



Breakthroughs, Risks and Warning Signs: An Insider's Tips for a Healthy Heart

Benyamin Cohen:

This is Hadassah On Call: New Frontiers in Medicine. I'm your host, Benyamin Cohen. In each episode of this podcast, we'll get an inside look at what goes on behind the scenes at one of Israel's premier medical centers. We'll travel to Jerusalem to meet up with the doctors and nurses at the Hadassah Medical Organization. From striving for peace through medicine to performing surgeries with robots, they're working on medical breakthroughs that are impacting people around the world. That's what Hadassah is all about: the power to heal our world together. From cornea transplants to developments in pediatric oncology, we'll learn about the latest cutting-edge research coming out of Hadassah Hospital. All that, plus the inspiring stories of patients who have recovered from near-death experiences. Our appointment starts now. This is Hadassah On Call.

Benyamin Cohen:

Hello everyone and welcome to the show. I am thrilled to be joined today by Professor Offer Amir, a cardiologist and director of the Irma and Paul Milstein Heart Center at Hadassah Hospital. And we have him on the show today because February is Heart Awareness Month and we wanted to ask him all about heart disease. Dr. Amir, welcome to the show.

Dr. Offer Amir:

Thank you very much and thank you for having me, my pleasure. And I will be very delighted to be with you.

Benyamin Cohen:

Thank you so much. We appreciate your time. So, first before we get into heart disease, I always like to speak to the doctors just to get to know them a little bit more. Can you tell us a little bit about yourself? Where did you grow up?

Dr. Offer Amir:

I'm a Sabra, Israeli. I did my military service right after high school. And then I served in the army as a medical officer for five years. Most of it in field units. And after that, actually I went to the States and I did my internship in residency in Texas Medical Center. And I was another year a chief resident there. Had a great time, fascinating time, but I wanted to go back to Israel.

Benyamin Cohen:

How long did you live in the States for?

Dr. Offer Amir:

Altogether, five years.

Benyamin Cohen:

Okay.

Dr. Offer Amir:

I did one extra year of fellowship later on in heart transplantation and assist devices, what is called LVAD. I had fascinating time and I got, I hope, a lot of knowledge from my mentors over there in Texas Heart. And I hope that I could bring some of it back to Israel.

Benyamin Cohen:

I was reading, you grew up as a second-generation Holocaust survivor. How did that influence your childhood?

Dr. Offer Amir:

I think that in many ways Israel is still a Holocaust state. The fear that it may not exist anymore, I think it's a national and personal feeling of most of the people. Especially when you are a close generation and you know the personal stories of your mother and obviously your grandfather and grandmother. Most of my relatives did not survive the Holocaust. And lucky for me, my mother did so. And you know that is something that is imprinted in you, even though you have not been there in the physical way, but in the emotional way, it's obvious that you've been there.

Benyamin Cohen:

I'm curious: Did that impact your decision to become a doctor at all?

Dr. Offer Amir:

It certainly did impact my decision to be a doctor in Israel. Let me say that. I'm not sure about the specific decision regarding medicine, but definitely although it was very tempting to stay in the States for all the obvious reasons. It was something that was not practical from my understanding and I guess that has a lot to do with what we discussed just now.

Benyamin Cohen:

As I said, February is Heart Awareness Month. And I want to talk about your specialty, which is heart disease. For many years, we've known heart disease is one of the top killers of men and women around the world. I think I was reading recently that maybe COVID, I think may have just surpassed it in December?

Dr. Offer Amir:

It may be the case, but even the COVID is probably acting at least to some extent in its fatality to the heart, so I'm not sure there.

Benyamin Cohen:

So regardless of that, heart disease is one of the top killers, for sure. It's something that I think everybody thinks about. When you think about cancer or Parkinson's or Alzheimer's or ALS. Those are all things that maybe you think will happen to somebody else, but not to you. But I think a lot of us have this fear of heart disease. In my own family, my dad recently had open-heart surgery and I'm in my mid-forties. I have a couple friends who were around my age who have had heart attacks. So I think it's something that we all are concerned about. What are some practical things that we should be doing to help prevent heart disease?

Dr. Offer Amir:

I think, first of all, let me, I would like, with your permission, to refer to the fear.

Benyamin Cohen:

Yes.

Dr. Offer Amir:

I think that the fear is because of one thing that happens in heart disease and does not happen in these other diseases. And this is without any underestimation about the severity and quality of life and mortality. I think that the idea of dropping dead suddenly is something that does not exist in the other horrible diseases, as they are. And that is something which makes you as a human being, especially as a young human being, as a young person, very agitated. Now, what can we do about it? This is something that we are questioning and trying to study for decades and many centuries.

Dr. Offer Amir:

It goes all the way to the basic – and I will try to emphasize something which is very trivial, and this is physical activity. I doubt that there are any medications that we are taking that is doing so good to the heart, so anti-inflammatory aspect like physical activity as daily activity or almost daily activity is doing. This is something which is often spoken, but not often done, obviously because of the rush of life. And this is something which is very, very crucial. Regarding the diet, although we keep on talking about the Mediterranean diet – and it does have some support in the literature – I would say between the two that the physical activity and the daily exercise is much more pronounced.

Benyamin Cohen:

How important is sleep in preventing heart disease? And why is that?

Dr. Offer Amir:

That's a great question because I happened to study sleep because I was involved in a high-tech company that are trying to do sleep analysis for heart patients, especially heart failure patients. What we know is that sleep is not something which is very easy and calming and relaxing, etc. There is a lot of activity, in what we call the sympathetic activity and in special areas of the time zone of the sleep. And in these times zones, which are specific in the time zones of the sleep, there is a very high adrenergic tone, sympathetic tone, which put a lot of stress on the heart and the blood vessels – and that's without any mentioning of sleep apnea and dropping in the oxygen saturation, now that everybody is expert with the COVID issue.

Dr. Offer Amir:

But all of these episodes do happen in sleep. So, sleep may be a little bit underestimated as something that is not only relaxing, but it may be if it's not done properly, especially with the sleep hours and the sleep quality, it may interfere with health, and cardiovascular health is obviously high on the list.

Benyamin Cohen:

So both poor sleep and lack of sleep. So both the of them.

Dr. Offer Amir:

Correct. And actually there have been couple of studies, interestingly, less probably than six-and-a-half hours per night, are not good for your health. I'm talking about the cardiovascular health. On the other hand, too much sleep and we're about more than nine hours or something like that, maybe at the same direction. So everything in life is issue of balance.

Benyamin Cohen:

You're saying too much sleep could be a bad thing?

Dr. Offer Amir:

Yes. Actually, too much sleep. And when I'm talking about too much sleep is more than nine hours or so. So, there is a delicate balance in the sleep hours as well and definitely about the quality of sleep.

Benyamin Cohen:

Interesting. You were talking about things, proactive things that everyone can do: exercise, diet, sleep. What about genetics? Does genetics play a role as well if someone in our family has heart issues?

Dr. Offer Amir:

We don't know all the genes that are associated with heart disease. We know some diseases, especially with the lipids issue and the issues like that. Like familial hypercholesterolemia, patients who have in their family very high bad cholesterol and stuff like that. So from that point of view, we know a little bit better. But no doubt there are many genes that we have not recognized yet, but from the history of the patients and the behavior of the disease, we definitely know that the family tendency – I'm talking about a blood relations, firsthand blood, like brothers, sisters, mothers etc. –do impact and give you a lot of risk if that's the case in your family.

Benyamin Cohen:

Yeah. So, you just mentioned brothers and sisters. It got me thinking: there is a lot of differences between men and women when it comes to heart disease. Specifically, I think I read that for some reason, and maybe you can explain this to us, that it takes women longer to get to the ER if they're having some heart attack or a heart issue. Why is that?

Dr. Offer Amir:

Actually, this has been repeated, I think, over and over again. And there are some issues with women and heart disease, not only their self-attention to what they have is behind the men, but also the environment, their close environment and the medical environment attention too – we're in compliance, unfortunately is lagging behind what it should be. So, the whole way for early diagnosis and

treatment and aggressive treatment in women, is not appropriate because the minefields are all the way – starting with a level of complaints of the women themselves that it takes much longer for them to complain about something. And even when they do, it takes some time for their own environment and for the medical environment to get appropriate attention for that.

Benyamin Cohen:

You're saying women have a higher threshold for pain.

Dr. Offer Amir:

Yes.

Dr. Offer Amir:

I keep on telling medical students that when I want to know when a male patient is in my office, and I want to know how he's doing, I'm asking his wife because he has no clue how he's doing. There is a caring person that is taking care of the male, but unfortunately there is no corresponding person that is taking care of the woman who is suffering. And typically, the woman is lagging behind of the complaints because of prejudice or whatever it is. And even when she does complain, then her family does not accept the possibility that she is not doing well and the medical environment is starting from the EMS, ER and even the wards and the clinics are lagging behind, unfortunately.

Dr. Offer Amir:

But I think that we are trying to narrow the gap. I think that medical students nowadays and nurses and the medical community as a whole, has improved a lot since the last decades, over the last decades. I hope that we are getting better. I can tell you that we did in a very large survey on the EMS in Israel. And we found that the time to call the ambulance center was much longer obviously with women, but it is shorter than it was a decade ago. So, there is some improvement, but obviously not enough.

Benyamin Cohen:

We can't have this conversation, obviously, without talking about the pandemic and all of our lives have become so much more stressful. People we know are dying, there's higher unemployment. There's the stress of working from home. If people have children, they have to homeschool the children. And obviously this stress could probably lead to all sorts of health issues. I'm wondering, do you think the virus has created long-term heart conditions?

Dr. Offer Amir:

Obviously, the stress by itself does have a direct implication on cardiovascular disease. We know that you can, unfortunately dissect even the coronary arteries, due to very high level of stress – which by the way, is more common with females rather than in males. We know that you can deteriorate your heart function almost in a matter of days due to a very high level of stress and impact its contractility and even all the way to acute heart failure with water accumulation in the lung to a very life-threatening situation.

Dr. Offer Amir:

So, this is only by the stress itself and the sympathetic system that is associated with activation of stress. Besides that, there is an issue of the coronavirus by itself, which we know that injured the myocardium itself. And interestingly, probably not even directly as we thought, but by activation of a lot of

inflammation and inflammatory cascade. And by doing that, insult the heart contractility and bring it to acute heart failure.

Dr. Offer Amir:

One other issue with this pandemic is the tendency because of the virus activation of the clotting system, and a lot of clots we see a pandemic of pulmonary embolisms and showers of heat and a lot of right-side heart function failure. So, this is almost directly by the virus itself in activation of inflammation and thrombosis.

Benyamin Cohen:

A couple episodes ago on this podcast, we interviewed your colleague Dr. Neville Berkman, who opened up a multi-disciplinary clinic at Hadassah, helping treat people suffering from post-COVID after-effects. I'm wondering, if you think COVID has made more people susceptible to heart disease after they've recovered from the virus.

Dr. Offer Amir:

That's an excellent question. And Professor Berkman is definitely doing a great job in that, because one of the side-branch of these clinics that we are learning, I can tell you that today we performed another heart muscle biopsy due to coronavirus because we see in a young person who has been jeopardized by corona, that he so-called "recovered" from it months ago. So, we see so many bizarre and unusual things with the corona that we keep on trying to understand this virus, but what is clear to us now is that there is a huge heterogeneity in the presentation. The clinical presentation of this patient and the severity, and obviously it will come all the way to the long-term future, as you have suggested.

Benyamin Cohen:

When we return, Dr. Amir talks about the Irma and Paul Milstein Heart Center at Hadassah, and how it's Cath Lab is helping save lives.

Dr. Offer Amir:

We saved time by doing things in parallel and getting the team ready. And, actually, when the patient is coming directly to the Cath Lab, we can save half-an-hour or 20 minutes sometimes even more...

Benyamin Cohen:

All that, and much more after a quick break.

Benyamin Cohen:

With the COVID-19 vaccine now being delivered across the globe, Hadassah Hospital is at the forefront of caring for patients in a post-pandemic era. Hadassah recently opened a multi-disciplinary clinic to help treat people suffering from COVID after-effects – everything from lung damage to mental health issues. Keep up to date with everything that Hadassah Hospital is doing to help combat this deadly disease by visiting our website at [hadassah.org/covidupdates](https://www.hadassah.org/covidupdates). That's [hadassah.org/covidupdates](https://www.hadassah.org/covidupdates). We're posting frequently about how our doctors, nurses and researchers are working to roll out the vaccine and prevent the further spread of COVID-19. You can also follow Hadassah's latest coronavirus updates on our social media accounts on Facebook, Instagram and Twitter.

Benyamin Cohen:

And now, back to our conversation with Dr. Offer Amir.

Benyamin Cohen:

I want to pivot now and talk a bit about heart disease, and specifically the work you're doing at Hadassah. So the Irma and Paul Milstein Heart Center opened a few years ago and it doubled the capacity for the department to treat patients with heart issues. And Hadassah was ranked by Newsweek as one of the best specialized hospitals for cardiology. And so I'm just wondering, what does that mean in real terms, in practical terms, to those of us who are not in the medical field?

Dr. Offer Amir:

Well, I would say that this is a huge compliment, etc. But I have two comments to say about it. First of all, this is a huge achievement – but for the team itself and the team when I'm saying the team, it's not only the doctors, it's also the nurses and the technicians. I think this is also the time to recall and to remember and to mention to ourselves as a medical team, that the personal touch that the attention towards the patient who is suffering and the family who is worried, is not less important than the fantastic procedure that otherwise you would have been accredited for that. I think it's not in contradiction one to another. I think it has to be all together and be combined.

Benyamin Cohen:

When you're having a heart attack, obviously time matters. We've talked about that briefly at the beginning, how you could just, in a moment you could drop dead. Here in the U.S., when someone's having a heart attack, they take them to the emergency room. But at Hadassah, they go straight to the Cath Lab. And I was wondering if you could explain what goes on in a Cath Lab and why that's so important to saving lives.

Dr. Offer Amir:

We keep telling ourselves and the patient that time is muscle. The heart muscle cannot replicate itself. So, what you lose is what you lose. You cannot gain new cells and new heart tissue. The only way to avoid what we call heart failure, which is a devastating situation, eventually when the pump cannot pump anymore and cannot make sufficient blood flow to the organs of the body, is to try to save as many cells and as much tissue as you can. You have to shorten the time that the heart muscle is not getting its blood supply, so to speak.

Dr. Offer Amir:

Every minute literally is crucial. So, if you can avoid any delays on the way, obviously this will be very beneficial. So even in the most efficient emergency room, ER, it still takes time until you come in. It takes time until you get the elevators. It takes time until somebody sees you, etc. So, what we're doing is things in parallel. So, once the EMS has the ECG on the patient, it basically sends us ECG, one of the ways that are very common nowadays, and we have even a specific application for that.

Benyamin Cohen:

This is from the ambulance. They're calling ahead to the hospital.

Dr. Offer Amir:

Right. Even from the patient's home. Maybe even before they went down to the ambulance. So, we save time by doing things in parallel and getting the team ready. And, actually, when the patient is coming directly to the Cath Lab, we can save half-an-hour, 20 minutes, sometimes even more. And 20 minutes is 20 minutes, half-an-hour is a time that cells without blood supplies start to die. So, you can imagine what importance it has and what significance it has to the patient's quality of life, and life itself later on.

Benyamin Cohen:

Sounds like this is obviously something you're innovating at Hadassah. How much focus do you put on research at Irma and Paul Milstein Heart Center?

Dr. Offer Amir:

A lot. If I will combine and associate back to your question about being a top medical center in cardiovascular disease, I think that you can't do it without basic research and clinical research, which is very advanced. I think this is a necessity. I can tell you that we are now doing a project which is involved the microbiome. And we spoke about diet before, but we know that it's not only what we eat, but it really affects the germs that we are living with natively.

Benyamin Cohen:

In your gut, you're saying.

Dr. Offer Amir:

Right. It actually starts in the mouth and the saliva and go all the way to the gut. The Greeks used to say that the gut is a port of entry to the body. And in so many ways they were right, because this microbiome, these millions of bacteria that we start to have just after we are born, have a significant impact on inflammation, on thrombosis, on a lot of issues that cardiovascular is only one of them. And this is called the microbiome. Who are these germs? And what is their types? And what is their quantities? It has a lot of medical significance, cardiovascular included. So, this is an area that we are researching very heavily.

Dr. Offer Amir:

We also do research that involves and tries to understand the complexity especially on the forgotten ventricle, which is the right ventricle. Usually in cardiology, we're dealing a lot with the left ventricle, but we're doing a lot of research now on the right ventricle as well. All of it is fascinating and we're trying to do really top-notch basic research. And I think that we have definitely, the right people, and we are trying and struggling to have the means for these academic studies and research.

Benyamin Cohen:

When we return, Dr. Amir talks about his most memorable patient, plus he reveals the key personality traits of any good doctor.

Dr. Offer Amir:

To have empathy and not to lose humanity. And I keep on saying this word: humbleness.

Benyamin Cohen:

Al that, and much more after a quick break.

Dina Kraft:

I'm Dina Kraft, the host of a podcast called "The Branch," which tells the stories of relationships between everyday Israelis and Palestinians, Jews, and Arabs. Amid conflict, entangled histories, stories of human connections and friendships can get lost. The mission of this podcast is to find them and bring them to you. In this season, I talk to artists, midwives, soccer teammates and environmentalists. All of them and many others, too, who work together in spite of the barriers between them. "The Branch" brings you stories of real people forging strong connections and having important conversations, even when it's complicated. Brought to you by Hadassah. Find us anywhere you listen to your podcasts or Hadassah.org/thebranch.

Benyamin Cohen:

And now back to our conversation with Dr. Offer Amir.

Benyamin Cohen:

When you arrived at Hadassah, one of your goals was getting doctors more out into the community, especially to Jerusalem's diverse, often low-income, population. How has that effort been impacted by the pandemic?

Dr. Offer Amir:

I think it only made it much more as a necessity. There are two major sub-populations in the Jerusalem area which are noted for their lack of resources. That's probably an understatement. And if this is our population mostly in the East of Jerusalem, this is also the haredi religious neighborhoods that are in Jerusalem. I think it's not a coincidence that these two populations have been injured the most from the coronavirus. That's what we see the pandemic in means that are not noted all over to that extent, like in the Tel Aviv area or in the center of Israel.

Dr. Offer Amir:

Unfortunately, this pandemic is – because of its characteristics of crowded families, small apartments, things like that, which are associated with poor or low social economic populations, like our population in Eastern Jerusalem and the haredi population – that's probably a key factor in the pandemic devastating results in these two populations.

Dr. Offer Amir:

So, I think that the medical support that we need to give, not only in-house, but also out of Hadassah and outreach to these two populations is very significant. It was significant, and it was important before. And I think that after the corona and during the corona, it even has much more necessity than before.

Benyamin Cohen:

Is there a particular reason why these socioeconomic groups in Israel are particularly hurt by the pandemic?

Dr. Offer Amir:

I think it's an objective situation when you have a family with five, seven, eight, 10 kids and it's crowded and it's a small apartment. From the corona point of view, it's unfortunately a fantastic opportunity for the virus to spread all over. And I think that was a very significant factor in the pandemic in these two populations.

Benjamin Cohen:

What kind of outreach, do you do to those underserved populations?

Dr. Offer Amir:

So obviously during the corona, it was much more difficult. But we started even before the corona and, we are going to engage in much more forceful way after that, our physicians are going to East Jerusalem, and we are already started in that. Hadassah now is building a clinic that is very near Mea She'arim which is the core of the haredi population area. And we are more than happy to take our offering and physically be there. And I think that outreaching to the population is important in any population. But I think that the population who is in the low social economic situation, it is even much more important. And there's a lot of medical significance.

Benjamin Cohen:

Obviously, this is very rewarding work, what you do. I'm wondering, how does it feel when a patient thanks you for saving their life? How do you react?

Dr. Offer Amir:

It's a great feeling. That said, I think I will take you to the downside of it. When you lose a patient, it's terrible and horrible. In much worse way, than the good feeling when it happens. I can speak from my own experience, but I think it's pretty common with physicians. I think that the sorrow and the grief that you have for losing a patient is much more, is much deeper than then the joy. Because in a way you are expected to succeed. And I think we are much less capable of dealing with failure as physicians, rather than success. I think, as human beings as well, but never mind.

Benjamin Cohen:

Yeah. Could you tell us about a patient that is most memorable to you or a case that you're very proud of?

Dr. Offer Amir:

I can tell you about a patient. When I presented in international conferences, I keep on saying that my gray hair is probably due to this patient. On a daily life, it's very memorable to me. And this is a young patient in which he had a severe heart failure. His heart literally didn't pump at all. And he was 29 at the time, coming from perfectly normal health. And he had the viral infection, which involved his heart and caused inflammation and severe damage. And eventually because of shortage of organs, we could not make a heart transplantation. So we put a heart pump in him in a surgical procedure. Actually, it's an open-heart surgery in which we put a heart pump in and we connected it to his failing heart.

Dr. Offer Amir:

This heart pump was working fine for almost two years or so. He is a very smart guy and he kept and asked me all the time about taking out of the pump, in case his heart is going to improve. And this is

totally unacceptable in these devices because you can't take the risk. And usually you go eventually to heart transplantation because you can't stop the pump because otherwise it's going to clot on you. You have to keep it working all the time. So, you don't have the measures to really estimate that the patient will eventually be able to cope with his native heart, even if it's going to be better, without the pump that you have. So, for two years or so, I dragged the patient with many tests that I wanted to see and look etc., but eventually, and it looked like his heart was recovering, but you can never be sure about this.

Dr. Offer Amir:

Eventually, I gave up to his pressure. And we decided to go ahead and to take out the pump, which is another major open-heart surgery. And there is no way back. Once you take out the heart pump, that's it. If he crashes, then it's the end of the story. He was a young guy with a young son. We went to the surgery and we had to make the final decision, during the surgery, which we did.

Dr. Offer Amir:

The chief surgeon looked at me and he had the decision and he said, that's it. And I said, that's it. And he cut to the tube. And I can tell you that I felt it. I felt the scissors. I really felt it. And we are right now, I think, seven or eight years since then. He has a perfectly normal life. Divorce, remarried. The whole normal life of the Western culture. But that was a very, very tough decision. I'm glad that it worked, but it's very unusual. It's very anecdotal in the literature, even in major centers in the States and Europe.

Benjamin Cohen:

I'm wondering what brings you hope? Obviously, you see so many cases and you see so many people suffering. I'm wondering what brings you hope.

Dr. Offer Amir:

I honestly believe that human beings are a good to begin with. And we have a great privilege to try to... Even in ancient tribes, there are some roles that do exist. Never mind, if these are tribes near the Amazon or any rural parts of the world. But a kind of a healer is always there. There's always a healer in these even old tribes. Healer or what we call in the Western world, the physician, is something that is a necessity of living. You must accept that there will be somebody who is capable professionally to help you. Never mind, if this is a magician or healer or physician. Never mind how you call it.

Dr. Offer Amir:

And we are privileged to get this part. On the other side of the coin is that, and I keep on saying it because I think it's very important. The other side, it's kind of an obligation and kind of duty that you take on yourself. So, it has to be a recognized in many aspects, including I hope daily aspect and the whole interaction between you and the patient and you and the family. Because they are in their worst time ever. Sometimes, or many times, you're the one who brings the worst saying, or the worst sentences, etc. So, you have to respect it and you have to be...

Benjamin Cohen:

To have empathy.

Dr. Offer Amir:

To have empathy and not to lose humanity and I keep on saying this word: humbleness.

Benyamin Cohen:

I like to end all my interviews by asking, is there anything that I did not ask you that I should have asked you.

Dr. Offer Amir:

Just in association, you didn't ask me if I would like my son to be a doctor.

Benyamin Cohen:

Okay.

Dr. Offer Amir:

The answer is no, but you didn't ask me. You didn't ask me and he didn't ask me. He's now in his final year.

Benyamin Cohen:

In medical school?

Dr. Offer Amir:

Yes. In Tel Aviv. I didn't want him to be, not because I didn't think it's fascinating things to do. But as a father, I didn't want my son to be so busy, so tired, so many calls, so many stress, etc. So, I have kind of a contradiction, but he didn't ask me as well. He's going to be a physician.

Benyamin Cohen:

Hopefully, maybe I'll be interviewing him in a few years.

Dr. Offer Amir:

I hope so.

Benyamin Cohen:

Well, Professor Amir, I really appreciate. I know you're busy, as you just said, and I really appreciate you taking the time to chat with us today and to educate our listeners on this podcast. I really appreciate it.

Dr. Offer Amir:

My pleasure. And again, many thanks to the Hadassah organization for the resources to do these wonderful things for the patients and for their families. It's not trivial and not easy and deeply appreciated. Thank you very much.

Benyamin Cohen:

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