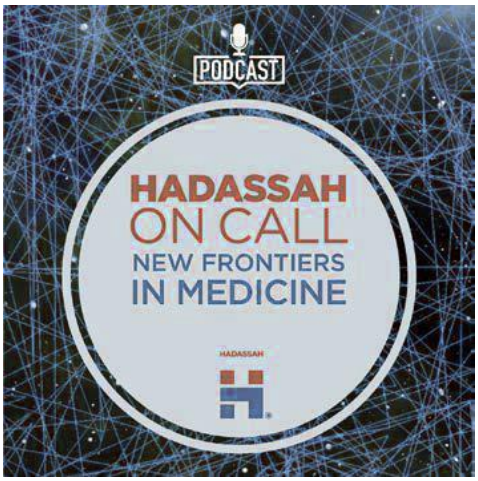

Transcript:
Season 3, Episode 10: Out of Joint: Getting to the Root of Hip and Knee Pain

Benyamin Cohen:

Hello, and welcome to another edition of the "Hadassah On Call" podcast. Today we're talking with Dr. Gurion Rivkin, the head of the joint replacement unit at Hadassah Hospital in Jerusalem. We'll be discussing knee and hip replacements, what causes them, and what treatments are available for them. Plus Dr. Rivkin will give us a behind the scenes look at ROSA, a robot made possible thanks to a grant from the USAID's office of American Schools and Hospitals Abroad, and that's significantly increasing the success rate of knee surgeries at Hadassah and around the world.

Hello, Dr. Rivkin, welcome to the show today.

Dr. Gurion Rivkin:

Hello, Benyamin. Thank you for having me.

Benyamin Cohen:

Thanks so much for joining us today. I see you are in a... we're joining you by Zoom today, and I see you have a bunch of exercise equipment behind you. So hopefully we'll be talking about the importance of that exercise equipment when it comes to your knees and your joints.

Dr. Gurion Rivkin:

Yes, we will.

Benyamin Cohen:

So did you grow up in Israel?

Dr. Gurion Rivkin:

I was born in Jerusalem in the other hospital in Shaare Zedek. I grew up in Jerusalem, all my childhood, and then at the age of 18, instead of going directly to the army, I went to medical school, finished my medical school, and then joined the army as a doctor for five years.

Benyamin Cohen:

So I want to talk about, obviously, you are the knee expert and the hip expert, and we're going to be talking about both of those today. So let's start with knees. We all have knees. Why do so many people have knee problems?

Dr. Gurion Rivkin:

So knee problems are very common. They can result from trauma from the past, rheumatologic problem, but mostly it's age related. So the older the population gets the more we will see patients with osteoarthritis and the population in Israel is getting older and so is the population in the United States. So it's a problem that's going to continue to grow.

Benyamin Cohen:

And is it just age-related or do you also see patients who have, let's say, sports injuries?

Dr. Gurion Rivkin:

I usually don't do sports injuries. Those are menisci and ligament problems. We have a sport unit that takes care of that. But if you have a sport injury, let's say at 30 at 50, you might need my help.

Benyamin Cohen:

And so going back, you were talking about how you're seeing a lot of these issues in the older population. What's the most common way for these pains to begin? What would somebody start to notice? Is it limp or what would it be?

Dr. Gurion Rivkin:

So the onset of pain can vary. Some patients develop a condition, we call avascular necrosis of the knee. And they can tell you exactly the specific day when it started. It starts with a sudden pain, but usually it's a slow process where the knee gradually deteriorates presenting with symptoms like swelling, gradual discomfort, and then it continues to increased pain, limited range of motion. And the symptoms can also include accumulation of fluid in the knee giving way and instability.

Benyamin Cohen:

I've heard terms, I'm not sure what these terms mean. Maybe you could help me and my listeners understand, "fluid on the knee" or "cartilage wearing". What does that actually mean?

Dr. Gurion Rivkin:

So when the knee has a problem, usually it forms fluid. It's part of its way of the inflammatory process. So the patient can feel the knee swelling and you can see it and you can feel it. And during the course of time, that fluid will be absorbed, but in the acute process, it can be very frightening or problematic for the patient.

Benyamin Cohen:

And so what would cause that? Is it just age or is there something else that might cause that?

Dr. Gurion Rivkin:

It can be a result of any injury to the knee. It can be related to cartilage. It can be related to the menisci, to a torn ligament. The knee usually responds in one way.

Benyamin Cohen:

Meaning with pain?

Dr. Gurion Rivkin:

With pain, fluid, limited range of motion. So that's usually how we see patients. They can be young patients and old patients. You just have to discern what's the cause for that symptom.

Benyamin Cohen:

Is the number one way to treat something like this, would it be to have surgery?

Dr. Gurion Rivkin:

Well, you first have to know what you have. What's the cause you have to talk to the patient, see what affects him. How much pain or discomfort is he in? And you tailor the treatment to the patient. I mean, if you have somebody with arthritis, with initial arthritis, you won't start with a knee replacement. You'll start with mild lifestyle modification like losing some weight, doing some light exercises, like the bike here in the back. You can then progress to pain medication, be that oral or intra-articular injections. And only when the pain is really unpleasant and the quality of life of the patient is affected significantly do you offer a knee replacement if arthritis is the problem.

Benyamin Cohen:

So I read that Hadassah Hospital uses... sounds like something from a science fiction movie, you guys use a robot called the ROSA robot. Am I pronouncing that right?

Dr. Gurion Rivkin:

Yes. You're pronouncing it right. The ROSA is a robotic assistance device for knee replacement. We've been using that since January, 2020, right before the Corona pandemic hit us. But the reason the medical industry developed robots now and computerized assistant surgery before was because with knee replacements, we have a problem. Our satisfaction rate is only 85%. So when you ask a patient a year after surgery, are you happy with the knee that I put in, the success rate would be 85%. So you can say that's a big number, but that leaves 15% of unhappy patients. And that can be from having some pain, some discomfort and not having the knee perform as they expected before, having them do things they wanted to do when they went to surgery. And when you have that kind of percentage on a surgery that is performed on millions of patients around the world, that's a big problem. And that's why we're always looking for ways to improve our results.

Benyamin Cohen:

So what does the robot actually do?

Dr. Gurion Rivkin:

So the different schools of thought on how you do a knee replacement, what you should do. The classic route was called the mechanical aligned knee, which meant that you cut the tibia and the femur, the bones of the knee perpendicular to their mechanical axis. And then you would do some soft tissue releases to balance the knee. Now there's a different school of thought that says, ignore that, cut it exactly where the patient had it, where the joint line was, but you can risk earlier loosening if you put the implant in an angle that puts a lot of stress on the implant. So using the ROSA lets you strive off from the mechanical alignment, into something more personalized and specific to the patients you're treating, but still maintain safeguards, preventing excessive load on the implant.

Benyamin Cohen:

Was Hadassah the first hospital in Israel to use this?

Dr. Gurion Rivkin:

So the ROSA, yes, but at that time in January, 2020, there was another hospital in the north of the country that had a different system from a different manufacturer. But we were one of the first.

Benyamin Cohen:

And what kind of success rate? You mentioned the 85% number. So now that you're using the robot, what's that number now?

Dr. Gurion Rivkin:

So we're still looking into it. We still cannot, not in Hadassah, not in the literature that you're reading still see a significant increase in the success rate, but that also has to do with the question that you're asking. When you're filling the, what we call prompts, patient reported outcome measures. They might not be very accurate to discern the success of the surgery. So that's where we are. We're still learning how to use the robot. And we hope that in the future it gets better.

Benyamin Cohen:

This has the potential to be a real game changer for a knee surgery.

Dr. Gurion Rivkin:

Yes it does. And it actually changed a little bit of the way I did my surgery up until I got the robot. I used to do only mechanically aligned patients. I was kind of wary to strive off because there is literature that shows that if you put the implant in above a specific degree that may harm the patients in the long run. But when I started using the robot, it also let's you do some intraoperative assessment of what will be the result of cutting the knee as you're planning it with the robot, with regards to the need to do additional soft issue release. I let myself be more free with the angles I'm shooting for when I do the surgery now.

Benyamin Cohen:

And let me ask you this. If patients who have already had knee surgery before the robot came online in the past, should they consider having a new updated surgery with this new tool?

Dr. Gurion Rivkin:

If a patient had a knee replacement in the past and it is functioning properly?

Benyamin Cohen:

Yeah.

Dr. Gurion Rivkin:

And by all means he should not consider to do anything to the knee. I mean, if you talk to a patient who had knee replacement, he is not very happy of doing that procedure again.

Benyamin Cohen:

With any kind of surgery, but especially like a knee or a hip replacement. Does the replacement ever go bad? Do you have to get it fixed? Does it need to go in for a tune up every few years? What's the situation with that?

Dr. Gurion Rivkin:

So that's actually a myth. The usual myth is that the longevity of hip and knee replacement is somewhere between 10 and 15 years. And I see many patients come to my clinic with perfectly good functioning prosthesis, 15 years after the surgery and they're terrified. They're sure that they'll come into my clinic and I'll refer them to revision surgery. What we call a redo of the joint. But the truth is most implants will perform well for decades. However, there's always risk that something might go wrong. You can get an infection, the implant can become loose like I said before. And if we do encounter a problem, we have a wide array of solutions from simple bearing replacement to extensive revision surgery. But the risk of what you alluded to, the risk of wearing of the bearing surface is very, very low with the modern implants we're using today.

Benyamin Cohen:

Was it more common a couple decades ago with different materials?

Dr. Gurion Rivkin:

Like four decades ago. Yeah. I mean we can say, we can call the implants from the end of the 90's the early 2000's, we can call them the modern time. Those are pretty good.

Benyamin Cohen:

If a patient has two knees that they're suffering pain with, should they get them both replaced at the same time?

Dr. Gurion Rivkin:

So, wow, this is a good question. And quite a controversial one in the orthopedic literature. So in my practice or us at Hadassah, we do not perform bilateral joint replacement. It can be very difficult for the patient, very taxing for the patient, but I can understand it. I mean, I did my fellowship in the United States and we did do bilateral knee replacement. And if you live from paycheck to paycheck without welfare policy, then you do that. Because in six weeks you finish both the recovery from both knees, but that's not the case in Israel. So there's no reason to do it.

Benyamin Cohen:

Where did you do your fellowship in the U.S. by the way?

Dr. Gurion Rivkin:

In the Cleveland Clinic in Ohio.

Benyamin Cohen:

So if you had the option to do surgery separately, would you like six months apart or what would be the timeframe?

Dr. Gurion Rivkin:

I'm okay with letting the patient do another surgery three weeks apart, just so they recover from the initial insult, a surgery is an insult to the body. So when they recover from the initial insult, three weeks, four weeks, they can come and do the other one. Some will, some will not. So you risk losing some patients, but that's okay.

Benyamin Cohen:

And in general, what's the recovery time from a knee replacement? Less than a month you're saying?

Dr. Gurion Rivkin:

So it varies. It can go between a few weeks to a few months. I mean, some patients have a very well functioning knee replacement and they are still unhappy, very unhappy a month after surgery. So it depends and the problem with any replacement, you cannot predict which patient will recover well and quickly and which won't.

Benyamin Cohen:

We were talking about getting both knees replaced. Does this apply to hips as well?

Dr. Gurion Rivkin:

I think it's even more uncommon to do bilateral hips. Now with the anterior approach, maybe a little bit more, but I still wouldn't do it. I see no reason for it.

Benyamin Cohen:

Right. So we've been talking about knee issues. And at the beginning we talked about some people have sports injuries and you were talking about most of your patients, because of age or arthritis. Does genetics play a factor in whether or not you have a chance of getting knee pain?

Dr. Gurion Rivkin:

So we refer to osteoarthritis causes as being multifactorial, meaning it can be related to genetic factors, weight gain, work related problems, and just idiopathic, meaning we don't know why the patient developed arthritis in the knee, and for that matter, why in the right knee and not in the left knee. We guess there is a genetic factor into it but it's not a given that if your mother had a knee replacement that you're going to have to need one.

Benyamin Cohen:

So you were talking about weight gain and stuff. So are there dietary... I guess it wouldn't like if you eat certain foods, it may relate to that. But you're saying overall, if you were gaining weight, it might impact that?

Dr. Gurion Rivkin:

Yeah. I mean, my grandmother never stopped eating tomatoes because she felt that those would cause her joint pain. But the truth is when you gain weight, significant weight, when your BMI is high, you have a higher risk, significantly higher risk of developing arthritis of the knees and the hips, times six times 18, depending on what literature you're reading. So if you can control... but it affects you in years. So you need to control the weight when you're young, not when you get to be obese and live with that for many years. If you're going to try to lose weight at 60, it's not going to affect what happened to the knee.

Benyamin Cohen:

Right. Conversely though, if you exercise, if you walk every day, is there something to be said that you could be wearing out your knee if you, if you're very active.

Dr. Gurion Rivkin:

So if you do moderate activity, you shouldn't be wearing your knee at a higher rate. If you do very, very high level of sports, you might, but in a routine exercise once or twice, three times a week running, jogging, you should be okay.

Benyamin Cohen:

Do you notice, is there one gender that's more prevalent to have knee issues?

Dr. Gurion Rivkin:

Yeah, well the ladies, have heavily more of arthritis. And if you look at the Swedish registry, it shows that more than 60% of the joints that are implanted are done for female patients.

Benyamin Cohen:

Do we know why that is?

Dr. Gurion Rivkin:

No.

Benyamin Cohen:

When we return Dr. Rivkin talks about hip replacements and how COVID impacted some of his patients. All that and much more after a quick break. If you're enjoying this episode, you'll want to check out our previous conversation with professor Avivit Cahn, an expert in diabetes. We covered a lot of topics, including the future of diabetes treatment.

Avivit Cahn:

So, I think the main focus of diabetes research is what we call precision medicine or personalized care. So I think this is really where research is going and where we're all studying this. Also to try and bend those people into more specific categories and then to adjust their treatment more specifically, more

personally also based on their genetic data and metabolomic data. And then you could tailor the treatment much more specifically because now we're sort of, more or less, not getting into details, giving people more or less the same medication. And it's not really the way it should be done. You have this one-way algorithm for everybody, but people are so different.

Benyamin Cohen:

You can find that episode of "Hadassah On Call" on Apple Podcast, Google Play, or wherever you get your podcast or on the web at hadassah.org/hadassahoncall, that's hadassah.org/hadassahoncall. And now back to our conversation with Dr. Gurion Rivkin.

Alright, let's change topics a little bit. We'll talk about a different joint. We're going to talk about hips now. Age-wise, what kind of people are getting hip replacements these days?

Dr. Gurion Rivkin:

So hip replacement is a completely different story from a knee replacement. If we discussed earlier, the knee replacement success rate is around 85%. In hips, we are talking about 97% success rate a year from surgery with some patients even forgetting which side they had the operation on. So with such a high success rate and with good longevity of the implants, we do not hesitate to perform the surgery in even young patients meaning, I mean, in the twenties, thirties if they needed

Benyamin Cohen:

And why would a 20 or 30 year old need a hip replacement?

Dr. Gurion Rivkin:

If you have rheumatoid arthritis that can wear your joints, some patients have deformities from birth that may cause quick deterioration of the joints.

Benyamin Cohen:

Before you opt for surgery, are there other things you could try first, like physical therapy?

Dr. Gurion Rivkin:

So in the beginning, physical therapy is a good thing, it's a good idea. It helps with pain and mobility, but when you have end-stage arthritis, not always do you get a great relief from doing physical therapy. You can use it before surgery to precondition the muscles around the joint, but at the end-stage arthritis, it's kind of difficult.

Benyamin Cohen:

Is it possible that people can go undiagnosed? If someone has hip pain, they're thinking, "Oh, I'm just getting older. That's just normal." Is it possible people could brush it off?

Dr. Gurion Rivkin:

Well, yeah, I mean, it can be underdiagnosed. Like I said, if the patient does not complain either because they feel that the discomfort is age appropriate and that's how you should feel at let's say 75. Or if they think they have a problem and they fear what might be offered to them they might not come. In some

instances, if the patient lives in a place with less medical facilities available to them, he or she may not see a doctor to be diagnosed. And there could be some misdiagnosis by the doctors themselves, but with today's imaging modalities and availability, it's not very common.

Benyamin Cohen:

So we were talking a minute ago about 20 or 30 year olds getting a hip replacement. And then we were just talking about older people getting hip replacements. Is the success rate different if you're a younger person who gets a hip replacement versus an older person who gets a hip replacement?

Dr. Gurion Rivkin:

I believe age is just a number. There are 80 year old patients without any medical problems, living a very active life and other 50 year olds, sedentary patients with a long, long list of medical comorbidities. That's also true for the recovery from surgery, which is more related to the basic condition of the patient than the specific age. Again, if you're talking about 90-plus year olds, you may be a little bit more careful.

Benyamin Cohen:

Are there other complicating underlying medical conditions, like if somebody has diabetes, that they would maybe not be a good candidate or some other underlying disease?

Dr. Gurion Rivkin:

Yeah. So the main problem with joint replacement is infection. It's not a high risk, but it goes between 0.7% to 1.5%, but you don't want to get that. And we know that if a patient has diabetes and it's uncontrolled and your hemoglobin A1C level, which is a measure of how well you control the diabetes over a long period of time. If that's above 7.4, 7.5, then you are at increased risk of developing infection. So today, part of the screening before surgery is having diabetic patients take the test. And if it's not within a safe level, then we won't do the surgery for them.

Benyamin Cohen:

Speaking of these underlying conditions, did you notice anything during the pandemic that knee patients or hip patients, were they avoiding surgery? Maybe because they didn't want to go to the hospital, if they didn't have to because it was elective.

Dr. Gurion Rivkin:

So in the beginning, in March of 2020, the ward was empty. Nobody came for surgery, but actually in Hadassah we had a... Hadassah is divided into two campuses. The main one is in Ein Kerem and the other one is Mt. Scopus where I live. So all the Corona patients were concentrated in the main campus, in Ein Kerem. So even if you came to Mt. Scopus and you were diagnosed with Corona, you would be transferred to Ein Kerem. So patients knew that if they came to our hospital, the risk of Corona wouldn't be significant. But the main problem we saw, and it's not directly related to the virus itself, is that many active, older patients were suddenly confined to their homes for long periods of time with lack of exercises during the lockdown. And when the lockdown was finally lifted, they found that their knees and hips were not functioning as well as they did before, that's a common complaint. I was better before the Corona and now I'm worse, even if they didn't contract Corona.

Benyamin Cohen:

Yeah. What an interesting side effect. My parents who are in their seventies and live in Israel, they usually go to a gym every day and during the lockdowns, they couldn't do that.

Dr. Gurion Rivkin:

Exactly.

Benyamin Cohen:

Yeah. When somebody does have the knee or hip replacement, are they able to return to normal activities? Even sports, golf, swimming, tennis, are they able to return to that kind of stuff?

Dr. Gurion Rivkin:

Actually we want them to do better than they were before. We want them to return to their beloved activities like hiking, swimming, et cetera. I'll just remind you that golf is a significant goal for American patients, but in Israel we only have one golf course. So that's not really an issue. And if it were, it would be concentrated on Tel Aviv patients, not Jerusalem.

Benyamin Cohen:

Is there a type of exercise you want your patients to do afterwards to help with the healing?

Dr. Gurion Rivkin:

I recommend initially just to walk, but after the initial process of healing, we do recommend some what we call low impact activities like biking, elliptical, swimming. That depends on the patient.

Benyamin Cohen:

When we return Dr. Rivkin talks about the research he's working on and the story of his most memorable patient. All that, and much more after a quick break.

If you're a fan of this podcast, we have an opportunity for you to meet the doctors you've heard on the show at an upcoming event. Hadassah is hosting its 100th national convention in Jerusalem this November. You can join other friends of Hadassah to get a behind the scenes look at the cutting edge research being done at our hospital. Plus we'll have special guided tours around Israel to explore the country's art, history and, of course, food. Get more information and register for your spot at www.hadassah.org/100convention. That's hadassah.org/100convention.

And now back to our conversation with Dr. Gurion Rivkin.

I want to pivot now and talk a little bit about... every time I speak to one of your colleagues at Hadassah, we're always so impressed that Hadassah is more than just a hospital that treats patients, but it's also a research institution because of its connection with Hebrew University. And so I want to learn a little bit about any research that you might be working on in your field.

Dr. Gurion Rivkin:

So currently we're focusing on two ongoing projects with regards to ROSA robotic surgery that we discussed. It's both prospective, meaning having two groups of patients have the surgery done with and

without the robot, and comparing them in the years to come and retrospective study as well. Looking at the patients, we did operate in the last two years and looking back at the results and we're trying to learn what we gained by using the robot and in exchange for what? I mean, what are the downside of using the robot, be that longer surgery time, problems from the pin insertion site. When you use a robot, you need to drill a few more holes in the bone to put a tracker. So those can cause problems. So that's kind of what we're focusing on.

Benyamin Cohen:

What makes Hadassah unique in your mind compared to other hospitals?

Dr. Gurion Rivkin:

So working at Hadassah is actually a great opportunity. You work in a major medical center, but you're also part of the faculty of medicine in the Hebrew University. So you get to teach medical students during different years of their studies and you have to be in your toes all the time. And you're also encouraged to participate in clinical research. So basically you have your plate full all the time.

Benyamin Cohen:

And doing podcasts.

Dr. Gurion Rivkin:

That's a first for me.

Benyamin Cohen:

How do you think that dual nature of the hospital, the research and the care, how is that, do you think impacted on the patient? Do you think there's better outcomes because of that?

Dr. Gurion Rivkin:

I don't know if it leads to much better results. I mean, even the other hospitals in Israel also provide excellent care, but I think for us and for the patients, it's a good combination. It's a good mix.

Benyamin Cohen:

Do you have a patient story, an inspiring story, a memorable patient that you can think of that has stuck with you over the years?

Dr. Gurion Rivkin:

Yes. One of the patients that I use to... and it's actually related to the question you asked about the age. A lot of patients ask me about the age. Am I not too old to do that surgery? So I performed surgery on a patient's both knees. And the last one was when he was 93. And we had to coordinate the dates of the surgery to correspond with the university timetable, because he was finishing his sixth degree. It just shows you that age is just a number. I mean, that guy was amazing.

Benyamin Cohen:

That's unbelievable. If you and I were to have this conversation in a few years, in five years and 10 years from now, where do you hope your field is then?

Dr. Gurion Rivkin:

So two things: one, maybe would have better understanding of the knee, leading us to a better results, higher success rate. But the major one is maybe we'd be able to better fight infections, periprosthetic infections, which are difficult to treat and causing major problems for our patients.

Benyamin Cohen:

We were talking about the ROSA robot, one of your colleagues a few months ago, we were talking about doing robotic surgery remotely, meaning like a doctor in Israel-

Dr. Gurion Rivkin:

Like a DaVinci.

Benyamin Cohen:

Like a doctor in Israel could be performing a surgery on a patient in New York.

Dr. Gurion Rivkin:

So the ROSA does not eliminate you from being inside the room. You have to have a lot of hands-on during the surgery. It assists. It helps you be more accurate, but there is still a lot of feel. You have to feel the knee during surgery. And I'm not sure I would be very comfortable doing the surgery on the patients on this in the States, from Israel.

Benyamin Cohen:

Or maybe in the future, maybe in 10 years from now, maybe that'll-

Dr. Gurion Rivkin:

Maybe 10 years from now but we'll see. I think that the surgeon still has a significant role in the OR, even with a robot.

Benyamin Cohen:

I speak to so many of your colleagues, whether it's about Alzheimer's or diabetes or cancer and with a lot of those diseases there is not a cure, but there's just ways to make the patient better and to treat it. But it seems to me from our conversation today that knee surgery or hip surgery could in fact, and I'll put quotes around this, cure the disease.

Dr. Gurion Rivkin:

So if you have a successful hip replacement or knee replacement, because of arthritis, you did cure the disease because it's not going to recur. Now, are we in a place where we can treat cartilage damage by medications or injections? We're not there yet. The cartilage tissue is very complex and we still don't know how to make it heal properly.

Benyamin Cohen:

I know we talked about weight management and if you gain a lot of weight, it could impact your knees. Is there certain foods that people should be eating to maybe help prevent? Should you be eating more protein or is there certain kinds of food, types of foods that people should be eating?

Dr. Gurion Rivkin:

There's not a diet that I know that will eliminate osteoarthritis. So I wouldn't be able to recommend on a diet. Just keep your weight down. That's it.

Benyamin Cohen:

Well, Dr. Rivkin, thank you so much. I know you have a very busy schedule, so thank you so much for taking the time to chat today with me and our listeners to the "Hadassah On Call" podcast.

Dr. Gurion Rivkin:

Thank you for having me. It was a pleasure and an experience. Thank you.

Benyamin Cohen:

Thank you.

"Hadassah On Call: New Frontiers in Medicine" is a production of Hadassah, the Women's Zionist Organization of America. Hadassah enhances the health of people around the world through medical education, care, and research innovations at the Hadassah Medical Organization. For more information on the latest advances in medicine, please head on over to hadassah.org/news.

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The show is produced by the team at the Hadassah offices in both New York and Israel. I'm your host Benyamin Cohen and thanks again for joining us today. We'll see you next month.