



THE ISRAEL HEART SOCIETY



Editor's Note: Welcome to the Fall 2022 FIHS Newsletter. As Covid restrictions have been dialed back, Israeli Cardiology meetings have roared back in popularity – as an example, there were over 1200 attendees at the recent Israel Heart Society Conference!

Israel has jumped to the forefront of vaccination world-wide, with a goal to vaccinate all who wish it. At this point, 80% of adults have either had the vaccine or Covid and have antibodies! Millions have already received 1 or 2 boosters as well.

We at FIHS plan to continue to cosponsor groundbreaking meetings in the future- hopefully to include live meetings in Israel, the UAE, and other locations! Something to look forward to when Covid finally abates!

The current issue will include its usual features- a message from our President, Jeff Goldberger, announcements of Israeli Cardiology Meetings, Heart Beats section, and our Classified Section at the end of the newsletter. We will cover 2 of Israel's large cardiology meetings- the IDSS-International Dead Sea Symposium which an electrophysiology meeting to which FIHS sponsors North American cardiology fellows, and the annual Israel Heart Society/ Cardiothoracic Society Conference.

We will be starting a new series highlighting North American and European Cardiology programs that have and continue to train Israeli cardiology fellows in sub-specialties. Many of these fellows become the leading cardiologists of Israel and head many Israeli programs. That was a theme of Dr. Robert Levine at the 2021 IHS Conference and Bradley Strauss at the latest Conference. Our first highlighted program is the Save a Heart Foundation established by Yzhar Charuzi MD, a strong supporter of the FIHS, which is active in California. We hope this series can encourage "copycats" at other major centers to provide state of the art training for Israel's cardiac pioneers of the future!





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In addition, we include other Israeli cardiology news of interest to our members. Of course, research articles from Israel as well.

Please note- the 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 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

With the approach of the Jewish New Year, it is always a good time to reflect on the challenges and opportunities that we have had to face. Undoubtedly, particularly with all of the ongoing world events, each of us individually can certainly list many. It is no different for the Friends of the Israel Heart Society. COVID-19 has placed a barrier of personal interactions that for many is being lifted, but we continue to endure.

The last in-person meeting I attended prior to the pandemic shutdowns was the International Dead Sea Symposium in February 2020 and the first in-





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person meeting I attended after the pandemic shutdowns was the International Dead Sea Symposium in March 2022. And it was a delightful meeting! In this newsletter, you will see that we were able to successfully run our Fellows' Case Competition and brought a diverse group of eight North American fellows to attend the meeting. Please take a moment to read the letters written by these fellows expressing their appreciation. We would like to invite you to help us consider ways we can expand such opportunities. Personally, I would ask you to consider taking a trip to Israel in the coming year to attend one of the many state-of-the-art conferences while at the same time enjoying a bit of vacation. This is an opportunity for us all!

We would also like to think about reinitiating our annual ACC dinner banquet but will need your feedback on whether you plan to attend the meeting. Whether we can get together at ACC or not, it is time to begin having some local meetings. If you are interested in hosting such a meeting, please let me know so that we can help with the logistics. Let's think of ways we can restore the personal touches

that we all find meaningful and important.

We are a volunteer organization with no professional staff. This means that every individual volunteer can make a significant contribution and advance our mission. If you have ideas for novel programs, please reach out to me. In particular, we need your help with:

- 1) **Getting the message out** our distribution list remains a fraction of the size it should be. Please distribute this newsletter to 10 colleagues and ask them to consider joining our membership fee is only \$50. Feel free to forward contact information for interested individuals to me at <u>j</u>goldberger@miami.edu.
- 2) Financial support if you have not yet renewed your membership for 2022 we would be delighted if you would consider a sponsorship level of support. We appreciate, in particular, those of you who have joined at one of the sponsorship levels. This enables us to continue to provide the educational support for fellows for key conference attendance. All the information is available





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on our website. Annual membership can be paid through the FIHS website at: http://www.friendsihs.org/index.html.

As always, 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!

Best wishes for a happy and healthy New Year,

Jeff Goldberger, M.D. President, Friends of the Israel Heart Society





Project to raise funds for Israeli Cardiology Fellows overseas (reprinted from prior Newsletters)

The Friends of the Israel Heart Society (FIHS) is an association of health care professionals from around the world dedicated to support the delivery of cardiovascular healthcare, training, and research in Israel. This is our Mission.

Our President Jeff Goldberger spoke with Drs. Glikson and Kornowski (former Presidents of IHS) about how our Society could best help Israeli Cardiology. Both agreed that they really need help supporting more Israeli cardiology fellows to do their subspecialty training in the USA or Canada so they can bring back to Israel advanced expertise and capabilities. The Israel Health System currently does not have the resources to provide this advanced training at home, and these opportunities are costly to support. We estimate each fellow position would require raising \$60,000.





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There is currently a successful program at Lankenau Institute for Medical Research funded by the Lankenau-Israel Strategic Alliance (LISA) under the leadership of our Board Member Dr. Charles Antzelevitch, Executive Director of Cardiovascular Research at Lankenau Institute for Medical Research. This group raised enough for more than 2 fellowships with local fundraising dinners at donor homes, physicians, and civilians.

Our hope is to expand on this excellent start in Philadelphia to the rest of North America. This video was produced by the IHS explaining the need for the program. If any of our readers have any ideas on how to raise funding or would like to spearhead the continental effort, please contact me at jackstroh@usa.net.



https://www.youtube.com/watch? v=100vxjoRAaQ&feature=youtu.be



<u>Sponsored Cardiology</u> <u>Fellows' Programs in North</u> America

This Newsletter has included the previous section for several years at the request of the Israel Heart Society to stress the major necessity for raising funds and mentoring of the top Israeli cardiology fellows at elite programs in the North America. This issue we will begin to explore the currently active programs that have become major pillars of training for the Israeli cardiology fellows, many of which ultimately lead departments and programs themselves in Israel. This training is indispensable yet funding at home is lacking. Bravo to the North American leaders and communities that raise their own funding to support these fellows, to the hospital systems that warmly bring them in, and to the fellows and their families that sacrifice being away from home in Israel to advance their training. As we have heard at many Israeli conferences, this





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is truly a labor of love from the diaspora to our brothers and sisters in Israel

Special thanks to Yzhar Charuzi and Norman Lepore, long time members of FIHS, for suggesting this ongoing feature. This is what we mean when we cite in each of our Newsletters "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! "









סתיו תשפיג





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Save A Heart Foundation, (SAHF), is a nonprofit organization established in 1980 by Dr. Yzhar Charuzi, a cardiologist, a graduate of Hadassah Medical Center in Jerusalem, practicing at Cedars-Sinai Medical Center. SAHF was established to help train cardiologists in advanced research and acquire additional clinical skills and bring it back to Israel. Since then, SAHF supported over forty-five Israeli cardiologists - mostly trained at Cedars Sinai Medical Center (CSMC) and some at the University of Southern California (USC).

SAHF fellows have been very industrious, productive researchers and have returned to Israel after two years equipped with information and

experience to assume leadership positions in their respective fields and have been the backbone of cardiology in Israel.

Save A Heart Foundation has recently joined forces with both the California Chapter of the American College of Cardiology (CAACC) and the Israel Heart Society (IHS). As a result of this affiliation research and training opportunities are now available beyond Cedars-Sinai Medical Center and USC to include prestigious academic programs in California.

The selection of the fellows is initially done by the Israel Heart Society and subsequently the SAHF and the CAACC. The last echelon in the selection process is the institution accepting the fellow.

Currently SAHF supports two research fellows at Cedars-Sinai Medical Center. One from Haemek Medical Center, and the other from Rabin Medical Center.

Next year, on the occasion of the 70th Anniversary of the Israel Heart Society,





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Save A Heart Foundation is planning a reunion of all the graduates who will receive special certificates. We plan to make it a public event. All friends of the IHS are encouraged to attend.

SAHF, a tax-deductible foundation (*Tax ID* #95-3475198), is seeking donations through its website: www.saveaheart.org.







Upcoming Meetings

The 19th International Dead Sea Symposium (IDDS 2023)

David Intercontinental Hotel, **Tel Aviv**

https://idss-ep.com/

(see pictures and fellow messages from the 2022 Symposium in this newsletter!)



The 70th Annual Conference of the Israel Heart Society in **Association with the Israel Society of Cardiothoracic** Surgery, under the Auspices of the Israel Cardiology **Association**

May 2023

More details to come!

(see pictures from the 69th **Conference in this Newsletter!)**





סתיו תשפיג





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Innovations in Cardiovascular Interventions For All 2021



December 4-6, 2022 David Intercontinental Hotel, Tel Aviv

https://icimed.org/

ICI Meeting 2022 – the premier International Conference for Innovations in Cardiovascular Interventions (Heart, Brain and Peripheral Vessels) and High-Tech Life Science Industry.

The ICI scientific program will include new innovative sessions.

The ICI Meeting is an acclaimed forum which aims to explore fuel, spark and be involved in the innovations that will shape the future of our cardiovascular systems and BEYOND. Over the last 2 decades, Israel has become a medical "start-up nation". ICI's dynamic environment which allows rich exchanges on innovations has contributed to this process by facilitating global interaction between physicians,

entrepreneurs, academia, and industry and by building bridges leading to innovation.

The ICI meeting is preceded by the ICI Academy of Innovation Day – a full-day preconference educational workshop satellite, which trains participants in the entire medical innovation process, and by the Digital Health Day, that will be organized by some of the famous and most successful VC's in the field – a full-day pre-conference educational day, that will bring together medical professionals, international and local experts and innovative companies in the field of digital medicine.

We then continue to a 2-day conference focusing on advanced technologies to save hearts and lives. We challenge the horizons in coronary interventions, vascular interventions, transcatheter valvular therapies, stroke prevention/intervention, electrophysiology, cell therapy and heart failure. The popular "Technology Parade" offers biomedical technology startups from around the world the opportunity to present their latest developments. The unique "Wall-to-Wall – East Meets West" sessions concentrate on China-Israeli cooperation in the field.

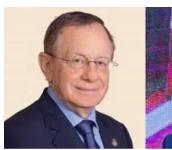
We look forward to having you join us for this exciting event!

Rafi Beyar and Chaim Lotan, Meeting Directors





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https://icimed.org/ici-award/







Highlights of the IDSS 2022 Fellows Case Competition

The 18th International Dead Sea Symposium on Cardiac Arrhythmias and Heart (IDSS) was held in Tel Aviv this past March 7-9. Lead by co-Presidents I. Eli Ovsyshcher, Michael Eldar, and Michael Glikson, and an advisory board from all over the world, IDSS has as its mission to make Israel one of the leading countries in innovative electrophysiology by emphasizing emerging technologies and therapies, covering all phases of innovation processes, and developing studies on devices, ablation, mapping, and pharmacology.

The Friends of the Israel Heart Society is proud to co-sponsor the annual Fellows' Case Competition





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at IDSS, along with co-sponsors Abbott, Biosense Webster, and Boston Scientific. FIHS President Jeff Goldberger was in attendance. Below are letters of thanks from winners of the Competition. FIHS once again was proud to be a bridge between Israel Cardiology and the world, bringing the brightest EPS fellows from abroad to the Israeli conference.

Here is a list of the presentations of the winning fellows:

15:40-17:40 <u>Awarded Case Presentations of</u> Cardiology Fellows

Chairs: Jeffrey J. Goldberger, FL, USA, Melvin M. Scheinman, CA, USA, TBA, IL

15:40-15:55 A Rare Case of Digoxin Induced Cardiotoxicity in Modern Medicine? *Harini Bollempalli, Baylor Scott and White Medical Center, Round Rock, TX, USA*

Discussant: Andrew Krumerman, NY, USA

15:55-16:10 Intracardiac Electrogram of Commotio Cordis. *Peter Hanna*.

Ronald Reagan UCLA Medical Center, CA, USA

Discussant: Larry Chinitz, NY, USA

16:10-16:25 A Case of COVID-19 Induced Ventricular Fibrillation Storm.

Daniel McBride, University of Michigan Health System, MI, USA

Discussant: Rachel Lampert, CT, USA

16:25-16:40 Cardiac Arrest Secondary to AVNRT. Laura E. McDermott, University of Miami, Jackson Memorial Hospital, FL, USA

Discussant: Nitish Badhwar, CA, USA

16:40-16:55 Novel Target for Ablation of Junctional Ectopic Tachycardia.

Chaitra Mohan, University of Miami, Jackson Memorial Hospital, FL, USA

Discussant: Melvin M. Scheinman, CA, USA

16:55-17:10 Another Atrial Flutter from the Emergency Department: or is it not? Kusha Rahgozar, Montefiore Medical Center/Albert Einstein College of Medicine, NY, USA

Discussant: *Oholi Tovia-Brodie, Tel Aviv, IL*





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17:10-17:25 Addition by Subtraction:

Propagenone-Induced QRS
Prolongation and Left Ventricular

Dysfunction. Krishna

Narasimhan Pundi, Stanford University, CA, USA

Discussant: Niraj Varma, OH, USA

17:25-17:40

A Challenging Deep Septal Ventricular Tachycardia: The Three-pronged Approach. *Sunil Vasireddi, Stanford University, CA, USA*

Discussant: Kalyanam Shivkumar, CA, USA







Here are some of the letters these bright stars sent us regarding their experience:

Dear Dr. Stroh,

Hope you are doing well. My name is Kusha Rahgozar and I am a 1st-year





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General Cardiology fellow at Montefiore/Albert Einstein College of Medicine in New York City. I had the pleasure of attending this year's International Dead Sea Symposium to present an interesting case from our institution. I would like to thank you and the Friends of the Israel Heart Society for hosting this fantastic event. My week was full of tremendously educational sessions, eye-opening case presentations, and ever-important career networking opportunities. I particularly enjoyed the Biotronik Fellow's Course on the first two days of the symposium, and took away practical learning points that I have already applied in the hospital during my call shifts. On my final day, I was able to explore the beauty of Tel Aviv and its many different neighborhoods. From taking a scooter along the beach to Old Jaffa for a hummus lunch, to walking through Shuk HaCarmel and taking in the sights, smells, and sounds of the market, the entire city of Tel Aviv was so vibrant and full of life. Everyone was so very warm and kind, and their welcoming spirit was truly special. I greatly look forward to visiting Tel Aviv again with my wife for a future vacation, and also to explore more of Israel in the future. Thank you and the Friends of the Israel Heart Society for

hosting this truly special symposium! I am already looking forward to next year's conference, and can't wait to come back to Tel Aviv soon!

Sincerely,

Kusha Rahgozar, MD | Cardiology, PGY4

Division of Cardiology | Department of Medicine

Montefiore Medical Center | Albert Einstein College of Medicine

Dear Dr Stroh,

As requested, here is a brief overview of my experience at the IDSS meeting this past March. This was my first time attending and participating in the IDSS meeting this past year, and it was an excellent experience. It was incredibly well organized, and included educational sessions directed towards general and EP fellows which made the program much more accessible to someone my level as a PGY-5 general cardiology fellow. I enjoyed hearing from a variety of prominent electrophysiologists, as well as meeting other general cardiology





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fellows and EP fellows from around the world. I thoroughly enjoyed visiting Tel Aviv and was honored to be able to participate and present. I hope that I can attend again in the future!

Sincerely,

Laura McDermott, MD, MPH Chief Cardiology Fellow 2022-2023 Jackson Memorial Hospital | University of Miami Hospital | Miami VA Medical Center

Thank you Drs. Goldberger and Stroh,

Thank you to the IDSS for a very unique and immersive educational experience. I thoroughly enjoyed this conference that not only incorporated the latest technologies/research topics with internationally imminent speakers in heart rhythm and heart failure, but also provided us an opportunity to experience Israel and its rich culture, traditions, and history. Additionally, as part of the fellow case competition, we got the opportunity to closely interact and discuss some very

interesting topics and cases with world-renowned faculty from multiple institutions to get their diverse perspectives. Overall, this was an amazing educational experience like no other.

Sunil Vasireddi MD EP Fellow Stanford

Dear Dr. Stroh,

The Dead Sea symposium provided me with an amazing opportunity to travel to Israel and meet renowned experts in the field of Electrophysiology from all over the world. Through this experience, I was able to further enhance my knowledge base in innovative electrophysiology. Furthermore, I was able to take some time to explore the beautiful country of Israel. It truly was a once in a lifetime opportunity.

Chaitra Mohan, MD PGY-8 Cardiac Electrophysiology Fellow University of Miami Hospital Jackson Memorial Hospital Miami VA Healthcare System





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Dear Dr. Stroh,

I am one of the first-year cardiology fellows at Baylor Scott and White Medical Center in Round Rock, Texas. I was asked to describe my experience of attending the IDSS held in March, 2022. Firstly, an opportunity to present my research work and attend an inperson conference after years of COVID related restrictions was very refreshing. The symposium was very well organized, kudos to the efforts of all the organizers. The conference was comprehensive and was inclusive of several talks on emerging concepts of cardiology, with focus on fellow education. Other topics that I found interesting were COVID-19 effects on the cardiovascular system and technological advances in the Israeli Health care system. Being able to connect with experts from all over the world and co-fellows was an excellent educational experience. Israel has long been on the list of my "to go destinations" and it was certainly a thrilling experience to visit Jerusalem and Tel Aviv. I truly appreciate the opportunity to participate and present my work at IDSS.

Cardiology Fellow, PGY-4
Baylor Scott and White Medical Center,
Round Rock

Dear Dr. Stroh,

IDSS 2022 was a rewarding experience from the fellows' program and case competition to the stimulating talks in clinical innovation. I really enjoyed the opportunity to connect with prominent researchers in the field.

Peter Hanna, MD, PhD

Cardiac Electrophysiology Fellow, Ronald Reagan UCLA Medical Center



Images from the 69th Annual Conference of the Israel Heart Society with the Israel Society of Cardiothoracic Surgery

Harini Bollempalli MD, MPH





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The 69th Conference of the Israel Heart Society in conjunction with the Israel Society of Cardiothoracic Surgery was held May 2022 at the Tel Aviv Expo. Despite the "Covid" pandemic, over 1200 participants attended! As usual, the conference had worldwide participation, including sessions of the American Heart Association, American College of Cardiology, and European Society of Cardiology.

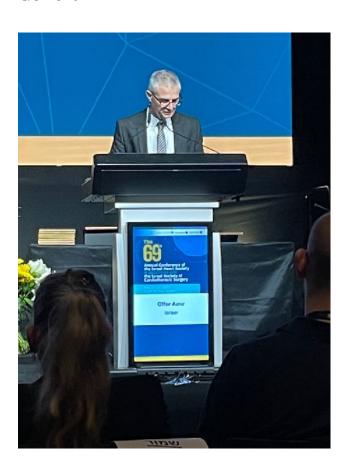






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The Cardiology sessions were led by Professors Offer Amir, President of the Israel Heart Society, and Arik Wolak, Secretary General.





Dr. Bradley Strauss, Chief, Schulich Heart Program; Founder Matrizyme Pharma at Sunnybrook Health Sciences Centre, and long time supporter of the Friends of the Israel Heart Society, was awarded Honorary Membership in the Israel Heart Society. Other Honorary Memberships were





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conferred on Avraham Shotan and Morris Mosseri.







The annual Meltzer Award for Outstanding Contribution in the Field of Non-Invasive Cardiology and Prevention was awarded to Dr. Yaron Shapira.







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The Michel Mirowski Excellence in Cardiology Award was presented to Professor Moti Haim. Both of these annual awards are maintained by the FIHS and awardees are chosen by committees of the Israel Heart Society to promote excellence in cardiology in memory of these great cardiology pioneers.

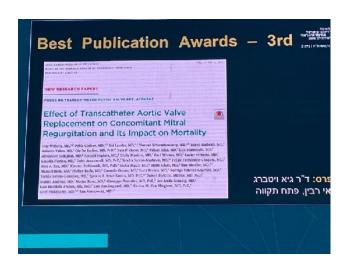


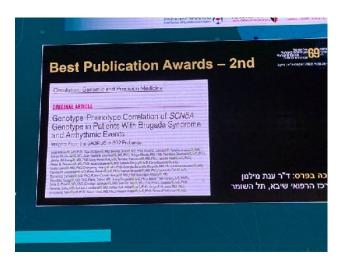


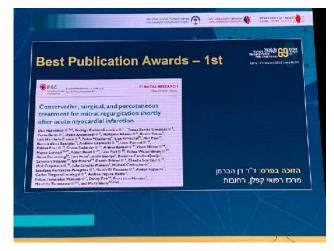


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The following are the Best Publication awards. Here are some of the 1st, 2nd,and 3rd place winners:







Key lectures are:

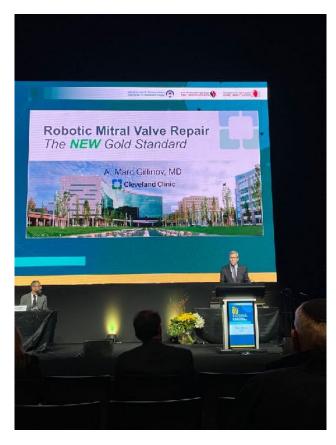














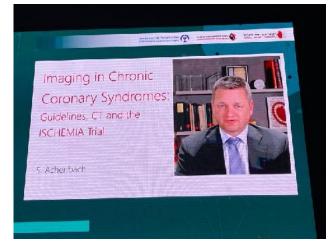






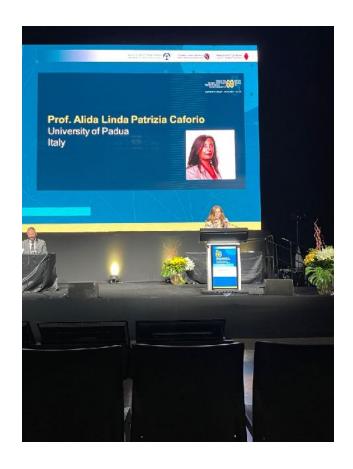














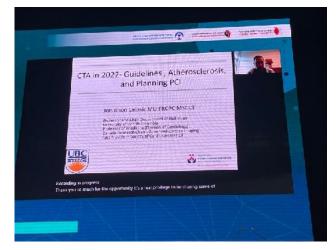
















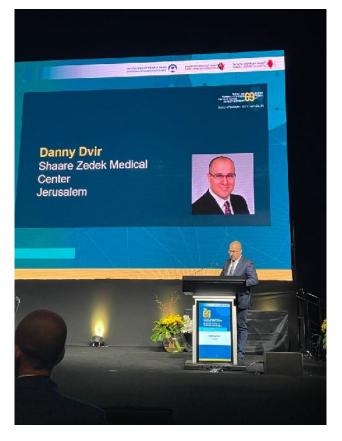










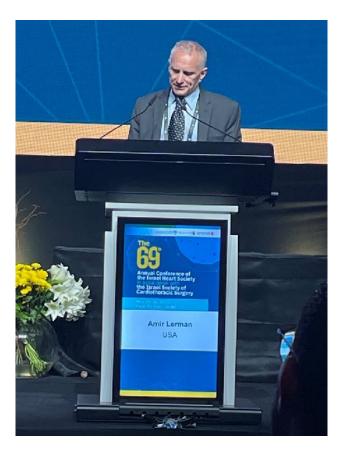


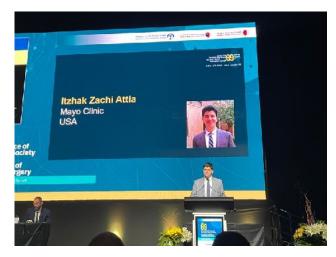






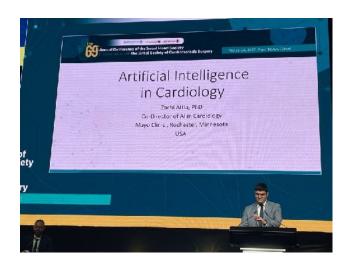














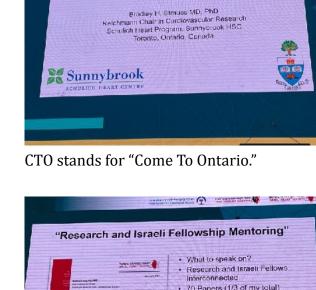






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Dr. Bradley Strauss presented a special Keynote lecture on his experience providing subspecialty training for many Israeli Cardiology fellows and his personal journey setting up such a program at Sunnybrook Health System in Ontario. He noted the support for these programs through Friends of the Israel Heart Society.







CTO הבנת: Lessons From My Israeli Fellows





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Here are images of the attendees and participants:



IHS President Offer Amir, Secretary General Arik Wolak, and Senior Executive Manager Karen Davidson.













Karen Davidson and Batia Ziv, current and former Senior Executive Managers of IHS.





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We highly recommend attending this wonderful Conference next Spring as a place for cutting edge advances in Cardiology and also to see what is the state of the art around the world. We congratulate the Israel Heart Society on the large, in person attendance as we transition from the Covid pandemic!



Israel Cardiology in the News

A first in Israel: Unique cardiac valve transplant procedure

Patient unsuited for standard transplant, undergoes first-of-its kind operation in Israel, implanting aortic valve in a unique way.

https://www.israelnationalnews.com/

news/328169

Israel National News25.05.22



Gabby Elbaz-Greener, David Planer, Ronen Beeri, Amit Korach, Tamer Abu Jreis, Hadassah Medical Center

A few weeks ago, a 76-year-old patient in severe cardiac shock arrived at Hadassah Hospital Ein Kerem, with a history of critical stenosis of the aortic valve.

The patient suffered from severe vascular disease that made it impossible to use the accepted approach through the groin artery and the alternative approaches were disqualified due to anatomical limitations and previous bypass surgery. Dr. David Planer, Director of the Catheterization Department at Hadassah Ein Kerem explains: "Until two decades ago, access to patients who required an aortic valve





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replacement was a surgical approach that involved opening the chest, and a long and difficult recovery.

About two decades ago, with the development of technology, a percutaneous approach to replacing the valve was developed, which is performed in a catheterization through the groin artery. In cases where access from the groin artery is impossible, there are alternative approaches that allow the operation to be performed.

The patient who came to us urgently needed a valve transplant and no accepted and common options were suitable for him due to various diseases from which he suffered. The case presented us with a real challenge, and we realized that we had to think outside the box in order to save his life."

Dr. David Planer, Director of the Catheterization Department, and Dr. Gabby Elbaz-Greener, senior catheterization specialist at Hadassah Ein Kerem Hospital, who head the Structural Heart Interventional program at our institution, together with Dr. Amit Korach, a senior cardiac surgeon, decided to implant the valve using a unique approach through the cervical artery (carotid artery), a procedure that

has never before been performed in Israel.

"This is a very complex operation, to date only performed in a number of isolated cases in major centers around the world. The operation is performed using a hybrid approach, i.e. with catheterization specialists and surgeons. Surgical exposure is performed and control of the carotid artery through which the valve is delivered and implanted in the patient's heart," states the transplant team, adding "following a thorough examination of the patient. After seeing that he meets the anatomical criteria, we approached the patient and his family and shared with them the discussions that were held and the team's recommendation. In view of the life-threatening danger and lack of therapeutic alternatives, it was decided together to move forward with the procedure."

In a collaborative effort between Dr. David Planer, Dr. Gabby Elbaz-Greener, Dr. Amit Korach, Prof. Ronen Beeri, Director of the Echocardiography Unit and a Senior Anesthesiologist, and Dr. Tamer Abu Jreis, the valve was successfully replaced with this unique catheterization approach.





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"Beyond choosing the right patient and the high technical capacity of the team, in a procedure such as this, it is of utmost importance for there to be harmonious work with a common language between the collaborators who come from different disciplines" explains Dr. Planer. "Thankfully, the operation went smoothly, without complications, and we are proud to be the first team in Israel to carry it out and pave the way for an additional therapeutic option for these seriously ill patients. The patient was discharged to rehabilitation and we wish him a full recovery."



Wearable telehealth device can provide early warning of deterioration

New Sheba Medical Center study shows wearable telehealth device can detect patient deterioration 38 hours before clinical deterioration, in 75% of patients. Jul 6, 2022

https://www.israelnationalnews.com/news/356032



Wearable remote patient monitoring system

Sheba Medical Center, Israel's largest medical center and a *Newsweek* top-10 ranked world's best hospital for the last four years, announced Tuesday the results of a new study validating the use of wearable telehealth technology for monitoring hospitalized patients.

The study, published in the peer-reviewed JMIR Formative Research Journal, examined the effectiveness of a wearable remote patient monitoring (RPM) device which monitored for early warning signs of clinical deterioration.

Using data collected from the wearable RPM, the study found the remote device, when measured using the





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NEWS method (National Early Warning Score), provided 67% of cases with an early warning of deterioration before it was detected by medical staff, at an average of 29 hours prior to actual clinical detection. That number rose to 75% when using the ABCNO criteria (Airway, Breathing, Circulation, Neurology, and Other), with deterioration detected an average of 38 hours ahead of time.

"With the rapid development of innovative telehealth technologies, it is important to consider the clinical barrier of validation which is vital for turning telehealth into evidence-based medicine," said Prof. Gad Segal, Head of Internal Telemedicine at Sheba Medical Center and principal investigator of the study.

"This study shows that disruptive telehealth can provide viable alternatives to clinical deterioration detection by medical staff. The output signals from remote monitoring can be equivalent to medical-grade ICU monitoring and that opens up the horizon for home hospitalization of true patients, aligning with Sheba Beyond's vision of supporting the global transition to telemedicine."

The wearable RPM provides continuous monitoring of blood pressure, pulse rate, oxygenation and photoplethysmography (PPG) signal wave, all easily accessed via an LED screen and mobile app. Biobeat®, which supplied the device, is an Israeli company founded in 2016 with the goal of providing comprehensive Alpowered wearable remote patient monitoring platforms designed to elevate the standard of care for both short- and long-term healthcare environments.

With the outbreak of COVID-19 in Israel in March 2020, Sheba Medical Center swiftly converted several departments to fully quarantined units for COVID-19 patients, necessitating rapid adaptation of telehealth technologies including the Biobeat® remote health monitoring system.

In addition to its work in Israel, Sheba Beyond, Sheba's virtual hospital, provides high-quality remote medical care to patients around the world. It is currently using its platform to treat <u>Ukrainian refugees</u>, connecting them to doctors in Sheba through a variety of femtech and other telehealth technologies.





THE ISRAEL HEART SOCIETY



Using only skin cells, Israeli lab makes synthetic mouse embryos with beating hearts

In peer-reviewed breakthrough, embryos grown from stem cells; diverse group of scientists says method may one day be used to ethically grow cells for replacement human organs.

RESEARCHER TELLS TOI: THERE WAS NO SPERM, NO EGG, NO UTERUS

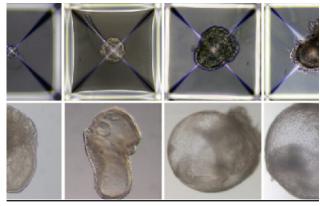
By NATHAN JEFFAY 1 August 2022

https://www.timesofisrael.com/fromjust-skin-cells-israeli-lab-makessynthetic-mouse-embryos-with-beatinghearts/

Also:

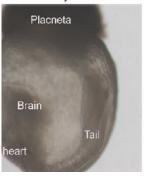
https://www.theguardian.com/science/

<u>2022/aug/03/scientists-create-worlds-first-synthetic-embryos</u>



A synthetic mouse embryo grown at Weizmann Institute of Science, pictured dally, from day one top left, to stay eight bottom right. (courtesy of the Weizmann Institute of Science).

Natural embryo E8.5



Synthetic Embryo Day8



A natural embryo (left) compared with a synthetic embryo. Synthetic embryos are expected to drive deeper understanding of how organs and tissues form during the development of natural embryos. Photograph: Weizmann Institute





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An Israeli lab has grown synthetic mouse embryos with brains and beating hearts — in an egg-free spermfree procedure that used stem cells taken from skin.

The breakthrough, <u>published on</u>

<u>Monday in the peer-reviewed journal</u>

<u>Cell</u>, represents the first time that an advanced embryo of any species has been created from stem cells alone, cell biologist Prof. Jacob Hanna of the Weizmann Institute of Science told The Times of Israel.

Hanna, whose team of researchers includes Jewish and Arab Israelis as well as a Palestinian doctoral student, said that previous attempts had led only to blastocysts, meaning the structures formed in the early development of mammals. Blastocysts have a tiny fraction of the million-plus cells that are in his embryos.

"It's remarkable," he commented.

"There was no sperm, no egg and no uterus, but we managed to get embryos formed from stem cells alone to eight days — a third of the gestation

period of a mouse — with a beating heart."

He said that the research could one day be used to grow artificial human embryo-like structures to generate cells for futuristic medical solutions.

Scientists are constantly working on ways to use cells to grow organs for transplant. The obvious source for such cells — regular embryos — is seen as rife with ethical problems.

Hanna said synthetic embryo-like structures could be viewed very differently. They are similar to regular embryos, but are not viable for implantation.

He foresees a day when sick patients may give skin or blood cells for the growth of artificial embryo-like structures, which could in turn yield the cells needed to grow organs.







THE ISRAEL HEART SOCIETY

Life-saving breakthrough for heart disease at Hadassah medical center

The first case, on an elderly man at high risk of death, was performed in May without official Health Ministry approval on compassionate grounds. There have been two more cases since then.

Jerusalem Post AUGUST 25, 2022 By JUDY SIEGEL-ITZKOVICH

https://www.jpost.com/health-and-wellness/article-715588



The team that performed the catheterization. (credit: HADASSAH MEDICAL ORGANIZATION)

Instead of performing open-heart surgery, with all its risks, to repair a defective aortal arch that has an aneurysm – a bulge in a blood vessel caused by a weakness in the blood vessel wall – interventional cardiologists at the Hadassah-University Medical Center in Jerusalem's Ein Kerem are the first in Israel to fix it by minimal catheterization.

The first case, on an elderly man at high risk of death, was performed in May without official Health Ministry approval on compassionate grounds. There have been two more cases since then.

The fourth patient who underwent the two-and-a-half-hour procedure on Thursday, Meir Yitzhak of Kiryat Yam, is only 55. He was the first case in which the \$32,000 implant was a commercial product recognized by the ministry and paid for by his health fund, Maccabi Health Services. It is threaded toward the heart via arteries in the leg and/or the arm





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and covers the balloon-like aneurysm in the aorta that then doesn't have to be removed.

Open-heart surgical repair of an aortic arch aneurysm takes six to eight hours, with a high risk, a long recovery and dangers of complications, said Dr. Gabby Elbaz-Greener, who performed the procedure along with coronary catheterization department head Dr. David Planer; Prof. Amnon Korah, a veteran Hadassah cardiac surgeon who has replaced damaged aortic arches in openheart surgery; Prof. Ronen Be'eri, director of the echocardiography unit; and anesthesiology resident Dr. Tamer Abu Jreis.

"About two out of 10 patients found to have an aneurysm in the aorta are unsuitable for the minimally invasive implant because of anatomical problems," Elbaz-Greener told The Jerusalem Post in an interview.

Before the catheterization, each patient undergoes a full clinical and imaging evaluation by the

team in order to check suitability for the operation. Due to the complex geometric structure of the aortic arch, each patient is simulated on a 3D printed anatomical model.

Fixing the arch is very complicated because three blood vessels are connected to it, she added.

Aneurysms often rupture suddenly in patients of all ages, and nothing can save them – even if they are in a hospital when it occurs, said Elbaz-Greener.

"It kills immediately. But we can often identify an aortic aneurysm when a scan has been performed for some other condition." is a risk factor for aortal aneurysms, but trauma and other problems can also cause it.

From clinical trials to the operating room

SEVERAL HUNDRED patients in Europe and New Zealand underwent implantation of the delicate Dacron implant call Nexus – developed by the Endospan company in Herzliya





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Pituah – in clinical trials. It now has certification from the European CE authority after the product was deemed to meet EU safety and health requirements. Hadassah was chosen by the company to be the first here to use it because Planer was deeply involved in the graft's development.

They published an article on the first catheterization procedure in the *Annals of Surgery*.



The Nexus graft. (credit: COURTESY OF THE ENDOSPAN COMPANY)

Elbaz-Greener estimated that about 20 Israeli patients a year will need and be suited for the graft, and that the world market for it will include thousands of patients a year. As the graft becomes better known, many patients will demand it and cardiologists will learn to perform it because of the safety, short recuperation process and other benefits, she added. Doctors from Sheba Medical Center at Tel Hashomer have visited the Hadassah team to learn how to perform the special catheterization.

Elbaz-Greener herself was an occupational therapy student at the age of 20 when – 29 years ago on the way to the Hebrew University of Jerusalem – she was a victim of a bus explosion carried out by Palestinian terrorists in Jerusalem's Ramat Eshkol neighborhood.

"My condition, with a damaged carotid artery, was so serious that my family members were asked if they were willing to donate my organs." She miraculously survived and decided to switch her profession to become a doctor. She studied medicine at Ben-Gurion University of the Negev's Faculty of Health Sciences in Beersheba and went to Toronto to





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learn catheterization as a specialty. Her post-traumatic symptoms as a result of her injuries have fortunately diminished. Hadassah Medical Organization director-general Prof. Yoram Weiss commented, "Today, cardiology patients receive excellent treatment here thanks to the accelerated development of treatments, which in the past we could only dream of. The treatment of aortic arch diseases is one of the most complex in modern medicine, when the treatment with open heart surgery – the only option until now - carries a high risk of mortality and brain damage. Several years ago, Endospan began developing a device for catheterization to reduce the risk of the operation, and we have seen amazing results."

Hadassah cardiology chief Prof.
Ofer Amir added, "The aorta,
especially its ascending part and
the arch it creates in the thorax, is
a therapeutic challenge because of
the significance of a disruption in
the blood flow in the main artery
that supplies blood that leaves the

heart to all the other organs of the body. Until today, a major operation involving the opening of the chest following a long recovery was the only treatment. Thanks to Israeli development and Hadassah's skilled medical team, today it is possible to perform catheterization medical procedures on the aorta and avoid surgery."

Planer noted, "Beyond choosing the right patient and the high technical capacity of the team, in a procedure such as this, it is of utmost importance for us to work harmoniously, despite coming from different disciplines. Thankfully, the operation went smoothly and without complications. We are proud to be the first team in Israel to carry it out and pave the way for an additional therapeutic option for these seriously ill patients."







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FIHS Heart Beats



The FIHS Heart Beats section includes individual as well as institutional achievements related to our members or Israeli hospitals.









That's it for this issue of the newsletter of the Friends of Israel Heart Society. Special thanks as always to IHS Senior Executive Manager Karen Davidson for being our "eyes and ears on the ground" in Israel. Special thanks in America to our Society Administrators-Janice and Larry Brown!





THE ISRAEL HEART SOCIETY

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.



Classified Section

Welcome to our Classified Section. This is open to any Program Directors, either in the USA, Canada, or Israel who have any position available for a cardiologist. We offer this as a service to our members and affiliated physicians worldwide, with this furthering our goal to be a bridge to connecting cardiologists. Send all requests to the editor at jackstroh@usa.net.





Openings at Laniado Hospital, Netanya, Israel

The Heart Institute at Laniado Hospital is looking to hire multiple clinical cardiologists. With over 2500 cardiac hospitalizations, 4700 echocardiograms, 895 cardiac catheterizations, and a new electrophysiology program, we are the 4th largest Heart Institute in Israel. For further information contact:

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Mobile #- +972-52-847-4154
https://www.ima.org.il/MainSite/
Departments/ProfileDepartment.aspx?
dcode=0160410200103







the israel heart society



dzahger@bgu.ac.il

Openings at Soroka Hospital, **Beer Sheva**

https://hospitals.clalit.co.il/soroka/en/ Medical%20Units/Pages/cardiologysection.aspx

The Cardiac Center in Soroka Medical Center is looking for an interventional cardiologist to join its faculty. Soroka is a tertiary university hospital serving a very large population in the Negev. Our catheterization laboratory performs the whole spectrum of coronary and structural interventions and is expected to expand in the next few years. Preference will be given to candidates with academic interest and experience.

If you are interested, or know someone who is, please contact:

Prof. Doron Zahger, MD, FESC, **FAHA**

Director of Cardiology, Soroka University Medical Center, Beer Sheva















Happy and Healthy New Year to all!!