle contracts. Approximately 6 million patients are affected by MR or

TR in the US alone; many patients often suffer from both at the same time. Left untreated, severe MR can eventually lead to conditions such as heart murmur, cardiac deterioration, and eventually death.

Neither can be treated with drugs, but surgery is often risky for patients who suffer from the condition because it usually brings in its wake other heart malfunctions that make operating risky. To treat such patients, Valtech created the CardioBand, which offers reconstruction of the mitral valve using a small implant introduced into the heart through a femoral vein, which is then shaped and anchored in the same way an annuloplasty band – devices to provide support for weakened heart valves – would be installed in an open heart procedure.

In the wake of CardioBand technology, ten-year-old Valtech has developed several other solutions – CardioValve, for use in situations where mitral regurgitation cannot be repaired, and valves require complete replacement, and Cardinal, a band that surgeons can install in the heart during surgery and that can be adjusted later on if MR or TR returns, without the need for repeat surgery. Out of the three products, only Cardinal is currently authorized for use in Europe, while the company expects CE approval for CardioBand in the coming months.

Preparations are being made to seek FDA approval, the company said.

HeartWare's payments and stock transfers are contingent on milestones in each of the three technologies. Valtech shareholders receive 4.4 million shares of HeartWare common stock up front; am additional 800,000 shares of HeartWare common stock contingent upon CE Mark approval for CardioBand; and 700,000 shares of HeartWare common stock upon the earlier of first-in-man implants for either CardioBand or CardioValve.

HeartWare develops and manufactures miniaturized implantable heart pumps, or ventricular assist devices (VADs), to treat patients suffering from advanced heart failure. Like Valtech, HeartWare's devices are designed to be implanted next to the heart, avoiding the abdominal surgery generally required to implant such devices. As such, said analysts, Valtech's complementary technology could help HeartWare significantly expand its market share. However, it's a risky proposition, as the gambit depends on both European and American officials approving Valtech's technology – and as a result, shares of HeartWare fell on the Nasdaq by 18% Wednesday.

Nevertheless, both companies are enthusiastic about the

deal.

"We have been actively monitoring the mitral space for several years, given the overlap of patient population and referral channel with our VAD business," said Doug Godshall, president and CEO of HeartWare. "We identified Valtech as having the broadest, most compelling portfolio several years ago, which led to an investment in 2013. This investment gave us a unique opportunity to observe Valtech's significant progress across their portfolio of valve repair and replacement technologies. It is from this vantage point that we have concluded that Valtech's platforms represent the most innovative and comprehensive portfolio of interventional and surgical products for mitral and tricuspid repair and replacement in development today."

"Valtech has benefited significantly from HeartWare's early investment in our company. Since then, we have developed a strong relationship based on a shared mission to deliver transformative products to patients with advanced heart failure and degenerative heart conditions," said Amir Gross, Founder and CEO of Valtech. "By joining HeartWare, we can more quickly and fully realize the potential of our pipeline technologies and further influence the underpenetrated markets that we serve. HeartWare's existing market

development experience and commercial infrastructure provide a compelling platform from which to launch multiple products worldwide, including a near-term launch of Cardioband in international markets following anticipated CE Mark approval this year. Together, we can offer clinical heart failure teams a compelling portfolio of surgical and interventional technologies to serve the advanced heart failure population."

Research #1

Change in health behaviours following acute coronary syndrome: Arab–Jewish differences

Orna Reges[1,2,3], Noa Vilchinsky[4], Morton Leibowitz[2,5], Abdulrahem Khaskia[3], Morris Mosseri[3] and Jeremy D Kark[1]

European Journal of Preventive Cardiology, 15 April 2015, 22(4):458-467

http://www.researchgate.net/publication/229159697_ArabJewish_differences_in_attending_cardiac_rehabilitation_programs_following_acute_coronary_syndrome

Background: Health-promoting behaviours after acute coronary syndrome (ACS) are effective in preventing recur- rence. Ethnicity impacts on such behaviours. We assessed the independent association of Arab vs. Jewish ethnicity with persistence of smoking and physical inactivity 6 months after ACS in central Israel.Design: Prospective cohort study.

Methods: During their admission for ACS and subsequently 6 months later, 420 patients were interviewed about their smoking and exercise habits. The association of ethnicity with health-promoting behaviours was assessed by logistic regression adjusting for socio-demographic and clinical covariates.

Results: Smoking prevalence and physical inactivity were substantially higher among Arab patients than Jewish patients at admission (gender-adjusted prevalence rate ratio (RR) 2.25, 95% CI 1.80–2.81, p < 0.01 and RR 1.46, 95% CI 1.28–1.67, p < 0.001, respectively). The relative differences increased at 6 months (RR 2.94, 95% CI 2.13–4.07, p < 0.001 and RR 3.00, 95% CI 2.24–4.04, p < 0.001, respectively). Excess persistent smoking at 6 months among Arab vs. Jewish patients who were smokers at admission (adjusted OR 2.05, 95% CI 1.00–4.20, p 1⁄4 0.049) was largely mediated through the 3.5- fold higher participation of Jewish patients in cardiac prevention and rehabilitation program (CPRP) (OR adjusted also for CPRP 1.31, 95% CI 0.59–2.93, p 1⁄4 0.51). Greater persistent sedentary behaviour at 6 months among nonexercisers at admission among Arab patients (adjusted OR 3.68, 95% CI 1.93–7.02, p < 0.001) was partly mediated through attendance of CPRP (OR adjusted also for CPRP 2.38, 95% CI 1.19–4.76, p 1⁄4 0.014).

Conclusions: Culturally sensitive programmes need to be developed to enhance CPRP participation and favourable health-promoting changes among Arab patients. A comprehensive understanding of the determinants of the Arab–Jewish differences in efficacious health-promoting behaviours is crucial to inform appropriate ethnic-specific health-promoting strategies.

1Hebrew University, Hadassah Medical Center, 2Clalit Research Institute, 3Meir Medical Center, 4Bar-Ilan University, 5New York University

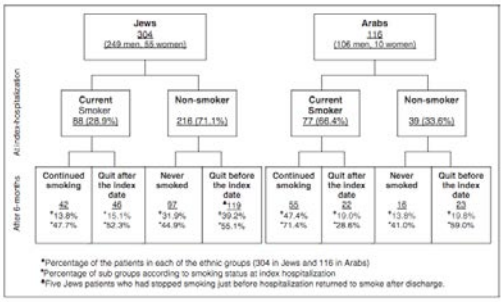


Figure 2. Smoking habits by ethnic group at index hospitalization and at follow up.

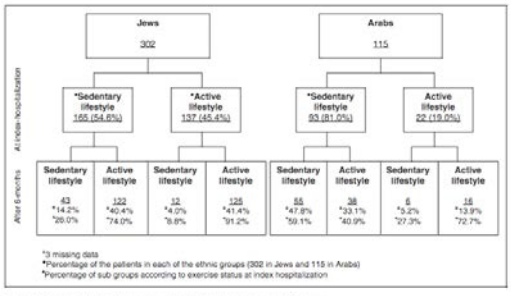


Figure 3. Exercise habits by ethnic group at index hospitalization and at follow up.

Table 2. Baseline clinical data and coronary heart disease risk factors: comparison between Jews and Arabs at index hospitalization

	Jews	Arabs	Total
Hospitalization unit			
Coronary care	214 (70.4)	72 (62.1)	286 (68.1)
Internal medicine	90 (29.6)	44 (37.9)	134 (31.9)
Diagnosis[a]			
Myocardial infarction	222 (73.0)	79 (68.1)	301 (71.7)
Unstable angina	82 (27.0)	37 (31.9)	119 (28.3)
History of CHD[b,c]	117 (38.7)	44 (38.3)	161 (38.6)
Family history of CHD[b,c]	120 (39.9)	46 (39.7)	166 (39.8)
Obesity[b,d]	130 (43.0)	57 (49.1)	187 (44.7)
Dyslipidaemia[b,e]	207 (69.0)	87 (75.0)	294 (70.7)
Diabetes[b,d]	81 (26.9)	41 (35.3)	122 (29.3)
Hypertension[b,d]	161 (53.3)	62 (53.4)	223 (53.3)
Smoking habits[f]	88 (28.9)	77 (66.4)	165 (39.3)
Sedentary lifestyle[f]	166 (54.6)	94 (81.0)	260 (61.9)

Values are *n* (%); [a]As confirmed by a senior cardiologist; [b]Extracted from the patient chart; [c]*n* = 417; [d]*n* = 418; [e]*n* = 416; [f]Based on self-reports during face-to-face interview; CHD, coronary heart disease.

Research #2

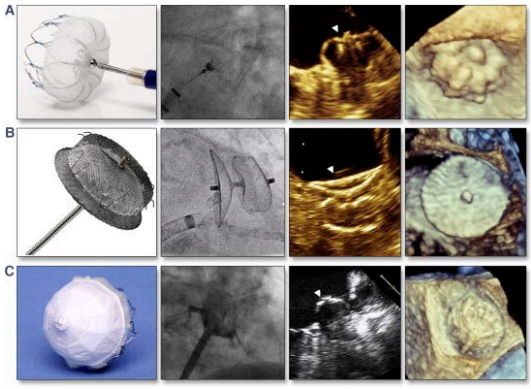
Percutaneous Interventions for Left Atrial Appendage Exclusion

Wunderlich, Nina C.; Beigel, Roy; Swaans, Martin J.; Ho, Siew Yen; Siegel, Robert J.

JACC: Cardiovascular Imaging, 2015-04-01, Volume 8, Issue 4, Pages 472-488

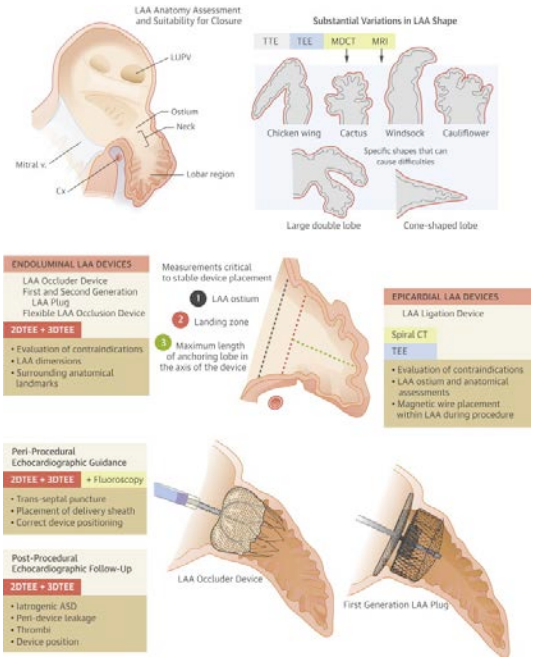
http://imaging.onlinejacc.org/article.aspx?articleid=2241628

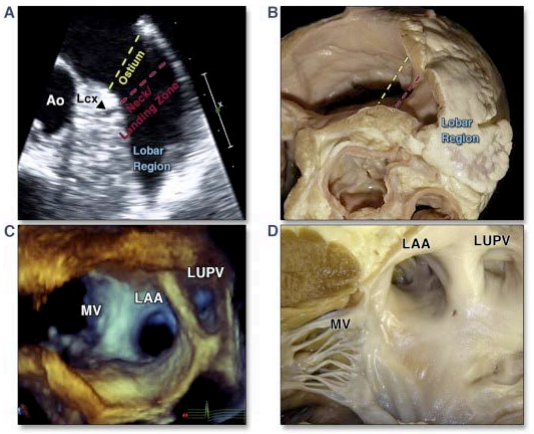
Background: Percutaneous left atrial appendage (LAA) exclusion is an evolving treatment to prevent embolic events in patients with nonvalvular atrial fibrillation. In the past few years multiple percutaneous devices have been developed to exclude the LAA from the body of the left atrium and thus from the systemic circulation. Two- and 3-dimensional transesophageal echocardiography (TEE) is used to assess the LAA anatomy and its suitability for percutaneous closure to select the type and size of the closure device and to guide the device implantation procedure in conjunction with fluoroscopy. In addition, 2- and 3-dimensional TEE is also used to assess the effectiveness of device implantation acutely and on subsequent follow-up examination. Knowledge of the implantation options that are currently available along with their specific characteristics is essential for choosing the appropriate device for a given patient with a specific LAA anatomy. We present the currently available LAA exclusion devices and the echocardiographic imaging approaches for evaluation of the LAA before, during, and after LAA occlusion.



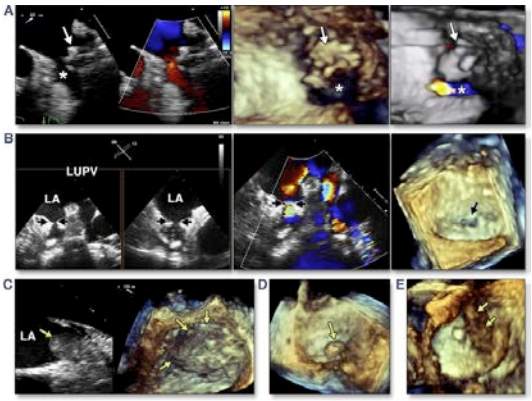
Endoluminal LAA Occlusion Devices

Different endoluminal LAA occlusion devices **(far left column)** . **(A)** LAA occluder device. **(B)** First generation LAA plug. **(C)**Flexible LAA occlusion device (device images with permission from Boston Scientific, St. Jude Medical, Inc., and Coherex Medical, Inc.). The appearance of the different devices using different imaging modalities after device placement is shown (fluoroscopy **[left column]** followed by echocardiography 2D TEE **[middle column]** and 3D TEE **[right column]**). 2D = 2-dimensional; 3D = 3-dimensional; LAA = left atrial appendage; TEE = transesophageal echocardiography.





Echo-Anatomy of the LAA. The LAA regions are illustrated in a 2D TEE view (45°) **(A)** and in a corresponding anatomic image **(B)** . The **black arrowhead** in **(A)** marks the Lcx. Relationship between the LAA, the LUPV, and the MV are shown in a 3D TEE aspect **(C)**and in an anatomic picture **(D)** . Lcx = left circumflex coronary artery; LUPV = left upper pulmonary vein; MV = mitral valve; other abbreviations as in Figure 1 .



Complications: **(A)** Highly compressed LAA occluder device **(white arrows)** is placed in 1 deep lobe. Another large lobe is completely uncovered **(white asterisk)** . This situation is shown using 2D TEE **(left)** with and without color Doppler and an enface 3D TEE image without **(middle)** and with **(right)** color Doppler. **(B)** Unsuccessful LAA ligation using a LAA ligation device. A partially closed LAA is seen by using TEE X-plane imaging **(left)** and color Doppler demonstrating flow coming in and out**(middle)** and by using a 3D enface view from the left atrial side **(right)** ; the **black arrows** mark the residual leak at the level of the suture ligation. **(C–E)** Thrombus formation on different devices **(marked with yellow arrows)** by using TEE during follow-up (**C** = LAA occluder device in a 2D TEE plane and a 3D TEE enface view; **D** = LAA ligation device suture occlusion in a 3D TEE enface view; **E** = first generation LAA plug in a 3D TEE enface view). Abbreviations as in Figure 1 .

Membership

This is also a reminder regarding membership dues for the Friends of the Israel Heart Society. The basic dues are **$50**. You can register through our website http://friendsihs.org/Register.html or send a check directly to:

Friends of the Israel Heart Society
8912 Little Elm Bend
Skokie, IL 60076

Please include your email address to assure you do not miss an issue!

We are particularly grateful to those who can be sponsors at any one of the levels indicated below so that we may continue and increase our support of creating a bridge between Israeli Cardiology and the rest of the World:

$250 Silver member

$500 Gold member

$1,000 Platinum member

$5,000 President's Club

Your support enables us to continue growing our programs, including the ACC meeting, support for Israeli fellows to attend the AHA/ACC meetings, and to grow other programs.

For those who are interested in directed donations, we have the following opportunities:

$500 Sponsor an issue of the FIHS newsletter

$1000 Partial sponsorship of an Israeli fellow to attend the AHA meeting

$1000 Partial sponsorship of an Israeli fellow to attend the ACC meeting

$2500 Sponsorship of an Israeli fellow to attend the AHA meeting

$2500 Sponsorship of an Israeli fellow to attend the ACC meeting

We would like to thank our Platinum, Gold, and Silver Members for their past and future support! Thanks to all!

Friends of the Israel Heart Society

Thank You to our 2014 Sponsors

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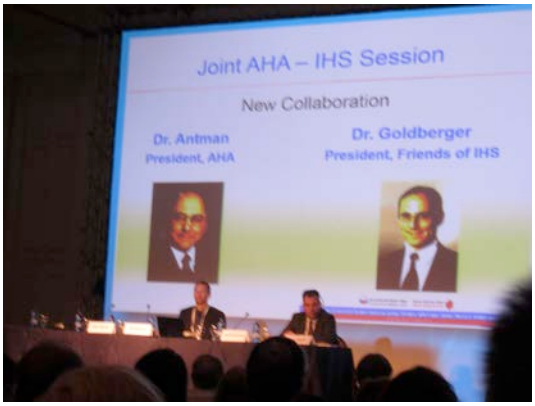
62nd ANNUAL MEETING OF THE ISRAEL HEART SOCIETY

The meeting was a well attended by cardiologists from all over the world. Key speakers were the President of AHA- Dr. Elliott Antman, and ACC past and present Presidents Patrick O'Gara and Kim Williams. Here are some pictures from the meeting:

NEWSLETTER OF THE FRIENDS OF THE ISRAEL HEART SOCIETY

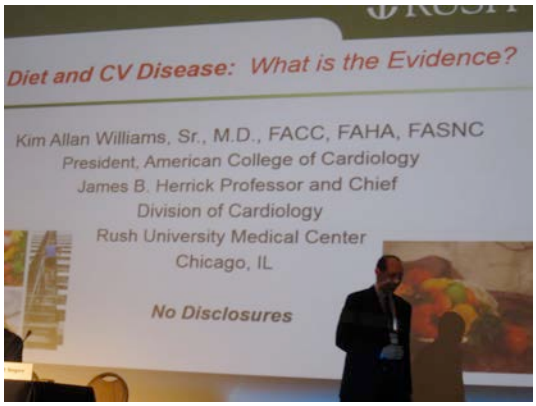


Meltzer Award winner- Shmuel Gottlieb

NEWSLETTER OF THE FRIENDS OF THE ISRAEL HEART SOCIETY

Mony Shuvy, winner of the FIHS Fellows competition

NEWSLETTER OF THE FRIENDS OF THE ISRAEL HEART SOCIETY



Dr. Bradley Strauss accepting his Special Education Award for his continued commitment and support training Israeli Cardiology Fellows

It was a wonderful meeting, filled with high level science from the best and brightest in world Cardiology. Please consider attending the 2016 meeting (see above for details).

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I would also encourage Israeli programs to let our membership know about happenings and offers for training in Israel: Please email these to me at jackstroh@usa.net.

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FIHS Heart Beats

Congratulations to our President Jeff Goldberger on becoming the Chief of Cardiology at the University of Miami Miller School of Medicine.

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That's it for this issue of the newsletter of the Friends of Israel Heart Society. Special thanks as always to **Mort Lebowitz MD** and **Batia Ziv** for being our "eyes and ears on the ground" in Israel. Special thanks in America to our Society Administrators- **Janice and Larry Brown**!

Have any ideas to make this a better tool for our Society? Share them with us!

Tell your friends that we want them to join our mission to be a bridge between Israeli Cardiology and the world. If you have any questions, comment, criticisms (my favorites!) please email me at jackstroh@usa.net.

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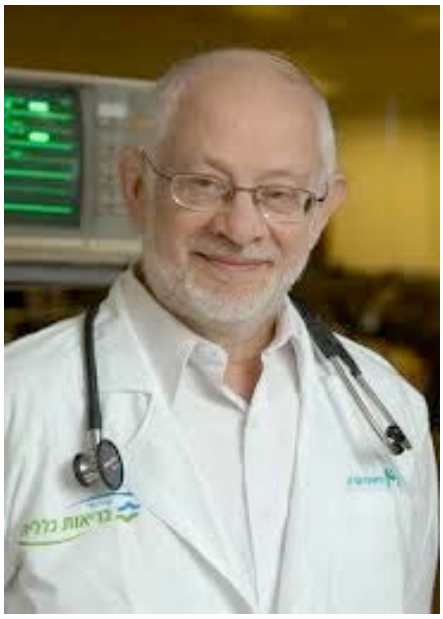
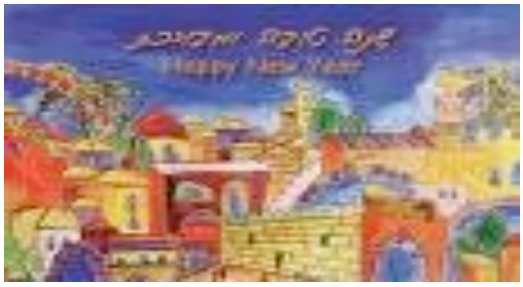
Happy, Healthy, and Peaceful New Year to all!

We want to take this opportunity to thank Mort Lebowitz for his years of being liaison between IHS and FIHS. This Editor has known Professor Lebowitz since being his Cardiology fellow at NYU Medical Center many decades ago. Mort has helped find stories and programs to highlight as well as digging up interesting research articles for our readers. He was a vital influence on the renewed Newsletter years ago, performing critical review and comments for each issue. Mort, thanks for your help, we will miss you immensely!



And now a special message from the Israel Heart Society:

NEWSLETTER OF THE FRIENDS OF THE ISRAEL HEART SOCIETY



To the Leadership, Board Members, and Members of the Friends of the Israel Heart Society:

Dear Friends,

On behalf of the Israel Heart Society we would like to extend our cordial and best wishes for an amazing year ahead. We hope the New Year will fill your life with health, success, good luck, joy, and happiness, and that you fulfill all of your dreams!

Shana Tova and Happy Sukkot

Michael Glikson, MD, FACC, FESC

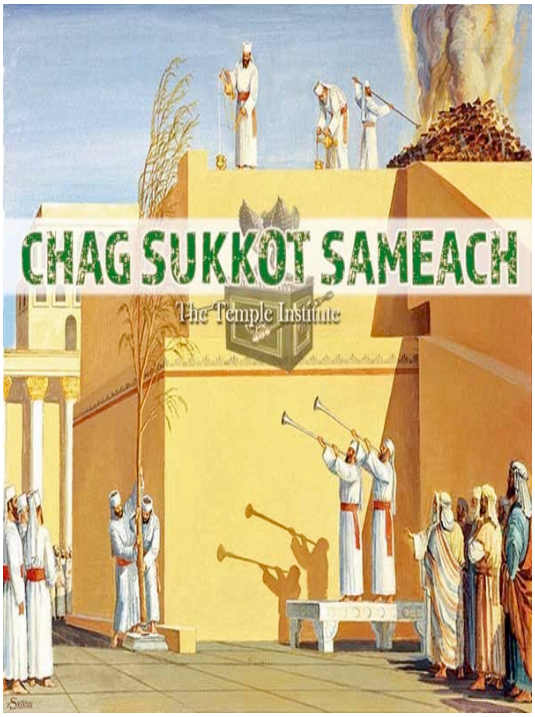
President

Ronen Rubinshtein, MD, FACC, FESC

Secretary General

Batia Ziv

Administrative Manager



Medical Mission 2016!

The Friends of the Israel Heart Society is trying organizing a Medical Mission to Israel April 2016, coinciding with the 63rd Annual Conference of the Israel Heart Society and Israel Cardiothoracic Society (see the announcement for the meeting above). Join cardiologists and cardiac surgeons from all over the world on a unique mission to Israel where you will meet top Israeli cardiologists, visit the Cardiac facilities we have been featuring in our Newsletter for years, and hear from members of the Israel Heart Society about the challenges and unique advantages of practicing cardiology in the Holy Land. Participants will be staying at luxury hotels and enjoying the local cuisine at top flight restaurants. If you are interested, please contact our President Jeffrey Goldberger at j-goldberger@northwestern.edu. Don't miss out on this golden opportunity to mingle with your Israeli peers and tour the Holy Land.