



# of the Israel Heart Society



Editor's Note: Welcome to the Fall 2020 FIHS Newsletter. Happy and Healthy New Year- boy can we ever use a better year!!!

We have all been through trying times thanks to the once in a lifetime pandemic named Covid-19. Many of you know that the Editor's son-in-law was intubated for over 3 weeks in an ICU at Hackensack University Hospital with severe COVIDrespiratory distress. Thanks to G-d and the heroic doctors, nurses, and staff there, as well as Actemra, survived Michael and is home undergoing physical therapy. Thanks are due to

all of you who prayed for him and gave us the strength to persevere. Here is a link to a local newspaper article which outlines the course of the ordeal and how he survived.

https://jewishstandard.timesofisrael.com/home-again-gratefully/

Please also note: the Israel Heart Society Conference and the ICI Meeting have been upgraded to VIRTUAL MEETINGS- that means anyone can access them from anywhere in the world without having to pass Customs! See details below and follow the links!

The current issue will include its usual features- a message from our President, **Ieff** Goldberger, announcements of Israeli Cardiology Meetings (some of which have been rescheduled). Heart Beats





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section, and our Classified Section at the end of the newsletter. 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 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 email (mv is iackstroh@usa.net) and feel free to forward this Newsletter.









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#### 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! This year, in particular, we hope for a healthy upcoming year. Since our last newsletter, the world has experienced multiple transformational events that have impacted us all, in cardiology and in life. Many of us have had friends and relatives who have suffered the rages of COVID-19. We have been called upon to assist in the health care crisis generated by the COVID-19 pandemic – everyone is grateful and tremendously appreciates these efforts. We have all been impacted by the loss of personal connectivity, both nationally and internationally. The camaraderie of the meetings, be it the American College of Cardiology Scientific Sessions or the various meetings in Israel, simply cannot be replaced by Zoom. We hope

to get back on track and see you all **IN PERSON** in the coming year! But, until then, the meetings in Israel are continuing virtually – this is a great opportunity for everyone to experience the quality and vitality of these meetings. I assure you that it will be worthwhile - every meeting I have attended in Israel has been superb. Once you experience this, I am confident that you will want to come and personally partake in the next in-person meeting. See inside the newsletter for the announcements for the Israel Heart Society and Innovations in Cardiovascular Interventions meetings.

Our mission has been to support the Israel Heart Society. We have notably done so by promoting interactions, providing a platform in this newsletter for the activities of the Israel Heart Society, and supporting educational interchanges, particularly for fellows. Is this enough? As President, I can assure you we





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can do much more. But we cannot do it without your support. Presently, we are a volunteer organization with no professional staff. This means that every individual volunteer can make a significant contribution and advance our mission. We need a much larger cadre of both supporters and volunteers. I have reached out to you in the past to recruit new members. I have done so on a consistent basis and have found that many people do not know of this organization but are happy to join once they find out. I am confident that each person reading this newsletter has a network of more than 10 individuals who would be interested in becoming a member and supporting this cause. Given our extremely low membership dues, there are virtually no barriers to joining. We therefore need you to reach out to these individuals and serve as an ambassador for the Israel Heart Society - please forward us the contact information for anyone who is interested.

While much of the past year has brought significant challenges, it is important to acknowledge the groundbreaking agreement between the United Arab Emirates and Israel. This will certainly have implications in the medical community and expand the opportunities for global health. Stay tuned!

Now is a good time to check if you have renewed your membership for 2020 - 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 on our website. Annual membership can be paid through the FIHS website at:

http://www.friendsihs.org/index.ht ml.

Special thanks to Larry and Janice Brown for all their organizational support and to





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Jack Stroh for his continued efforts producing this informative newsletter.

We would like to hear from you regarding further programs or ideas that you would like to initiate. We could use your support!

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., M.B.A. President, Friends of the Israel Heart Society







New 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.

Recently, our President Jeff Goldberger spoke with Drs. Glikson and Kornowski (the former President and





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current President 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 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 We support. each fellow estimate position would require raising \$60,000.

We learned of a currently 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 Lankenau at Institute for Medical Research. This group raised enough for more than 2 fellowships with local fundraising dinners at donor physicians homes. and civilians.

Our hope is to expand on excellent start this 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 effort. continental please contact me at jackstroh@usa.net.





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https://www.youtube.com/watch?v=I0 0vxjoRAaQ&feature=youtu.be







#### **Upcoming Meetings**

The 67th Annual
Conference of the Israel
Heart Society in
Association with the Israel
Society of Cardiothoracic
Surgery, under the

**Auspices of the Israel Cardiology Association** 

VIRTUAL CONFERENCE

October 19-20, 2020

(new date)

For more details, watch the website:

http://2020.israel-heart.org.il







We look forward to offering you the same vibrant program including leading international keynote speakers, parallel and satellite sessions on the latest research in our field, a platform to connect virtually with sponsors and exhibitors and the ability for meaningful





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collaboration to reflect and connect with colleagues from Israel and across the Globe. In addition to participating in the live event, all attendees will have access to on-demand recordings for 3 months.

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

For more details and frequently asked questions.

- Topics:
  - Adult Congenital Heart Disease/pediatric cardiology
  - Basic Science
  - Cardiac Imaging
  - Echocardiography and Valvular Diseases
  - Heart Failure
  - Acute Cardiovascular Care
  - Interventional Cardiology
  - Pacing and EPS
  - Rehab/Epidemiology/ Prevention and Risk Factors/Pharmacology

- Heart Surgery
- Myocardial and Pericardial Diseases

#### For registration:

https://2020.israelheart.org.il/registration/



Innovations in Cardiovascular Interventions Meeting 2020





December 6-7, 2020

VIRTUAL MEETING- Free Registration!

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meeting, connects you to more than 2,000 physicians, scientists, entrepreneurs, technology experts, academics, venture capitalists and medical industry representatives in the cardiovascular field.

With participants from more than 50 countries, ICI virtual Meeting is a unique place that can elevate your status, maximize your visibility and connect you with the top leaders in the cardiovascular field.

We offer you to learn, Listen have a direct communication with outstanding experts, active in all areas of cardiovascular, such as coronary interventions, vascular interventions, transcatheter valvular therapies, stroke prevention /intervention, electrophysiology, cell therapy and heart failure.

- ICI Virtual Meeting is interactive – allowing attendees to visit booths, chat with pharmaceutical representatives, attend sessions, meet with keynote speakers, and even chat, network or talk live to other attendees.
- 2. The event "lives on" and will be available to "View on Demand" 3 months after the Meeting.
- Seminar technologies, podcasting, and other means

of communication will be available to you in one operating environment.

Join the ICI global network to explore the latest advancements in treatment of the heart, brain, and vascular disease.

- -440 Global opinion leaders
- 600 Keynote lectures
- 800 Focus topics
- 40 Countries
- Technology Parade
- World startup competition

Challenge the horizon Since 1995 ICI has helped revolutionize cardiovascular interventions and high-tech life-sciences. Shape the future This year, ICI will mark 25 years of innovation with an inspiring new model to shape the future of cardiovascular medicine. United visionary leaders ICI 2020 will gather world's leading researchers to discuss futuristic technology and breakthroughs. Join science and business ICI has contributed to remarkable improvements in patient lives by introducing the





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most advanced technologies and therapies.

https://icimed.org/

For free registration for allhttps://iciforall.com/



The ICI contest offers unique benefits to Startups from around the globe. Earn global exposure to ICI's inclusive innovation network. Chase the \$150,000 innovation award sponsored by the Jon DeHaan Foundation.

What's it all about? As a finalist in the ICI 2020 Innovation Award competition, you will be elected to pitch your startup in a plenary session at the ICI for All 2020 Global Innovation Summit. Riding on ICI's reputation and network, this contest amplifies exposure for your technology to key industry investors.

What's in it for me? As a finalist in the ICI 2020 Innovation Award competition, you will be elected to pitch your startup in a plenary session at the ICI for All 2020 Global Innovation Summit. Riding on ICI's reputation and network, this contest amplifies exposure for your technology to key industry investors.

APPLY FOR STARTUP COMPETITION



12th International Conference: Acute Cardiac Care

May 23-25, 2021





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#### (new date)

#### Tel Aviv, Israel

#### https://cardiology-2020.isas.co.il/

Acute Cardiac Care has been undergoing a substantial transformation in recent years as the population ages and our patients become more complex and require more multidisciplinary care.

The *International Conference on*Acute Cardiac Care, held biennially in Israel, has long become one of the leading scientific events for acute cardiac care worldwide. In this meeting we cover the broad spectrum of contemporary acute cardiac care, including acute coronary syndromes, anti-thrombotic therapy, reperfusion and revascularization, acute heart failure, management of arrhythmias in the acute setting and general intensive care.

Our 12th meeting will take place in Tel Aviv in May 2021 and will bring together health care professionals from all relevant disciplines, including cardiologists, intensivists, anesthesiologists, internists, cardiac surgeons, nurses, paramedics and other allied professionals. The meeting is held under the auspices of the Acute Cardiovascular Care Association of the ESC and the Israel Heart Society and is a major scientific event for all health care professionals working in acute cardiac care.

Tel Aviv and Israel offer rich opportunities for tourism and entertainment with unique historic and cultural sites as well as a vibrant, seaside experience.

On behalf of the organizing committee, we look forward to welcoming you to Tel Aviv.

Sincerely, Joseph S. Alpert Yonathan Hasin Doron Zahger

#### **Steering Committee**

Joseph S. Alpert, USA, Co-Chair Yonathan Hasin, Israel, Co-Chair Doron Zahger, Israel, Co-Chair

# BEST ABSTRACT COMPETITION

The conference will hold an abstract competition, in which the **top abstract** will be recognized for its quality, originality and ingenuity in basic or clinical science.

#### **Conditions:**

The recipient will be notified in advance and will receive the award during the opening session on Monday, May 24, 2021. In addition to this honor, the primary author will receive a prize of \$250.

To qualify for the competition, the





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primary author must have registered and paid for the conference.

#### **Rules for Submission:**

- ♦ All abstracts must be submitted and presented in clear English with accurate grammar and spelling of a quality suitable for publication.
- ♦ The presenting author is requested to ensure that all co-authors are aware of the content of the abstract before submission.
- ◆ Submission of an abstract acknowledges your acceptance for the abstract to be published on the conference website and in the conference book of abstracts.

#### **Abstract Layout:**

Abstracts must be submitted with the following sections:

- ◆ Title
- Background and aims
- Methods
- ♦ Results
- ♦ Conclusions

Unique **case presentations** can be submitted as well with the following sections:

- ◆ Title
- ◆ Brief case description
- ◆ Unique clinical and/or imaging findings
- ◆ Clinical relevance/importance of the case

Abstract submission deadline: March 15, 2021

Abstract acceptance date: March 30, 2021

For information on topics, please go to the website listed above.







**COEXISTENCE** 





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# An Arab doctor and an ultra-Orthodox Jew find common ground in a covid ward



Nurses wearing protective gear are seen inside an isolation ward for covid-19 patients, at the Hadassah Ein Kerem Hospital in Jerusalem. (David Vaaknin for The Washington Post)

#### By Steve Hendrix

April 25, 2020 at 1:36 p.m. EDT JERUSALEM — When Jesse Michael Kramer was hospitalized with the coronavirus, he realized as soon as the doctor in the spacesuit introduced himself that it would be a rare encounter. Kramer is an Israeli ultra-Orthodox Jew; Fadi Kharouf is a Palestinian Muslim.

"Fadi, it's an Arab name,"
Kramer, 75, said as he recalled
his time at Jerusalem's
Hadassah Ein Kerem Hospital,
once he was back home
convalescing in the ultraOrthodox neighborhood he
seldom leaves. "He was very
good to me."

Such unlikely meetings have become more commonplace after the pandemic struck with particular fury in Jerusalem's most insular and religious Jewish enclaves, just a few miles — but cultural lightyears — from the Arab neighborhoods where Kharouf and other Palestinian physicians and nurses live. The pandemic has created a bridge between their worlds. Hundreds of Jewish covid-19 patients are being treated by Arab practitioners they might never meet outside the hospital. Sick Palestinians are getting care from Jewish medical staff they might otherwise avoid. For many health-care workers, exhausting themselves shift after shift, this shared fight against a common enemy has





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provided a boost of mutual esteem amid the dark days of crisis.



Doctors Fadi Kharouf, center, and Matan Fischer laugh during their shift at Hadassah Ein Kerem Hospital. (David Vaaknin for The Washington Post)

"I am sure we may have extremely different political views, but they are very respectful to me," said Kharouf of his Jewish patients, who are mostly from ultra-Orthodox groups, known here as Haredim.

For his part, Kharouf, 30, has learned much about Judaism's strictest sects. He has helped covid-weakened men wrap the leather straps of the ritual prayer tefillin around their arms. He has learned many of their dietary laws.

Preparing to enter one of the hospital's three covid wards on a recent afternoon, he paused while zipping up his tear-proof hazmat suit to recall a few Hebrew words of the Mourner's Kaddish prayer, which he has heard recited at many bedside deaths, sometimes by family members he has helped patch in via cellphone video.

"I am proud of my Palestinian culture," he said. "I have many things to criticize about what is happening in the outside world. But in here, we are all just humans."

#### 'We are healers'



Doctor Limor Rubin, second from right, and nurses put on protective gear as they prepare to enter an isolation ward for





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coronavirus patients at the hospital. (David Vaaknin for The Washington Post)

Israeli hospitals were already known as one of the country's few cultural crossroads, a place where everyone from Jewish settlers to Palestinian activists comes to receive nationalized health care, and to deliver it. Israel's Arab minority, which makes up 20 percent of the population, is well represented in the ranks of those wearing scrubs and lab coats. Many speak of medicine as a good avenue into an economy they feel otherwise shuts them out.

As the epidemic has exploded, the sense of caring for the other has heightened. Advocates have seized on the adulation being showered on health-care workers to argue for greater civil rights for the Arab doctors and nurses among them.

Shir Nosatzki, a Jewish human rights activist, recounted a day in March when Israelis went to their balconies at 6 p.m. to applaud health-care workers, then, later that evening, the news reported that Prime Minister Benjamin Netanyahu had labeled Arab Israeli members of parliament "terror supporters."



A campaign group released a video on April 13 showing doctors and nurses caring in Israel "unmasking" themselves as Arab-Israelis who deserve equal rights. (Have You Seen the Horizon Lately?/Youtube)

https://www.washingtonpost.com/vide o/world/video-campaign-shows-arabdoctors-and-nurses-on-front-lines-ofcovid-19-pandemic-inisrael/2020/04/20/b8fd745e-bc94-43c2-8688-c3a1746c4281\_video.html

Nosatzki and her group, Have You Seen the Horizon Lately, quickly produced a video that depicts doctors and nurses dramatically removing their masks to reveal Arab faces and





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head coverings. It has been viewed almost 2 million times. "You can't salute them for saving our lives and at the same time say they are not legitimate participants in our society," Nosatzki said.

The coronavirus outbreak is the latest emergency that medical staff have had to address across ethnic lines. At times of war and terrorism, assailants and victims often end up in the same emergency room, treated by both Jews and Arabs.



Rubin is seen at the entrance to an isolation ward for covid-19 patients. (David Vaaknin for The Washington Post)



Kharouf puts on protective gear as he prepares to enter an isolation ward to treat coronavirus patients. (David Vaaknin for The Washington Post)

Sigal Sviri, the Jewish physician heading Hadassah's covid-19 intensive care units and one of Kharouf's medical mentors, recounted her first shift as an emergency room doctor in the early 1990s. It was full of screaming victims from a bus hijacking that had ended with a crash. Suddenly, she realized she was treating the hijacker, a young Palestinian.

"I was very young and very scared," she said. "I wasn't going to refuse but I didn't know how to react."
Then she saw the care another surgeon was taking as he stitched up the wounds on the man's face. She asked why. "'It





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doesn't matter what we feel,' "
she recalled the doctor saying. "
'We are not judges. We are not
prison guards. We are
healers.' "

Decades later, Sviri has marveled at the durability of that ethic as coronavirus swept the country.

"No religious Jew has ever told me, 'I don't want to be treated by an Arab doctor,' "Sviri said. "No Arab patient ever says, 'I don't want to be treated by a settler nurse.' They wake up on different sides of the fence and they meet at Hadassah."

At the beginning of the outbreak, she knew staffing was going to be tight. Not only did Israeli Arabs volunteer for the quadruple shifts, but so did several of the West Bank Palestinians who were being trained at the hospital. The risk for them, she said, was not just from the virus but from other Palestinians at home who might treat them as pariahs for helping Israelis and for potentially transmitting the infection to the West Bank.

One of those doctors, Haitham Alamlih, said he never hesitated to sign up.

"We are all fighting the same battle," he said between shifts from his family home in Hebron. "So many Jewish patients are shocked. They say, 'You are from Hebron and you are treating me nicely? Oh my God!'"

#### 'Health-care diplomacy'





Kharouf poses for a portrait at his brother's house in the East Jerusalem neighborhood of Beit Hanina. (David Vaaknin for The Washington Post)

Kharouf, who was born in Israel and is a citizen, said that being a doctor hasn't immunized him against the indignities that Arabs face in Israel. He said, for example, that he was recently





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held for four hours at airport security before being allowed on a plane. The security agents, who threw away his gift box of chocolates, never said why he was singled out.

He is planning to marry as soon as the virus restrictions are lifted, but even then he said he won't be able to invite his West Bank family, most of whom don't have permits to enter Israel, to the wedding. When he is on call, he stays at his brother's home in an East Jerusalem neighborhood and sleeps on a sofa by the living room window, because that's where the cell signal is strongest in this marginalized part of the city. "I know this street would be paved if it was not in an Arab neighborhood," he said, pointing down at the rutted dirt lane.



Kharouf, center, talks to colleagues during their shift at Hadassah Ein Kerem Hospital. (David Vaaknin for The Washington Post)

Hospital life makes him feel "complete," he said. He has Haredi patients who call his cellphone to ask questions and check on his well-being. He was one of the Arabs who covered for the Jewish staff during Passover, just as Jews now cover the wards each evening during Ramadan while Arabs end their fast around the breakroom table.

"I do believe that if we at Hadassah were the politicians, we could have peace," said Naela Hayek, an Israeli Arab nurse, who says she now has enough command of Judaism to become a rabbi. She and Jewish colleague Julie





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Benbenishty have sought to share some of what they call "health-care diplomacy" through an organization called Nurses in the Middle East.

As to whether the good feelings will endure once the crisis is over, Benbenishty has her doubts. For a research paper, she once surveyed dozens of ultra-Orthodox patients to see whether their experience in the hospital had changed their view of the Arab-Jewish schism once they got out.

The answer was largely no.
"They said the hospital was a
very special place where
everyone got equal care,"
Benbenishty said. "But on the
outside, that still wasn't the
case."



Watch: Arab Nurses

Help Senior with

#### Coronavirus Put on

#### **Tefillin**

Ву

#### **Jewish Press News Desk**

21 Nisan 5780 - April 14, 2020

https://www.jewishpress.com/news/jewish-news/watch-arab-nurses-help-senior-with-coronavirus-put-on-tefillin/2020/04/14/



#### Tefillin

A senior citizen who was quarantined in a Tel Aviv old age home with coronavirus needed assistance putting his Tefillin on. Two Muslim-Arab (male) nurses working in the closed unit assisted the man and





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the wonderful video went viral in Israel. One of the nurses described the experience as surprising but very happy. It looks like they have a future with Chabad.

הראיון שריגש את הרשת: אח מוסלמי בבית אבות בתל אביב, שהניח תפילין לקשיש חרדי חולה קורונה, בראיון אצל אמנון לוי.





#### Israeli Innovation

This one is quite innovative, although the only cardiac connection is the Deliverer!

# At the right place at the right time: Baby in the parking lot

Doctor on way to one emergency finds himself needed for a second - when a woman gives birth in a hospital parking lot.

Arutz Sheva Staff, 19/02/20 13:58



"It was truly an unforgettable birth."

http://www.israelnationalnews.com/News/News.aspx/276217

It was dark and raining hard, when cardiologist Prof. Ronen Beeri parked and hurried towards Hadassah Medical Organization Ein Kerem to perform an emergency heart catheterization. But another emergency came first.





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In the parking lot, he was hailed by a man who said he needed help. Beeri apologized that a hear patient was waiting for him. The man answered. "But my wife just gave birth in the parking lot."

In a long labor, the couple had left the delivery room and gone home against the advice of the Hadassah team. When they tried to come back to the hospital, the baby arrived while they were parking.

When Beeri saw her, the mom was holding the baby, still attached to the umbilical cord.

"I took her husband's jacket and wrapped up the baby. Then I summoned midwives and obstetricians who came to the rescue."

"He's all heart," said the new dad of the cardiologist. "He arrived like an angel. We thought the delivery team might be annoyed, but just the opposite was true. They surrounded us with professionalism and compassion. It was truly an unforgettable birth."





#### **Innovation**

ALMOST ALL CASES SHOW DAMAGE IN THE RIGHT VENTRICLE

# A unique pattern of damage: Israeli team shows how coronavirus harms the heart

Tel Aviv doctors find 40% of all hospitalized COVID-19 patients have the same pattern of indirect cardio damage; discovery should help understand the disease better

By **NATHAN JEFFAY** 6/9/2020

https://www.timesofisrael.com/isra eli-team-shows-how-coronavirusdamages-the-heart/



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Doctors at Tel Aviv Sourasky Medical Center treat a patient in the coronavirus unit. May 4, 2020. (Yossi Aloni/Flash90)

With confusion around the world regarding how COVID-19 harms the heart, an Israeli cardiologist says he has pieced together the clearest picture to date.

The disease causes a unique pattern of damage on the right side of the heart, which occurs in two out of every five hospitalized patients, according to a team led by Dr. Yishay Szekely of the Tel Aviv Sourasky Medical Center.

"Nobody knew what actually happened to the heart, and we're now saying that 40 percent of hospitalized patients suffer from dysfunction on the right side, and

that it's rarely harming the left," Szekely told The Times of Israel.

"We've proved what actually happens in the heart, and this is the first step toward understanding the disease better in relation to the heart, and more effectively guiding future treatment," he added. "I believe that this is a big step."



Dr. Yishay Szekely, cardiologist at Tel Aviv's Sourasky Medical Center (courtesy of Yishay Szekely)





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Szekely recently published his research in the American Heart Association journal Circulation, and says that the 100-patient study is the world's first to systematically use cardiac imaging to show the impact of coronavirus on the heart, rather than relying on laboratory tests alone.

COVID-19 is thought to manifest itself mostly as a respiratory illness, but is known to commonly cause heart damage. Szekley said that he instituted heart imaging for many of his hospital's coronavirus patients in order to get some clarity — and has been surprised by what he saw.

He expected to witness damage to the left side of the heart, based on early reports from China and Europe, but instead found that almost all cases of heart damage are in the right ventricle. When viruses cause direct damage to the heart, they mostly affect the left side, said Szekley. He added that there may also be harm to the right side, but he has never encountered a virus that consistently caused damage to the right side alone.

But as this seemed to be the case with COVID-19 based on his study, he said, there were only two ways of interpreting the results. One was to conclude that coronavirus has a different effect on the heart than other viruses — Szekely dismissed this as highly unlikely. The other possibility was to conclude that the heart isn't reacting directly to the virus, but rather to strain in the lungs.

This made sense, Szekely said, given that the right side of the heart is tasked with pumping blood to the lungs. "Elevated pressure in the lungs causes the right side of the heart to work





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harder," he said. "Think of a pump that needs to work harder because of more resistance."

This finding should discourage researchers from investing in directly addressing the impact of coronavirus on the heart, and encourage them to consolidate their efforts on finding ways of improving patient health in the lungs, Szekely said.

He has several theories as to why the disease is damaging the right side of the heart, some related to the lungs' reaction to the virus, and one hypothesis that suggests that treatment could actually be agitating the lungs.



A doctor checks a medical ventilator control panel at the Samson Assuta Ashdod University Hospital, on March 16, 2020 (Jack Guez/AFP)

"It may be that if you ventilate patients at high pressures you cause damage, so it could be caused by the treatment and not by the disease," he said. If true, this would vindicate some doctors who have claimed that ventilation can sometimes be harmful.

Szekely thinks the main importance of his work is that insights into how the disease affects the heart will help researchers, doctors and drug companies to develop treatments. But he said that even before such breakthroughs, his findings can help doctors with patient care.

Based on the research and on his current hypotheses for explaining his findings, Szekely believes doctors may want to start paying close attention to the right side of





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the heart throughout hospitalization.

"The research can already start to help guide treatment, for example [by] prompting use of blood thinners in order to allow the right ventricle to work against lower pressure, and adjusting ventilation parameters based to a greater degree on the state of the patient's heart," he said.



# Israel Repurposes Public Phones into Lifesaving Defibrillator Stations

By <u>Viva Sarah Press</u>, NoCamels, June 11, 2020

http://nocamels.com/2020/06/israelpublic-phones-defibrillatorstations/?utm\_source=Newsletter&utm\_ medium=email&utm\_campaign=defibril lators



A public phone booth became a defibrillator cabinet as part of a national campaign by Bezeq and Magen David Adom. Photo: MDA

Israel's public phone booths are being converted into lifesaving public access defibrillator stations, as part of a new national collaboration between the country's main phone company and its ambulance service.

This is the first time such an endeavor of converting redundant public phone booths into lifesaving devices has been done on a national level, according to Magen David Adom emergency services.

"The concept of repurposing phone booths exists elsewhere in the world. There are also a few cities that have changed public phone booths into homes for public access defibrillators as we're doing. But no one has done so on a national level. We've taken the idea up a level and thanks to Israel's compact size and leading technology capabilities, this lifesaving project will stretch across the country, from Dan to Eilat, and





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be connected to the national emergency services, Magen David Adom (MDA)," the MDA project leader of the MDA-Bezeq Israel Telecom collaboration, who requested anonymity due to his military ties, tells NoCamels.

Research shows that people are more likely to survive a cardiac arrest if a bystander uses a defibrillator, a device that sends an electric shock to the heart to potentially restore a normal heartbeat, while waiting for emergency medical services to arrive.

In the US, medical experts estimate that some 18,000 Americans have a shockable cardiac arrest in public with witnesses.

"The earlier an electric shock is given to someone in cardiac arrest, the better chances of survival. Bystanders have the potential to save a life. The first few minutes are critical. Any passerby can call emergency services and then use the defibrillator, even without any medical knowledge until emergency services arrive," says the MDA project coordinator.

For Bezeq, repurposing its rarely used public phone booths was a nobrainer. The phone company

donated the rarely used pay phone booths to the project.

"Public telephones have been a part of us but naturally with the advancement of technology they have become redundant, and we are happy they will be renewed" for this lifesaving initiative, Bezeq said in a press statement.

In the pilot program, Bezeq and MDA tested new technologies to ensure the street corner defibrillators worked. Now, the two collaborators have announced a widescale plan to convert thousands of unused phone booths into mini-medical outlets for storing the defibrillator in a well-recognized bright yellow box with red writing, in an easy-to-access and weather-protected site.

"The instructions on the recognizable yellow box are easy to understand with visual explanations. We know that people will be stressed or anxious and want to keep the process simple," says the MDA project leader, adding that there are also text instructions in Hebrew, English, Arabic, Amharic and Russian.

This is not Israel's first public defibrillator project.

In June of last year, MDA, together with the Ministry of Health, the





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Municipality of Ramat Gan and JCDecaux, a street furniture company, inaugurated a defibrillator stand in the middle of a city square. JCDecaux had collaborated on similar initiatives for outdoor defibrillators abroad including in France, Austria and the UK.

Another less than successful attempt at external defibrillator stations took place in August 2017, when Ganei Yehoshua Park authority installed six stations throughout Tel Aviv's biggest city park which draws some 16 million visits annually. Within weeks of installation, the special park cabinets for the community defibrillators were stolen and never replaced. They still stand empty.



An MDA defibrillator, Photo: MDA

The MDA project leader says that malfunction was taken into consideration when launching this new initiative. He says the yellow medical device container is "vandalism-proof" and sturdier than previous cabinets. The MDA defibrillator device was also built to be "smart" and technologically advanced. For example, a SIM card enables the device to check itself for malfunctions and if it finds one, an alert is sent to MDA control to send a technician.

The yellow box is also kitted out with temperature-controlling sensors to keep the medical device from overheating in Israeli summers.

To use the MDA phone booth defibrillator, a bystander must first call 101, the emergency services number, to be directed to the nearest defibrillator phone booth. While an ambulance is dispatched, the bystander will be given a code to open the locked yellow box to take the defibrillator out for use.

"So far, it has proven itself," says the project leader about the pilot program that dispersed just under a dozen yellow boxed public defibrillators around the country.

Financing for the new national project came from a number of MDA fundraising campaigns, including





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a NIS 1 million campaign launched in memory of cardiologist Dr. Oren Zusman, who died of cardiac arrest last year.

Zusman's family and Israeli Friends of Magen David Adom set up their crowdfunding project to deploy defibrillators in public areas. (Ed: Dr. Zusman's widow, Maayan, initiated this project in her husband's memory).

"Any citizen can easily operate The Magen David Adom Defibrillator without prior medical knowledge. The device provides an electric current as needed, dictates the rate of resuscitation, and provides clear voice and visual operating instructions, in Hebrew and in other languages. Additionally, the device connects to the MDA Emergency Dispatch Center, and the citizen receives additional instructions from medics and paramedics at 101 Dispatch Center. At the same time, MDA teams receive details of the patient, and are on their way to the scene of the incident," MDA Deputy Director General, Dr. Rafael Strugo, said in a press statement at the launch of the Zusman family campaign in October 2019.

The new project also happened to launch in the week of MDA's 90th anniversary of emergency services.

MDA says its emergency vehicles respond to more than 1.3 million calls annually. To date, some 30,000 employees and volunteers are active in the organization.

"Just as I say to my close friends and family on their birthdays, I wish for MDA that it will continue to advance, grow, change and improve and not stay in the same place. MDA today is super technological, it comprises the newest tech in the market, has numerous collaboration projects on the go, and is improving all the time. I'm proud to be part of this journey," the MDA project leader tells NoCamels. "In the end, it's the public who benefits."

Asked how many of the thousands of unused phone booths will be repurposed for the public defibrillator project, the MDA project leader says: "The plan is to cover the whole country with easily accessible defibrillator booths. There's no such thing as too many. These devices really can save lives."

Viva Sarah Press is a journalist and speaker. She writes and talks about the creativity and innovation taking place in Israel and beyond. www.vivaspress.com







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#### Research

Long-Term Functional
and Structural
Durability of
Bioprosthetic Valves
Placed in the Aortic Valve
Position via Percutaneous
Rout in Israel

Katia Orvin, MD<sup>a,b,1</sup>, Sagit Ben Zekry, MD<sup>c,b,1</sup>, Olga Morelli, MD<sup>a,b</sup>, Israel M. Barabash, MD<sup>c,b</sup>, Amit Segev, MD<sup>c,b</sup>, Haim Danenberg, MD<sup>d,e</sup>, Abid Assali, MD<sup>a,b</sup>, Victor Guetta, MD<sup>c,b</sup>, Hana Vaknin Assa, MD<sup>a,b</sup>, Vicki Zeniou, MD<sup>d,e</sup>, Chaim Lotan, MD<sup>d,e</sup>, Alexander Sagie, MD<sup>a,b</sup>, Dan Gilon, MD<sup>d,e</sup>, Micha S. Feinberg, MD<sup>c,b</sup>, Yaron Shapira, MD<sup>a,b</sup>, and Ran Kornowski, MD<sup>a,b,\*</sup>

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#### Abstract

There is limited organized "real life" data regarding the long-term structural and functional durability of transcatheter aortic valve implants, a topic of major importance. We assessed the 5-year structural and functional integrity outcomes following trans-catheter aortic valve implantation (TAVI) with both self-expandable and balloon-expandable prosthetic valve devices.

**Methods:** This study included 450 consecutive patients who underwent TAVI for severe symptomatic aortic stenosis (AS) between September 2008 and December 2011. Data were





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acquired from a multicenter Israeli registry and the median follow up time was 5.6 years.

Results: In 184 patients (40.9%) who survived 5 years, prostheses displayed sustained hemodynamic performance, with average peak and mean aortic valve gradients of 16.2 § 8.9 and 9.2 § 6.6 mm Hg, respectively. Late structural valve deterioration was found in 22 (12.3%) patients. Of these, 16 (8.9%) experienced valve deterioration and 6 (3.3%) experienced valve failure. Among the 6 patients with bioprosthetic valve failure, only 3 underwent reinterventions. Bioprosthetic valve dysfunction occurred more frequently in patients with small valves (23 mm) and high peak and mean transvalvular gradients at baseline.

**Conclusion**: a relatively low rate of valve deterioration or failure was noted in our long-term follow-up study after TAVI procedures with both the catheter-based self-expandable

and balloon-expandable prosthetic valves. © 2019 Elsevier Inc. All rights reserved. (Am J Cardiol 2019;124:1748–1756)

https://www.sciencedirect.com/science/article/abs/pii/S0002914919310124

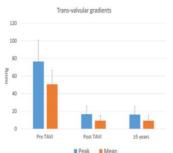
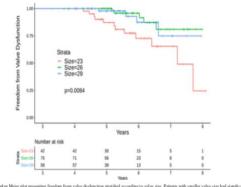


Figure 2. Transvalvular gradients change across follow-up time. The graph presents the average transvalvular gradients as peak and mean (mm Hg).



shorter time to valve dysfunction.



# Optimal Timing for Coronary Intervention in





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# Patients with Transient ST-Elevation Myocardial Infarction

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#### Abstract

STEMI patients admitted urgently to the hospital but experience early complete resolution of both ischemic symptoms and ST-elevations on the electrocardiogram are diagnosed as transient STEMI (TSTEMI). Current evidence indicates that primary intervention is plausible but in certain circumstances intervention can be delayed. We sought to examine whether there is a time limit to such a delay that may affect long-term outcome.

**Methods:** Study population included prospectively admitted TSTEMI patients whose demographics, pertinent medical history, and clinical and angiographic features were recorded. Study patients were divided by the median time interval from admission to intervention and their characteristics and long-term survival were compared. Study population comprised 260 consecutive patients (age: 57±10 years, men: 84%) diagnosed as TSTEMI who were included from January 2000 to June 2019, which represent 6% of all STEMI patients.

**Results:** Coronary angiography was performed in 254 patients. The median time interval from admission to angiography was 17 hours (IQR: 7.2 to 38.7 hours). Early (<17 hours from admission) and late (>17 hours from admission) study groups were comparable. One patient died during admission and 41 throughout the long follow-up period of  $8.5 \pm 5.2$  years (median: 8.2 years, IQR: 3.4 to 13.1). Mortality of early-treated TSTEMI patients (11.2%) was significantly lower than of the late-treated patients (21.6%, p < 0.04). The Kaplan-Meier curve demonstrated a clear tendency





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toward improved survival in early-treated TSTEMI patients (p < 0.09).

Conclusion: The present data suggest that TSTEMI patients should be treated, if not by primary coronary intervention, then at least within 17 hours from admission to achieve better long-term outcome. (Am J Cardiol 2019;124:1821–1826)

https://www.ajconline.org/article/S0002-9149(19)31040-9/fulltext

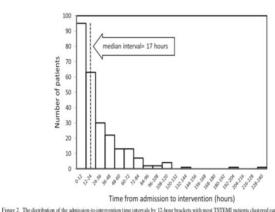


Figure 2. The distribution of the admission-to-intervention time intervals by 12-nour orackets with most 1511280 patients clustered earlier in accord early invasive approach.

Figure 3. The Kaplan-Meier survival curve of study groups according to the timing of coronary intervention [earlier (solid line) or later than the interval of 17 hours (broken line), p. 00.09].

# \*\*\*

#### Comparison of Outcomes in Patients with Acute Coronary Syndrome Presenting with Typical Versus Atypical Symptoms

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https://www.ajconline.org/article/S0002-9149(19)31042-2/fulltext

#### Abstract

Although typical chest pain is an important clinical feature required for diagnosis of acute coronary syndrome (ACS), many patients present with atypical complaints. The full extent





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and implication of this presentation is largely unknown. The study aim was to evaluate possible relations and temporal trends between presenting symptoms and outcomes in patients with ACS.

Methods: Data was obtained from the Acute Coronary Syndrome Israeli Survey on patients presenting with typical chest pain versus atypical complaints, including dyspnea, nonspecific chest pain, palpitations or other. Temporal trends analysis examined the early (2000 to 2006) versus the late (2008 to 2016) period.

**Results:** During 2000 to 2016, 14,722 patients with ACS were enrolled; 11,508 (79%) presented with typical chest pain and 3,214 (21%) with atypical complaints. Patients with atypical complaints were older, majority female, and had more comorbidities (p < 0.001 for each). The 30-day major adverse cardiac events. 30-day mortality, and 1-year mortality rate were significantly higher in patients presenting with atypical complaints, (18% vs 13.5%, 7.7% vs 3.6%, and 15.6% vs 7.5%, respectively, p < 0.001 for each). Although 1-year mortality decreased significantly over the years in patients with typical chest pain, there were no significant changes in patients who presented with atypical complaints.

These results were consistent in STEMI and non-STE-ACS patients.

Conclusion: ACS patients who present with atypical complaints have a less favorable outcome compared with patients who present with typical chest pain, and failed to show an improvement in mortality over the past 2 decades. Identification and utilization of guideline-recommended therapies in these high-risk patients may improve their future outcome. (Am J Cardiol 2019;124:1851–1856)



Temporal Trends in the Characteristics, Management and Outcomes of Patients with Acute Coronary Syndrome According to Their Killip Class

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https://www.ajconline.org/article/S0002-9149(19)31050-1/pdf

#### Abstract

Based on the historical Killip Classification, higher Killip class is associated with increased mortality in patients with acute coronary syndrome (ACS), yet data on current prognosis are lacking. We sought to examine temporal trends in the management and outcomes of patients admitted with an ACS by Killip class and to assess its contemporary prognostic value.

Methods: Time-dependent analysis (early-period 2000 to 2008 vs lateperiod 2010 to 2016) in patients with lower (=1) and higher (≥2) Killip classes in a national ACS survey. Clinical outcomes included 30d MACE (death, myocardial infarction, stroke, unstable angina, stent thrombosis, urgent revascularization) and 1-year mortality. Included were 9,736 and 5,288 patients in the early and late time-periods of which 18.5% and 11.5% were categorized as higher Killip class, respectively (p <0.001).

**Results:** Baseline co-morbidities (diabetes, hypertension, dyslipidemia) were more prevalent in the late versus early time periods in both study groups (p < 0.001). Rates of 30d MACE decreased in both Killip classes (p <0.001), yet 1-year mortality decreased only in patients with lower Killip class (p = 0.02), and remained extremely high (30%) in patients with higher Killip class (p = 0.75). Killip class was a significant independent predictor for 1-year mortality, both in the early (adjusted hazard ratio 3.23, confidence interval 2.8, 3.7) and late (adjusted hazard ratio 4.13, confidence interval 3.21, 5.32) time periods.

Conclusion: Even in the current era, patients presenting with ACS and higher Killip class have poor 1-year survival. Efforts should focus on improving the adherence to guideline-recommended therapies. The Killip classification system is still a reliable prognostic tool. © 2019 Elsevier Inc. All rights reserved. (Am J Cardiol 2019;124:1862–1868)

Vaniable	Early period (2000-2008)			Late period (2009-2016)			Temporal comparison		
	Killip class I (n = 7935)	Killip class II-IV (n = 1801)	p Value	Killip class I (n = 4675)	Killip class II-IV (n=613)	p Value	p Value Killip class I	p Value Killip class II-IV	
Recurrent myocardial infarction	122 (1.5%)	46 (2.6%)	0.004	40 (0.9%)	5 (0.8%)	1,000	0.001	0.014	
Acute kidney injury	282 (3.6%)	362 (20%)	< 0.001	154 (3.3%)	123 (20%)	< 0.001	0.453	0.993	
Bleeding (TIMI major)	67 (0.8%)	34 (1.9%)	< 0.001	58 (1.2%)	32 (5.2%)	< 0.001	0.039	< 0.001	
Pericarditis	64 (0.8%)	11 (0.6%)	0.484	22 (0.5%)	2 (0.3%)	0.857	0.035	0.603	
Ventricular septal nupture	9 (0.1%)	7 (0.4%)	0.022	3 (0.1%)	2 (0.3%)	0.198	0.567	1.000	
New onset atrial fibrillation	328 (4.1%)	266 (14.8%)	< 0.001	154 (3.3%)	75 (12.3%)	< 0.001	0.019	0.130	
Sustained ventricular tachycardia	97 (1.2%)	66 (3.7%)	< 0.001	41 (0.9%)	24 (3.9%)	< 0.001	0.084	0.892	
Primary ventricular fibrillation	146 (1.8%)	66 (3.7%)	< 0.001	48 (1.0%)	29 (4.7%)	< 0.001	< 0.001	0.304	
Secondary ventricular fibrillation	43 (0.5%)	43 (2.4%)	< 0.001	21 (0.4%)	10 (1.6%)	0.001	0.556	0.334	
High degree atrio-ventricular block	176 (2.2%)	94 (5.3%)	< 9.001	64 (1.4%)	25(41%)	< 0.001	0.001	0.287	





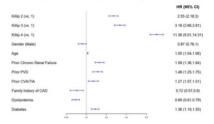
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Variable		Early period		Late period			Temporal comparison	
Killip class I (n = 7935)	class I	Killip class II-IV (n = 1801)	p Value	Killip class I (n = 4675)	Killip class II-IV (132)	p Value	p Value Killip class I	p Value Killip class II-IV
MACE 30 days	1173 (15%)	546 (30%)	< 0.001	391 (8%)	132 (22%)	< 0.001	< 0.001	<0.001
Mortality, 30 days	234 (2.8%)	327 (18%)	< 0.001	89 (1.9%)	103 (17%)	< 0.001	0.002	0.534
Mortality, 1 year	480 (6.1%)	558 (31%)	100:0>	234 (5.1%)	181 (30%)	< 0.001	0.018	0.752

Killip class	Killip	lass I	Killip o	lass II	Killip c	lass III real	Killipe	lass IV
Period	Early	Late	Early	Late	Early	Late	Early	Late
30-day MACE	1173 (15%)	391 (8%)	267 (25%)	55 (16%)	195 (34%)	35 (20%)	84 (54%)	42 (46%
p-value	100.0>		<0.001		< 0.001		0.325	
1-year mortality	480 (6%)	234 (5%)	263 (25%)	81 (25%)	199 (34%)	56 (32%)	96 (61%)	44 (49%
p Value	0.0	8	0.5	15	0.5	18	0.0	80

Variable		Killip class I		Killip class II-IV			
	Early time period $(n = 2.734)$	Late time period (n = 1,367)	p Value	Early time period (n = 724)	Late time period (n = 362)	p Valu	
MACE 30 days	388 (14.2%)	112 (8.2%)	< 0.001	170 (23.5%)	60 (16.6%)	0.011	
Mortality, 30 days	65 (2.4%)	22 (1.6%)	0.136	87 (12.0%)	44 (12.3%)	0.994	
Mortality, 1 year	160 (5.9%)	52 (3.8%)	0.006	175 (24.3%)	85 (24.2%)	1.000	

#### A. Cox models: HR for 1-year mortality with 95% CI



#### R Cox models: HP for 1 year mortality with 95% CI

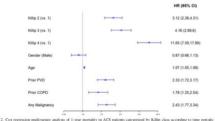


Figure 2. Cox regression multivariate analysis of 1-year mortality in ACS patients categorized by Killip class according to time period: (A) Early time period (2000 to 2008), (B) Late time period (2010 to 2016). CAD = coronary artery disease; COPD = chronic obstructive pulmonary disease; MI = myocardial



Usefulness of Ezetimibe Versus Evolocumab as Add-On Therapy for Secondary Prevention of

# Cardiovascular Events in Patients with Type 2 Diabetes Mellitus

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https://www.ajconline.org/article/S0002-9149(19)30113-4/fulltext

#### **Abstract**

Evolocumab and ezetimibe, were both proven to significantly reduce the incidence of major adverse cardiovascular events (MACE), in type 2 diabetes patients with atherosclerotic cardiovascular disease and lowdensity lipoprotein (LDL) cholesterol >70 mg/dl despite statin therapy. Providing evolocumab for all such patients may be a significant burden on healthcare systems. Therefore, we analyzed the treatment cost of





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ezetimibe versus evolocumab to prevent 1 MACE.

Methods: We extracted the number needed to treat (NNT) with evolocumab or with ezetimibe for avoiding MACE from the published FOURIER and IMPROVE-IT trials respectively. Drug costs were based on 2018 US prices. Sensitivity and scenario analyses were performed to overcome variances in terms of population risk, efficacy of therapies, and costs.

**Results:** In FOURIER, the 1-year NNT for avoiding MACE with evolocumab was 104 (95% confidence intervals [CI] 66 to 235). In IMPROVE-IT, the 1year NNT with ezetimibe was 124 (95% CI 73 to 288). The annual cost of evolocumab and ezetimibe is \$6,540 and \$88, respectively. Therefore, the cost to prevent 1 MACE in the FOURIER and IMPROVE-IT trials would have been \$678,981 (95% CI \$429,810 to \$1,537,910,149) and \$10,870 (95% CI \$6,384 to \$25,322), respectively. Ezetimibe was consistently a cost-saving strategy compared with evolocumab, in all analyses performed, except for the case where evolocumab price is significantly reduced and the branded ezetimibe is used.

**Conclusion:** Treatment with ezetimibe seems to be a major cost-

saving strategy for preventing MACE in this patient population. © 2019 Elsevier Inc. All rights reserved. (Am J Cardiol 2019;123:1273–1276)

Variable	Evolocumab in FOURIER	Simulation of exetimibe in FOURIER	Simulation of evolocumab in IMROVE-IT	Ezetimibe in IMROVE-IT
Patient-years of therapy	12,133	12,133	14,754	14,754
Major adverse cardiovascular events prevented (95% CI)	117 (52-185)	111 (44-163)	161 (66-237)	125 (57-209)
Absolute risk reduction (95% CI)	0.0096	0.0091	(0.0105	0.0081
Number Needed to Treat - One Year (95% CI)	104 (66-235)	110 (75-274)	95 (64-243)	124 (73-288)
cost of amual therapy per patient	\$6,540	588	\$6.540	588
Cost to prevent one major	5678,981	\$9,627	\$620,218	\$10,870
adverse cardiovascular event (95%-CI)	(\$429,810-\$1,537,906)	(\$6,562-\$24,112)	(\$416,815-\$1,590,265)	(\$6,384-\$25,322

	Value base case (low-high)		One-year NNT have	case (low-high)	Cost to present 1 MACE base case (low-high)		
Parameter analyzed	FOURIER	IMPROVE-IT	Evolocumab	Exetimibe	Evolocumab	Ezetimibe	
Baseline (95% CI)			104 (66-235)	124 (73-288)	\$678,981 (\$429,810-\$1,537,906)	\$10,870 (\$6,384-\$25,322)	
"Harf" adverse car-	0.82	0.80	133	129	5872.859	\$11,360	
diovascular events "Hazard Ratios	(0.72-0.93)	(0.71-0.90)	(85-342)	(81-244)	(\$558,220-\$2.237,229)	(\$7,099-\$21,459)	
Annual MACE rate in	5.7%	6.5%	104	124	5678,981	\$10,870	
standard of care arm	(2.85%-11.4%)	(3.25%-13%)	(52-208)	(62-247)	(\$339,491-\$1,357,470)	(85,435-521,739)	
Annual cost of ther-	\$6,540	588	104	124	5678.981	\$10,870	
apy (USD)	(51,725-514,153)	(\$88-\$4,035)			(\$179,089-\$1,506,736)	(\$10.870-\$499,268	



#### Characterization and Management of Arrhythmic Events in Young Patients with Brugada Syndrome

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#### Abstract

Information on young patients with Brugada syndrome (BrS) and arrhythmic events (AEs) is limited. OBJECTIVES The purpose of this study was to describe their characteristics and management as well as risk factors for AE recurrence.

**METHODS:** A total of 57 patients (age #20 years), all with BrS and AEs, were





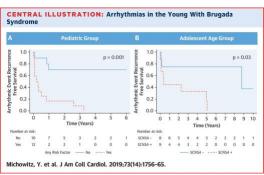
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divided into pediatric (age < or equal to 12 years; n =26) and adolescents (age 13 to 20 years; n = 31).

**RESULTS:** Patients' median age at time of first AE was 14 years, with a majority of males (74%), Caucasians (70%), and probands (79%) who presented as aborted cardiac arrest (84%). A significant proportion of patients (28%) exhibited fever-related AE. Family history of sudden cardiac death (SCD), prior syncope, spontaneous type 1 Brugada electrocardiogram (ECG), inducible ventricular fibrillation at electrophysiological study, and SCN5A mutations were present in 26%, 49%, 65%, 28%, and 58% of patients, respectively. The pediatric group differed from the adolescents, with a greater proportion of females. Caucasians, fever-related AEs, and spontaneous type-1 ECG. During follow-up, 68% of pediatric and 64% of adolescents had recurrent AE, with median time of 9.9 and 27.0 months. respectively. Approximately one-third of recurrent AEs occurred on quinidine therapy, and among the pediatric group, 60% of recurrent AEs were fever- related. Risk factors for recurrent AE included sinus node dysfunction, atrial arrhythmias, intraventricular conduction delay, or large S-wave on ECG lead I in the pediatric group and the presence of SCN5A mutation among adolescents.

conclusions: Young BrS patients with AE represent a very arrhythmogenic group. Current management after first arrhythmia episode is associated with high recurrence rate. Alternative therapies, besides defibrillator implantation, should be considered. (J Am Coll Cardiol 2019;73:1756–65) © 2019 by the American College of Cardiology Foundation.

https://www.onlinejacc.org/content/73/1 4/1756



(A) Kaplan-Meier curve for recurrent arrhythmic event (AE) among the pediatric patients with either none or 1 or more risk factor. Risk factors for recurrent AE in the pediatric group included: atrial arrhythmias, sinus node dysfunction, intraventricular conduction delay, or large S-wave in electrocardiogram lead I. Patients with risk factors had significantly higher AE rate that occurred earlier. (B) Kaplan-Meier curve for recurrent AE among the adolescents with or without SCN5A mutation. As shown, patients with positive mutation had significantly higher event rates that occurred earlier.



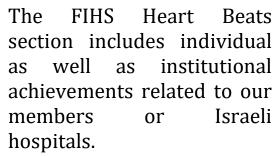




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**FIHS Heart Beats** 



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

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









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#### **Classified Section**

Welcome to our new Classified Section. This is **Program** open to any 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 affiliated physicians and worldwide. with this furthering our goal to be a bridge connecting to cardiologists. Send all requests to the editor at jackstroh@usa.net.



#### Openings at Shaare Zedek Integrated Heart Center, Jerusalem.

The newly established Shaare Zedek Integrated Heart Center in Jerusalem is looking for a

cardiologist with experience in cardiac rehabilitation and preventive cardiology to join its Cardiac Rehabilitation Institute. Preference given to candidates with academic experience and interest. This position has a potential for promotion opportunities in the near future.

-Echocardiographic specialist with experience in TEE, stress echo, and 3-D echo. Experience with structural heart disease interventions is an advantage.

For either position, there is a clear prospect for promotion.

If you are interested or you know someone who is, please contact our friend and past





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President of the Israel Heart Society, Professor Michael Glikson, MD:

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#### **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:

Ron Joseph Leor-Librach, MD, PhD

Director, Heart Institute Heart01@laniado.org.il

Mobile #- +972-52-847-4154 https://www.ima.org.il/MainSite/Dep artments/ProfileDepartment.aspx?dco



#### MEIR MEDICAL CENTER

Affiliated with the Sackler Faculty of Medicine. Aviv University

#### **Opening at Meir Medical** Center, Kfar Saba

Looking for a cardiologist in preventive cardiology & heart Rehabilitation.

**Contact Professor Abid Assali,** Director Heart Institute. Meir Medical Center, Kfar Saba

Aassali@clalit.org.il





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#### Opening at Bnai Zion Medical Center, Haifa

Looking for a director of the new Coronary Care Unit.

Requirements:

- -Full-time job
- -Teaching residents within the Unit
- Candidate must be at least 5 years after fellowship, preferably with Cardiac ICU experience

Contact Dr. Idit Dobrecky Mery, Director Division of Cardiology, Bnai Zion Medical Center

idit.mery@b-zion.org.il





A cardiologist for Cardiac Imaging including CT & MRI - Hadassah MC, Jerusalem.

For details: Prof. Offer Amir - oamir@hadassah.org.il

