

Rambam

ISSUE No. 19 | APRIL 2017

on call

Special Issue

An Inside Look
into the
**Future of
Cancer
Treatments**
at Rambam
Health Care
Campus



**Honoring the
Opening of the New
Joseph Fishman
Oncology Center**



RAMBAM

Health Care Campus

Creating the future of medicine.



Dear Friends,

The rise in patients diagnosed each year with cancer is surely a cause for great concern. Yet new and highly effective treatments and technologies offer many patients a far more optimistic future than ever before. In this issue of Rambam on Call, we present some of these state-of-the-art treatment approaches, and how they have been integrated into the standard of care delivered at the newly opened Joseph Fishman Oncology Center.

For Northern Israel's cancer patients, the opening of the Joseph Fishman Oncology Center affirms Rambam's uncompromising commitment to their care and recovery. With spacious, comfortable and well-appointed treatment and hospitalization

rooms, our patients and their families can benefit from an optimal healing environment as they contend with the disease. And the advanced technologies available for our patients enable our medical teams to achieve what was, until recently, unimaginable and practically impossible. Novel radiation therapies applying sophisticated 3-D algorithms allow for higher efficiency and precision, targeting tumors but leaving surrounding, healthy tissue untouched. And new biological drugs that are at least as effective as chemotherapy deprive cancer cells of their protection from the immune system, with dramatic effects on our patients, and fewer side effects. We are profoundly grateful to the Fishman family and other friends around the world whose support gave the gift of life to this exceptional new center.

We hope you will be informed, enlightened and uplifted by the articles in this magazine. And during this holiday season, as we come together with our families and as a people, let me take this opportunity to wish a happy Passover to our friends near and far.

With my best wishes,

PROF. RAFI BEYAR

Director and CEO
Rambam Health Care Campus



RAMBAM
Health Care Campus

HAPPY PASSOVER!

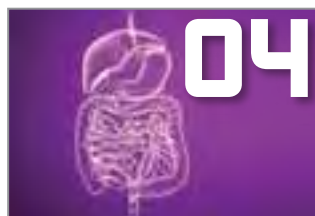
With the arrival of spring and Passover, we wish you and your loved ones a year of innovation, health, and freedom.

Professor Rafi Beyar
Director & CEO



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Rambam International Relations

Rambam Health Care Campus, State of Israel – Ministry of Health | Director and CEO: Prof. Rafael Beyar

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Chief Medical Consultant:
Prof. Shimon Pollack

Director of the Marketing Department: Oded Mayer

Editor: Abbie Rosner

Producer: Merav Ganot

Special Thanks: Inbar Shahaf, Shirley Erulkar, Abigail Zohar

Photographers:
Eran Yardeni, Pieter Fliter, Offer Golan, Netanel Ayzik, Miki and Gal Koren, Shutterstock



Executive Editor:

Dorit Kravchik

Graphic Editor:

Inbal Rechtes

Concept Director:

Aviva Mezamer

CEO:

 Shoshi Asael Malka

Production:

 CONCEPT-

Content Solutions

Tel: 972-3-6386615

e-mail: aviva-m@yedioth.co.il

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Letters to the Editor:
ROC@rambam.health.gov.il



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**Joseph Fishman
Oncology Center
Photo:**
Yuval Sourasky



Reduce the Risk

Recent studies have unequivocally shown that a healthy lifestyle reduces the risk of colon cancer, putting much of the responsibility in your hands. What lifestyle changes should you be adopting?

- ➔ Maintain proper weight.
- ➔ Keep a healthy diet – eat lots of vegetables, grains, pulses, fish and olive oil, and reduce red meat, particularly fried, grilled or processed.
- ➔ Continue (or start) exercising – at least three hours a week.
- ➔ Consume alcohol in moderation
- ➔ If you are still smoking, it's time to stop.



Prevention First

Early detection, genetic testing, healthy lifestyle, and early and complementary treatments. At Rambam, we are fighting colon cancer on all fronts.

>> Orna Meir





The statistics aren't heartening: colonic cancer is the second most prevalent type of cancer in Israel, with 3,200 new cases diagnosed in the last year alone. But the good news is that, in the vast majority of cases, patients aren't genetically predisposed to developing the disease, meaning that maintaining a healthy lifestyle can effectively reduce the chance of developing the disease (see box). Furthermore, early diagnosis is considered especially advantageous for colon cancer, and recent advances in treatments have improved outcomes as well.

Alongside a healthy lifestyle, colon cancer can be prevented through early detection, which is why adults over 50 should have a colonoscopy. "Colon cancer usually starts as a benign polyp in the intestine", explains Dr. Alex Beny, Director of the Gastrointestinal Cancer Service in Oncology at Rambam. "These polyps take an average of five years to become cancerous, so if a person has a colonoscopy during that time, and the polyp is detected and removed, cancer is effectively prevented."

Advancing Disease Prevention

Even when a colonoscopy reveals a cancerous growth, chances are it will

still be small and localized, with a high chance for recovery when it is resected. Unfortunately, however, many patients only discover the disease when it has already spread.

"Certain inherited genetic conditions increase the risk of colon cancer", explains Prof. Elizabeth Half, Director of the GI Malignancy Unit in the Gastroenterology Institute at Rambam. "People with these conditions should be under strict observation to increase the chances of early detection and prevention." The problem is that most people with these conditions aren't aware of it. How can you know if your genetic profile puts you at a higher risk?

Check your family history. If cancer occurs relatively frequently in your family, if a close relative (first degree) developed cancer before the age of 50, and/or if you or your parents had eight or more polyps found on colonoscopy, you should seek genetic counseling. While a number of conditions can be implicated, the most common is Lynch Syndrome, which increases the risk of colon and other cancers as well.

If you have a genetic condition: act responsibly. People who have been diagnosed with a genetic condition that increases their risk of colon cancer should **have a colonoscopy every year, from an**



"...Polyps take an average of five years to become cancerous, so if a person has a colonoscopy during that time, and the polyp is detected and removed, cancer is effectively prevented."

Dr. Alex Benny



earlier age, to increase the chances of discovering polyps at early stages, before they become cancerous.


Have a urine test for early detection of bladder cancer.

For women with Lynch syndrome, have frequent gynecological exams for prevention of cervical cancer.

Consider preventive surgery – some women with Lynch Syndrome (depending on their level of risk) may be advised to undergo preventive removal of their ovaries and uterus at around age 40, or after they have finished childbearing, to avoid developing cancer in these organs.

Adopting New Breakthroughs

Minimally invasive laparoscopy, with its reduced complications and fast recovery times, is increasingly used to remove cancerous growths in the colon. For treating cancer of the rectum, a radiation and chemotherapy regimen before surgery to reduce the size of the growth, has been found to lead to better and faster recovery. In cases where the tumor is small and has not penetrated the lymphatic system, surgery alone can suffice. In patients with Stage II colon cancer, oncotype testing can provide a molecular characterization of the tumor, which will help determine an optimal treatment strategy

The recent advent of new biological treatments has been applied to colon cancer as well, bringing benefits to patients whose disease is in a more advanced stage. Biological treatments for colon cancer either target the blood vessels feeding the tumor, and prevent it from spreading, or the proteins that are involved in the tumor's growth. 



Pancreatic Cancer Alert

A number of new studies point to underlying genetic factors in some cases of pancreatic cancer, and that it may be worthwhile for some individuals at risk to undergo genetic testing to increase their chance of early detection – and perhaps even save their lives.

You may want to seek consultation:

If a first degree relative had pancreatic cancer, particularly if they were diagnosed at an early age.

If you have the BRCA mutation (for breast and ovarian cancer) or Lynch Syndrome.

If you have chronic pancreatic infection's.

And what if the diagnosis is positive?

Periodic endoscopic ultrasound or MRI MRCP examinations can detect pancreatic cancer at very early stages, sometimes even before a growth becomes cancerous. Early detection, surgery or just monitoring, may prevent the disease from spreading and prolong life.

Medical Consultants:



Dr. Alexander Beny
Director of the Gastrointestinal Cancer Service
Oncology Section
Rambam Health Care Campus



Prof. Elizabeth Half
Director of the GI Malignancy Unit
Gastroenterology Institute
Rambam Health Care Campus



New Hope and Help for Breast Cancer

Breast cancer is the most common malignancy among women in Israel. But the survival rates here are among the highest in the world, thanks to the quality of early detection and treatment. **18 important facts to know about breast cancer care at Rambam.**

>> Nurit Omer

1

At Rambam's Breast Cancer Unit (BCU), an interdisciplinary team of breast surgeons, imaging specialists, plastic surgeons, oncologists, radiation specialists, and geneticists devises the treatment strategy for each new patient. This may start with surgery, followed by chemotherapy and radiation treatments, or begin with chemotherapy and only afterwards surgery.

3

About one quarter of Israeli women diagnosed with breast cancer are under age 50.



4

The average age of diagnosis in Israel is 60, and has remained stable over the past several years.

2

Breast cancer is the most common form of cancer among Israeli women. Some 4,500 women are diagnosed with the disease annually.



5

In light of advances in diagnosis and treatment, breast cancer survival rates in Israel are among the highest in the world. 90% of women diagnosed today will be alive 5 years after their diagnosis.



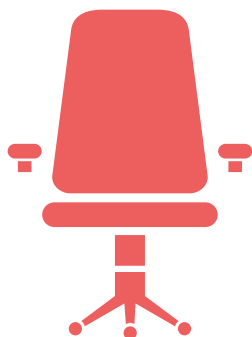
6

Rambam takes a multidisciplinary approach to treating breast cancer, starting with detection (mammography, ultrasound and MRI), biopsy and pathological testing to determine an optimal treatment plan, followed by surgical, radiation and other treatments according to the molecular characteristics of the tumor.



>
7

The BCU social workers meet with every new patient, providing emotional support as well as information about their eligibility for social benefits. The BCU also offers psychological care for whoever wants it.



11

Biological drugs, alone or in combination with hormonal treatments, offer new promise for treating breast cancer. With relatively mild side-effects, biological drugs enable patients to maintain their quality of life while receiving this advanced treatment.

The effects of hormonal treatments generally last for one year, but with the addition of biological drugs, this effective period can be doubled. And because biological drugs are administered orally, patients don't need to make frequent hospital visits.

8

The BCU is an active participant in dozens of leading clinical studies investigating advanced breast cancer treatments. Some involve treatment and others are observational.

9

The BCU clinical research coordinators consult with patients to help determine if they are eligible for clinical trials, with the opportunity to receive the most advanced treatments available.

12

Upon admission to the BCU, new patients meet with the treating physicians for an explanation of their treatment plan, followed by a meeting with a coordinating nurse for further explanations on the course of treatment – how the drugs are administered and what to do at each stage. The coordinating nurse also provides emotional support, help with decision-making, explanations about treatment side effects, and setting appointments as necessary.

10

One BCU study is testing drugs employing radium 223 in combination with hormonal treatments for patients with breast cancer that has spread to the bones. The drug targets the tumor itself, with few side effects.



13

Findings from another study show that patients with a low body mass index are much more likely to suffer from toxic effects of chemotherapy. The first stage of the study was performed in the US and it has now been expanded to Israel for women over 65. The study points to the benefit of increasing body mass through physical activity.

16

The BCU holds workshops for women recovering from breast cancer, with guidance on how to cope with side effects that occur after treatments, follow-up testing, and lifestyle recommendations after recovery.

14

During the early 2000s, several dozen patients at Rambam's BCU took part in two groundbreaking clinical trials for Herceptin, a drug that targets cancer characterized by an overexpression of the HER2 receptor. They benefitted from its life-saving effects 5-6 years before its official release.

17

Even for patients with triple negative breast cancer (estrogen, progesterone and HER2 receptor negative), there are new developments: Enzalutamide, an anti-androgen drug already used to treat prostate cancer, is now being investigated to determine its beneficial effects for this type of breast cancer.

18

Many triple negative tumors are found in women who carry the BRCA1 and BRCA2 mutation, which puts them at a higher risk of developing breast and ovarian cancer. New biological drugs that block the protein PARP are now available, and their effectiveness compared to chemotherapy is under study.

15

One of the most recent and innovative studies at the BCU is with a new controlled-release chemotherapy drug that affects only the tumor and its metastasized growths. The drug is encased in a material that only releases it at its tumor target, preventing the side effects normally associated with chemotherapy.



Medical Consultant:
Dr. Georgeta Fried
Director, Breast Unit
Oncology Section
Rambam Health Care
Campus

The Good News on Genitourinary Cancers

What are the risk factors for developing prostate cancer, how can you identify the symptoms and what are the newest treatments in the field of genitourinary cancer? Rambam experts answer these important questions.

» Rinat Sheffer







1 What are the types of genitourinary cancers?

The urinary tract comprises four organs: the kidneys, which produce and filter urine; the ureters, which transport the urine from the kidneys to the bladder; the bladder, which collects the urine; and the urethra, which carries the urine out of the body. Cancer can develop in each one of these organs. The most common are prostate and bladder cancers.

2 How is prostate cancer diagnosed, and what are the symptoms?

An increase in the frequency and urgency of urination, and erectile dysfunction are initial symptoms, although they don't necessarily indicate any malignancy. Diagnosing prostate cancer entails a blood test to identify the level of prostate-specific antigen (PSA), and a rectal exam. If any of the findings are abnormal, a biopsy will follow, and if a malignancy is found, medical imaging tests will detect if the disease has spread to the bones, lymph gland or other organs.

3 What are the risk factors for developing prostate cancer?

Age is the greatest risk factor - prostate cancer is rare in men under 40, but increases with age. People with first-degree relatives who had prostate cancer, African-American men; and men with a mutation of the BRCA1 and BRCA2 genes, are also at greater risk. Studies point to a higher mortality rate among men who don't exercise and have a diet high in fats, although this connection hasn't been clearly proven. In any case, it is recommended to maintain a healthy and balanced diet, rich in nutritional fiber and low in fats.

4 Are there treatment breakthroughs for prostate cancer, and are they offered at Rambam?

The treatment for prostate cancer has changed dramatically, thanks to the introduction of several innovations. A number of new drugs are being investigated in international clinical trials, and Rambam is a collaborating partner in many of these studies. Another new treatment approach involves combining these new drugs with existing drugs, in the hopes of extending patients' life spans.

5 Are there personalized approaches for treating prostate cancer?

The ability to determine the genetic and molecular profile of a tumor, which differs from patient to patient, makes developing an individualized treatment plan possible. With advances in the field of radiation treatments, we can now direct highly powerful radiation-emitting molecules only at the tumor, without affecting the surrounding area.



Some facts about Prostate and Bladder Cancer

Prostate Cancer

Prostate cancer normally develops very slowly, and is not generally fatal.

In Israel, 1 of every 8 or 9 men will be diagnosed with prostate cancer.

Recent years show a negative trend in mortality from prostate cancer and a rise in survival rates.

In the US, 1 out of every 6 men.

Bladder Cancer

The most common age to develop bladder cancer is 60 and above, and the main risk factor is smoking. The disease can develop years after quitting the habit.

Bladder cancer is the 4th most common type of cancer among men and 8th in women.

Bladder cancer is more common in men than women.

6 What are the symptoms of bladder cancer?


The most common symptom is blood in the urine, which can be visible, but in some cases can only be detected in a urine test. A burning sensation when urinating can also be a sign, as well as an increase in the urgency and frequency of urination. However, these are very common symptoms that can indicate other, unrelated problems, such as kidney stones or urinary tract infection.

7 What is the recommended treatment for bladder cancer?

A superficial growth is treated through endoscopic excision, and in most cases, this is the only treatment required. However, if the growth has aggressive characteristics, then the bladder is washed repeatedly with a substance that reduces the chances of the tumor recurring. A tumor that has penetrated

into the muscle layer requires more aggressive treatment, including the surgical removal of the bladder. Alternately, several weeks of radiation and chemotherapy can treat the cancer without removing the bladder. Very aggressive tumors are initially treated with chemotherapy and only afterwards with surgery and radiation.

8 Is there hope for patients diagnosed with advanced stage bladder or urinary tract cancer?

In 15% of patients diagnosed with bladder cancer, the disease has already metastasized. Until recently, treatment options at this stage were limited, and mainly comprised chemotherapy. New immunotherapy drugs, which enlist the immune system to effectively attack tumors, offer new promise for late-stage patients. 

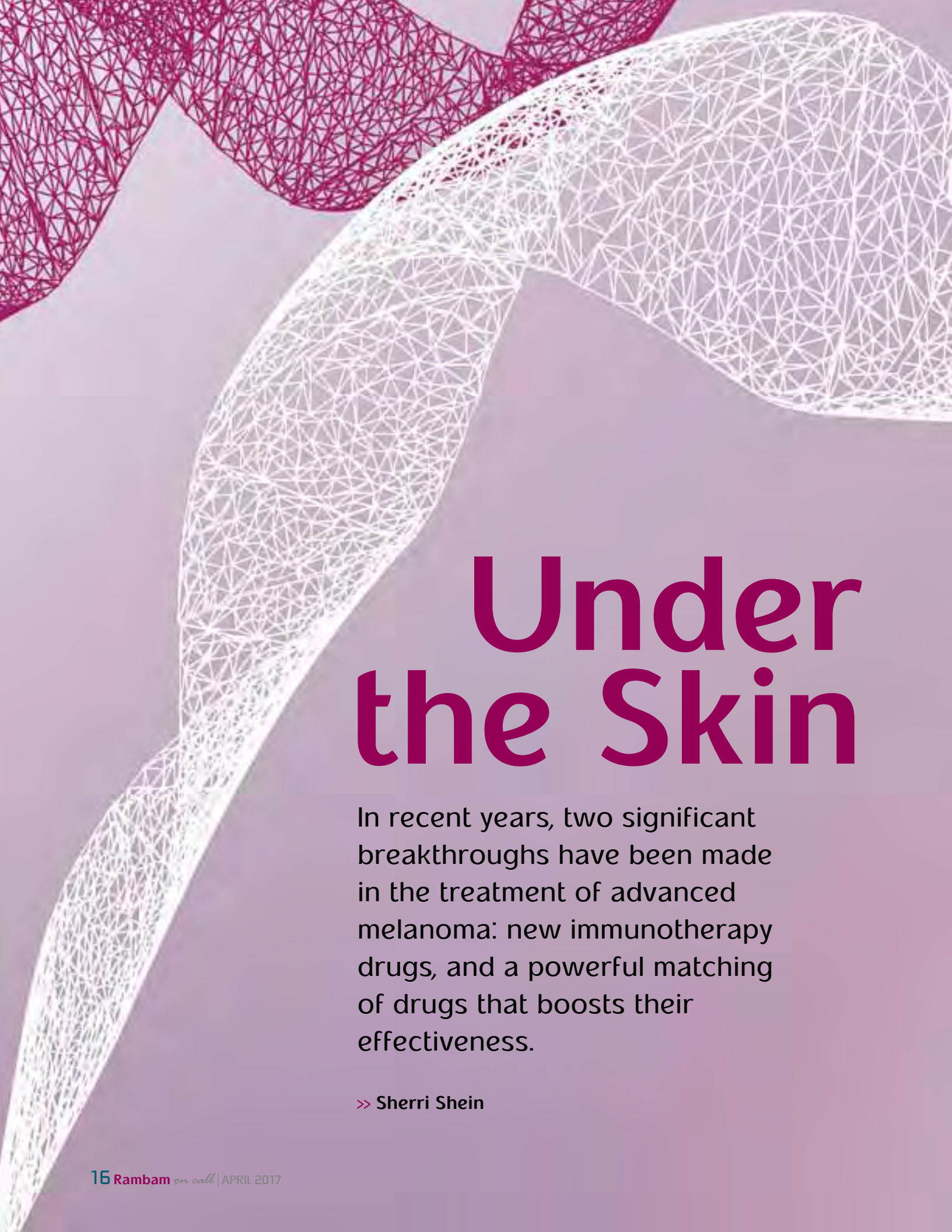
Medical Consultants:



Dr. Avivit Peer
Coordinator,
Genitourinary Clinic
Oncology Section
Rambam Health Care
Campus




Dr. Tomer Charas
Radiation Unit
Oncology Section
Rambam Health Care
Campus



Under the Skin

In recent years, two significant breakthroughs have been made in the treatment of advanced melanoma: new immunotherapy drugs, and a powerful matching of drugs that boosts their effectiveness.

>> Sherri Shein



We may be diligent about using sunscreen, and making sure to choose one with at least 50 SPF. But skin has a long memory, and unfortunately, melanoma continues to be prevalent. Originating in the melanocytes - the cells that produce the pigment of our skin, melanoma is the most serious form of skin cancer, and if left untreated can be fatal. "Melanoma usually starts on the skin's surface and then grows internally into the deeper layers of the skin, reaching the blood and lymphatic systems through which the cancer cells can spread to other parts of the body," explains Prof. Gil Barsela, Deputy Director of the Oncology Section at Rambam. "After removing a melanoma growth that has penetrated up to one millimeter into the skin, the risk of it reappearing is less than 5%, but those rates increase incrementally relative to the depth of penetration. Up to 2 millimeters increases the risk of recurrence to 30%. Melanoma is the 5th most common type of cancer in the western world, among men and women alike."

The New Generation

The first line of treatment for melanoma is surgical excision, followed by careful monitoring and observation. If the lymph glands are also affected, treatment still begins with surgical excision, but a new preventive treatment approach has been introduced, using immunotherapy, that reduces the risk of the melanoma recurring. This new generation of drugs works with the immune system to identify the cancer cells and destroy them.

Melanoma, which is highly affected by the immune system, is currently the main candidate for immunotherapy.

Until five years ago, the treatment for metastatic melanoma was a combination of chemotherapy and immunotherapy - either interferon alpha or interleukin 2. These drugs accelerate the immune response in the body but in a very general way, and not specific to the cancerous cells. Adding chemotherapy made a significant impact on only about 10% of patients, leaving most without a real treatment option. The good news is that, in recent years, there have been great breakthroughs in treating metastatic melanoma.





Get involved

A gift of \$ 2,000,000 will assist us in completing The Radiation Therapy Institute

ROC@rambam.health.gov.il

Solution #1 Mixing Biological Drugs


Biological drugs target specific genetic alterations in tumor cells. When treating melanoma, they target tumor cells that express a genetic mutation in the BRAF protein, causing uncontrolled growth of malignant cells. This genetic mutation is present in about half of the melanoma cases. Blocking this central protein within the cells stops their unchecked progression. New treatment approaches that combine drugs that block BRAF and a second protein, MEK, have been successful in preventing progression of the disease by months and even years.

Solution #2 The Promise of Immunotherapy

Another promising direction involves new immunotherapy drugs that are based on antibodies that interfere with the communication between different cells and the immune system, or between cells in the immune system that are already directed against the cancerous growth or the cancer cells themselves. Cancerous growths, particularly melanoma, develop ways to block the normal functioning of the immune system by presenting proteins which link with proteins in the immune system, neutralizing normal functioning of the cells and causing them to quickly degrade. The new immunotherapy drugs are in effect antibodies that block a specific protein located on the cellular lining of lymphocytes - the cells in the immune system that target tumors. Blocking this negative connection between the tumor and the immune system enables the lymphocytes from the immune system to attack the tumor cells, leading to a regression or stabilization of the disease that can last for many years.

Solution #3 A Revolutionary Combination of Immunotherapy Drugs

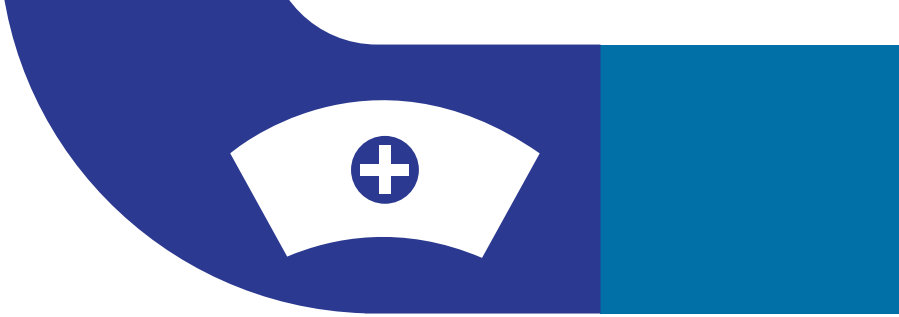
Another promising direction involves the combination of two new immunotherapy drugs (Opdivo and Yervoy) which enhances the functioning of the immune system in general, and its effectiveness against the cancer in particular. A combined regimen of the two drugs was found to lead to around a 60% decrease in tumor size, and in many patients, the beneficial effects last over time. However, the treatment can induce serious side effects in the form of autoimmune disorders, making it appropriate only for certain candidates.

New studies are examining a combination of immunotherapy and biological therapy drugs to treat melanoma, and some of these are in clinical testing at Rambam. Yet another line of research is investigating the utility of these new drugs not only for treatment of melanoma after it has spread to other parts of the body, but also as a means to prevent tumors from reoccurring. It is very likely that the same drugs that were already found to be effective in metastasized cancer, would also be effective in melanoma, administered post-surgery, even after the lymph glands are already involved. Early studies are showing that this direction of inquiry is correct, and additional studies are underway, at Rambam and other sites as well. 

Medical Consultant:



Prof. Gil Barsela
Deputy Director, Oncology
Section Director for
Complementary Care
Rambam Health Care
Campus



Complementary Care

From acupuncture to reflexology, Rambam's Complementary Care Clinic offers a full range of treatments to alleviate suffering in patients coping with cancer and other illnesses.

» Sherri Shein

Cancer treatment, like many other medical fields, has evolved in recent years to accommodate a more holistic vision of the patient. Not viewed simply as a matter of targeting and curing a disease, recovery is recognized as a complex process involving the patient's physical, psychological and spiritual wellbeing. Along with this paradigm shift, there has been unprecedented openness to supplementing conventional treatments with alternative therapies. "If a patient was once seen only by their oncologist and a nurse," observes Dr. Daniella Zalman, a specialist in oncology and complementary medicine, "today there is entire multi-disciplinary team at Rambam dedicated to promoting their health and wellbeing."

What is Complementary Care?

Complementary care is the name given to non-mainstream practices that are used together with conventional medical care. Oncologists generally don't have the time, resources or professional training

to address all the dimensions of their patient's condition, Dr. Zalman explains, even if factors not directly associated with the disease may have considerable impact on the recovery process. The goal of complementary treatments is to reduce suffering, whether the cause is physical or not.

Nice to meet you

The Complementary Care Clinic's team includes oncologists, internists, nurses, social workers, psychologists, alternative therapists, spiritual counselors and dietitians. Every member of the team has undergone special training in complementary treatment, which focuses on theoretical knowledge and improving communication skills.

"Most hospitals in Israel don't have the facilities or staff to offer complementary care to



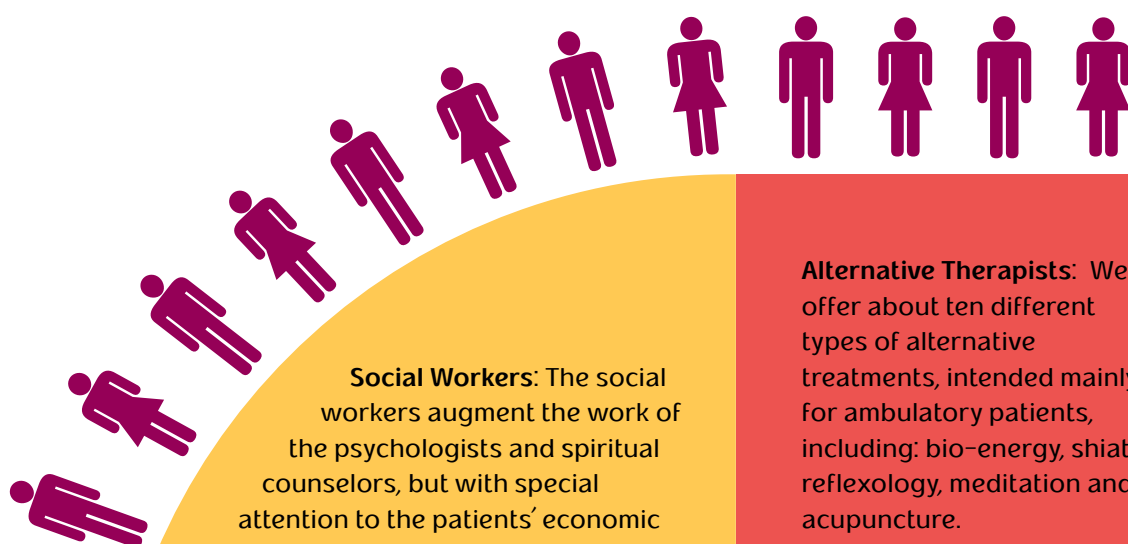
Psychologists and spiritual counselors: The Center's psychologists are specifically trained in different approaches to helping patients contend with the challenges of their illness. Depending on the patient's preferences, sessions may focus on talking, art or poetry. Religiously observant patients often choose to engage with a spiritual counselor to find relief and help recruit their healing resources.



Dieticians: For patients with challenges related to diet, swallowing or maintaining normal weight, the Center's dieticians help them find a new dietary balance that is satisfying and meets their physical needs.



Who is on the Center's staff?



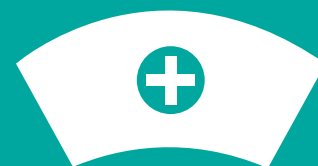
Social Workers: The social workers augment the work of the psychologists and spiritual counselors, but with special attention to the patients' economic and personal support systems, as well as their personal wellbeing.

Alternative Therapists: We offer about ten different types of alternative treatments, intended mainly for ambulatory patients, including: bio-energy, shiatsu, reflexology, meditation and acupuncture.

What is the vision for the future?

"The hope is that, within a year, an entire floor will be opened up for us, dedicated to these and other complementary treatments, such as music therapy, art therapy, reiki, essential oils, and more. Our goal is to make complementary treatments available and convenient for every patient who is suffering from physical, emotional or spiritual pain originating in a serious or chronic disease."

Nurses: The nurses maintain contact with patients who were at the clinic or hospitalized. Patients can reach them by phone in case of emergencies and they are authorized to adjust their medications. "For our patients," Dr. Zalman emphasizes, "it's a great comfort to know they have someone to call if they need it."





patients,” Dr. Zalman notes with pride. “We are unquestionably one of the largest and most comprehensive resources for complementary care in the country, and we extend our services to most parts of Northern Israel.”

The Focus: Improving Quality of Life

Does every oncology patient need complementary care?

“It depends on the support system the patient has. Some patients are more open than others to investigating additional avenues for improving their quality of life, even as they are deeply involved in the conventional treatment process. They may choose to seek complementary care early or later in the course of their illness. Sometimes nurses in the Oncology Division recommend that a patient consider our services. Doctors also encourage patients to see us when they observe a problem that is outside of their scope, but could be effectively treated by one of our staff. Patients also refer other patients. Recent studies have shown that introducing complementary care into the cancer treatment process not only improves quality of life, outlook and functioning, but can also increase a patient’s life span, if integrated at an early stage of the disease.”

A Listening Ear

While a busy oncologist doesn’t generally have time for long, heart-to-heart discussions with their patients, the staff at the Complementary Care Clinic are there just for that purpose. For many patients, just being heard can make all the difference. “In complementary treatment, I spend about 40 minutes with the patient and can give them my full attention. I ask questions about their situation at home. Who helps them? Have they seen a social worker? What are their anxieties and fears? Together we build a complementary treatment program that uses the resources of the center, whether it be a dietician, psychologist or spiritual counselor. These practitioners become an integral part of the patient’s treatment team.”

Weighing our words

“Over the course of treatment, discussions between the treatment staff and the patient and their family can be very fraught, and every word can have a huge impact,” says Dr. Zalman. “Even if the oncologist’s message is ‘there’s nothing left for us to do’, this is exactly the place where we fit in. We let the patient know that, whatever their situation, there is something that can be done to relieve their suffering and fears.”



Medical Consultant:
Dr. Daniella Zalman
Oncology Section
Rambam Health Care
Campus

Brain Cancer Breakthroughs

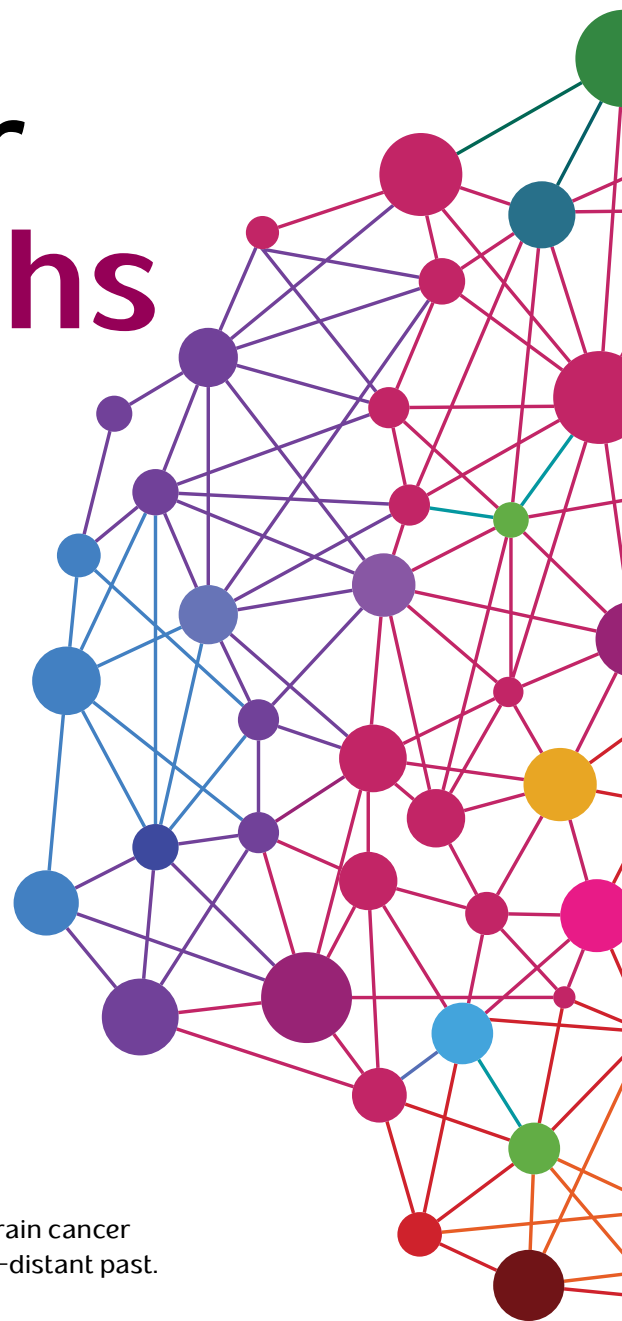
New classifications of brain cancer types, sophisticated navigating techniques to locate and operate on brain tumors, and targeted strategies for delivering drugs directly to the tumor - the latest innovations in brain cancer treatments are already here.

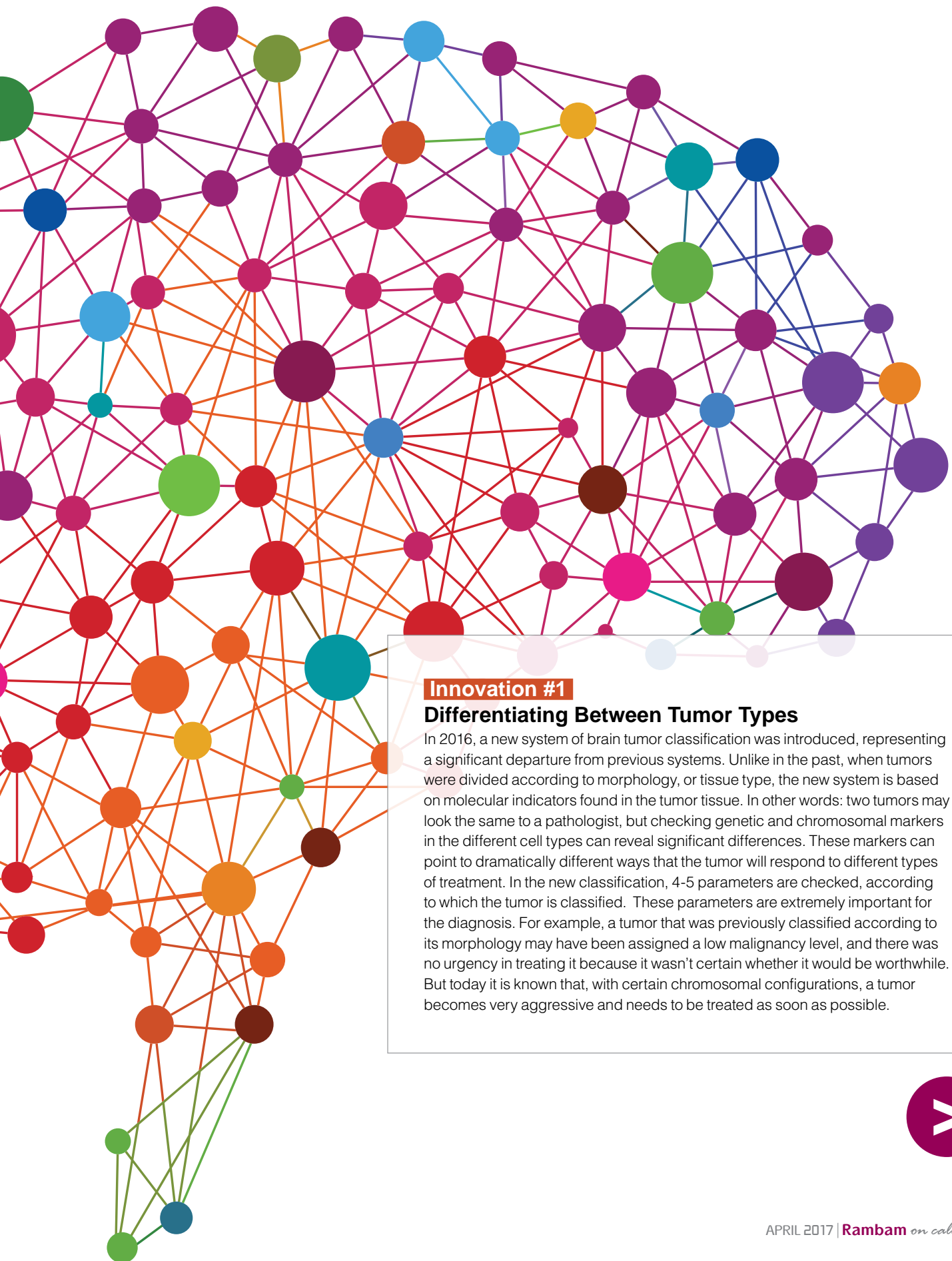
>> Sherri Shein

20 years ago, when someone had a brain tumor, regardless of what type, the treatment was usually about the same: surgery, followed by radiation therapy. Occasionally attempts were made to use chemotherapy intended for other types of tumors, but with virtually no results. It was pretty clear that it wouldn't make any difference on the progress of the disease, but they tried." This is how Dr. Tzahala Tzuk-Shina, Director of the Neuro-oncology Unit at

Rambam, describes how brain cancer was treated in the not-too-distant past.

"Chemotherapy for treating cancers of the brain is problematic," she explains, "since the blood brain barrier makes it difficult to introduce materials into the brain." So, what has been discovered in the field of brain tumor treatment over the past two decades, and how are they treated today? Dr. Tzuk-Shina brings us up to date.





Innovation #1

Differentiating Between Tumor Types

In 2016, a new system of brain tumor classification was introduced, representing a significant departure from previous systems. Unlike in the past, when tumors were divided according to morphology, or tissue type, the new system is based on molecular indicators found in the tumor tissue. In other words: two tumors may look the same to a pathologist, but checking genetic and chromosomal markers in the different cell types can reveal significant differences. These markers can point to dramatically different ways that the tumor will respond to different types of treatment. In the new classification, 4-5 parameters are checked, according to which the tumor is classified. These parameters are extremely important for the diagnosis. For example, a tumor that was previously classified according to its morphology may have been assigned a low malignancy level, and there was no urgency in treating it because it wasn't certain whether it would be worthwhile. But today it is known that, with certain chromosomal configurations, a tumor becomes very aggressive and needs to be treated as soon as possible.





Innovation #2

Integrated Treatment

A study published in the New England Journal of Medicine in 2005 found that adding certain chemotherapy treatments during and after radiation treatments resulted in a significant lengthening of the patient's life span. That study, sponsored by the European Organisation for Research and Treatment of Cancer (EORTC), which Rambam took part in, also discovered a genetic marker that indicates a better outcome for the disease, regardless of the treatment administered. It was further found that, for individuals with this genetic marker, administering the combined radiation and chemotherapy regimen produced significantly better outcomes.

This study changed the approach to brain cancer treatment, and the combined therapy approach became standard. One of the most important insights from this study was that the genetic marker identified was only one of many which need to be identified and taken into account when determining a treatment strategy. It also led to a wave of new clinical studies in centers around the world, and an influx of new findings and insights. But, as is the case in many other disorders, an emerging resistance to the combined radiation/chemotherapy treatment approach began to reduce its effectiveness, and a new, biological drug was introduced and became part of the standard treatment plan.

Innovation #3

A Trojan Horse to the Brain

Another area of study aims to develop drugs that bind chemotherapy substances to an antibody that targets specific antigens on the tumor cells, and can bypass the blood-brain barrier – a kind of Trojan Horse mechanism into the brain. Once the antigen on the tumor is identified, then the antibody can carry the chemotherapy drug and insert it directly into the tumor cells, without affecting the surrounding cells.

Innovation #4

Immunological Drugs

New immunological drugs for brain tumors are also being tested in numerous studies, with the hope of achieving a significant breakthrough. While these type of drugs have been very successful in treating other types of cancer, such as melanoma, lung and kidney cancers, they have been less effective for brain tumors, because of the challenges in accessing the brain with the treatment.

Innovation #5

Utility of Viruses

Another line of research involves the use of viruses which are specially processed to penetrate tumor cells. Injected into the walls of the tumor, or after excision, at the tumor base, where tumor cells may remain, the viruses override the host cell's DNA. After that, an anti-viral treatment is administered. It is important to emphasize that this study has been underway for many years, without any breakthroughs affirming its viability.

Innovation #6

Navigating Systems for Tumor Excisions

In recent years, newly developed navigation and functional imaging technologies enable the precise location of a tumor and the parts of the brain responsible for different activities, highlighting the interdependent factors between the tumor and those parts of the brain. As the navigation capabilities become more precise, so does the capacity to plan the surgery without causing neurological damage to the patient. Throughout the world, brain surgery is being carried out with the patient awake, and where conversation with the patients during the operation helps to understand his condition, and to prevent damage if possible. At Rambam, we still aren't doing surgery of this type because it requires a very large surgery team.

Another way to accurately locate a tumor is by injecting ALA5, which bonds with tumor cells and makes them visible through a special imaging system.



Medical Consultant
Dr. Tzahala Tzuk-Shina
Director, Neuro-oncology
Unit
Rambam Health Care
Campus

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THE KIDNEY

GENETICS AND BEYOND

**JUNE
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The Rambam Award 2017 Ceremony

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- Professor Richard Horton, UK, Editor-in-Chief of The Lancet
- Ambassador Dennis B. Ross, USA
- Mr. Harvey and Mrs. Gloria Kaylie, USA



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Snapshots August 2016–February 2017



L-R Idan Turgeman, Yehuda Pessu, Prof. Ziv Gil, Avi Kakun, Oded Turgeman

A ceremony inaugurating a new, state-of-the-art surgical suite for the Head & Neck Surgery Department honored **Oded Turgeman, Yehuda Pessu and Avi Kakun**, with **Prof. Ziv Gil**, Head of the ENT Dept. and **Dr. Esty Golan**, Managing Director of International Relations and Chief of Strategic Development at Rambam. The new facility is unique in the world for its sophisticated “cockpit” and imaging systems, custom-designed for complex, precision head and neck surgeries.

August 2016



L-R: Dr. Stela Anberachi, Aliza Anberachi and Prof Ron Epelbaum

Haifa sisters **Stella and Aliza Anberachi** were honored in a ceremony at the Joseph Fishman Oncology Center for their donation of 30 recliners for the Baruch HersHKovitz Chemotherapy Outpatient Unit, in memory of their late sister **Sara**. At the ceremony were **Prof. Ron Epelbaum**, Director, and **Orna Keren**, Administrative Director, of the Joseph Fishman Oncology Center, **Dr. Esty Golan**, **Dr. Karen Drumea**, Director of the Oncology Day Care Unit, and Head Nurse **Naomi Kantorowitz Gabay**, among others.

August 2016



Hillel students with young patients at Ruth Rappaport Children's Hospital

University students from **Hillel of Silicon Valley**, visiting Rambam as part of their Multi-Narrative Israel Tour, engaged with young patients at the Ruth Rappaport Children's Hospital, visited the Sammy Ofer Fortified Underground Emergency Hospital, and spoke with **Dr. Foudeh**, a visiting physician from the Palestinian Authority, along with **Prof. Karl Skorecki**, Director of Medical and Research Development, on how to broaden the bridge for peace in medicine to other areas of humanity.

August 2016



L-R: Prof. Karl Skorecki, Dr. Esty Golan, Prof. Ron Epelbaum, Prof. Henri Zukier, Prof. Rafi Beyar

The **Zukier Family** was honored in a special ceremony at the Joseph Fishman Oncology Center, for their support of the **Jacob and Gitla Zukier Medical Fund Oncology Fellowship Program**. In a thoughtful and moving speech drawing from the Bible, Greek mythology, and the Rambam, Prof. Henri Zukier noted the need to heal both mind and spirit, and honored the “blessed combination of excellence, dedication and compassion” he has observed at Rambam.

October 2016



L-R: Ruthy Fisher, Relly Dibner, Brent Dibner, Dr. Esty Golan

Relly and Brent Dibner, long-time friends and esteemed supporters of Rambam, paid a Hannukah visit to Rambam, accompanied by Relly's sister, **Ruthy Fisher**. Welcomed at the Ruth Rappaport Children's Hospital, they saw the new equipment in the Pediatric Medical Imaging Unit purchased through their generous support, and visited the **Moni Wolfson Outpatient Clinic**, donated in honor of Relly and Ruthy's Father, in the **Joan and Sanford Weill Division of Pediatric Hematology and Oncology**.

December 2016



L-R: Dr. Esty Golan and Zipporah Goldstein

Zipporah Goldstein, founder of the **Leon and Zipporah Goldstein Foundation of Boca Raton FL**, came to Israel to celebrate her 80th birthday. On her agenda was a visit to Rambam with her family, to see the **Ruth Rappaport Children's Hospital** and the **Sammy Ofer Fortified Underground Emergency Hospital**, both supported by the family.

December 2016



L-R Inbar Shahaf, Sigal Amsalem, Prof Ron Epelbaum, Yesh Tikva Founders, Orna Keren

When **Basheer Mamrawi's** mother succumbed to cancer, the young medical student from Northern Israel, together with his friend **Alaa Sakran**, created "**Yesh Tikva**" (There is Hope), a grassroots initiative that mobilized individuals, schools and businesses in Arab communities. At an emotional ceremony, Sakran, Mamrawi, and his father were honored by Rambam for their outstanding initiative.

January 2017



L-R: Pnina Arazi's family members, Dr. Esty Golan and Prof. Myriam Ben Arush

After working as a nurse at Haifa hospitals for almost 50 years, **Pnina Arazi (z"l)** chose to leave her entire estate to the **Joan and Sanford Weill Division of Pediatric Hemato-Oncology** at **Ruth Rappaport Children's Hospital**. At a moving ceremony, family members joined **Prof. Myriam Ben Arush**, Director of the Pediatric Division, **Dr. Esty Golan**, and staff, to honor Nurse Arazi's vision and generosity.

January 2017



Snapshots August 2016–February 2017



L-R: Irene Kulish Gorodisch and her son Ricardo

Members of the Buenos Aires Jewish community were treated to an informative event on Rambam, organized by **Irene Kulish Gorodisch**. Among the honored guests were Rambam friends and supporters **Andy and Carolina Strauss**. Another event for 80 physicians was hosted by **Dr. Alfredo Misraji**, a longtime friend of Rambam, in Santiago, Chile. **Prof. Norberto Krivoy**, Director of the Clinical Pharmacy Institute at Rambam, treated the guests at both events to a fascinating insider's view of Rambam Health Care Campus.

August 2016



L-R: Eli, Ariella, Orelle and Fariba Maghen, Dr. Anat Ilivitzki, and Sari Katz Arshadnia

The Maghen family of Beverly Hills graciously opened their home for a dessert and discussion event with **Dr. Anat Ilivitzki**, Director of the Pediatric Radiology Unit at Ruth Rappaport Children's Hospital. At the event, **Orelle Maghen** was awarded a special certificate of appreciation in honor of her decision to support Rambam's Ruth Rappaport Children's Hospital as her Bat Mitzvah Tzedakah project.

September 2016



R-L: Swim Coach Bill Rosenberg, Levy Gerzberg, Nik Wolfson, Ilanit Yurman, Dennis Carr. Standing: Wendy & Jacob Tanz

Levy and Liora Gerzberg hosted Israeli triathlete and motivational speaker **Ilanit Yurman** at the JCC in Palo Alto, California. Many friends came to hear Ilanit's inspiring story of how she overcame a childhood disability to become a world-renowned athlete and an advocate for children's causes. Ilanit is excited to participate again in this year's 'Swim from the Heart' event in Haifa to help prevent Sudden Cardiac Death in children and young adults.

October 2016



Endtime Ministries delegation at the Ruth Rappaport Children's Hospital

Pastor Irvin Baxter, President and Founder of **Endtime Ministries**, brought 50 delegates from all over the USA to visit Rambam on his bi-annual pilgrimage to Israel. The group was greeted by **Dr. Avi Weissman**, Director of Medical Operations and heard of the complex construction and implementation of the Sammy Ofer Fortified Underground Emergency Hospital, which the Endtime Ministries has avidly supported.

November 2016



L-R: Marjorie Epstein Aloni, Prof. Beyar, Jerry Libbin and Prof. Gepstein

Rambam's Director and CEO, Prof. Rafi Beyar, and Director of the Cardiology Dept., Prof. Lior Gepstein, received a warm welcome in Florida. They were hosted by Dr. Harold Landa at the Boca Raton Synagogue and in Hollywood by Adriana Essenfeld of BrightStar Care. They were also hosted by Jerry Libbin, President and CEO of the Miami Beach Chamber of Commerce, and gave two interesting Shabbat talks at Temple Menorah, hosted by Rabbi Eliot H. Pearlson.

November 2016



L-R: Herta Amir, Dr. Esty Golan, Paul Amir

Herta and Paul Amir hosted Dr. Esty Golan and Sari Katz-Arshadnia, AFORAM's West Coast Director, at their beautiful Beverly Hills home. Dr. Golan updated the Amir's on the progress of the Herta and Paul Amir Neurosurgical ICU, now under construction.

November 2016



L-R: Gabriella Alexander-Passe, Samantha Rose, Anita Alexander-Passe and Sophia Alexander-Passe

Anita Alexander-Passe, Director of the British Friends of Rambam Medical Center, organized a benefit sale of toys on behalf of Rambam Hospital. The funds were raised to benefit the acoustic room in the Ear Nose and Throat Department.

December 2016



L-R: Katia Berros, Dr. Edmundo Berros Elbaz, Dr. Robert Stern, Viorica Rivka Stern, Coty Bendahan

Dr. Robert Stern, President of Spanish Friends of Rambam spoke about Rambam during an interview on Spanish TV with **Dr. Edmundo Berros Elbaz**, the new Vice President of the Friends of Rambam, his wife **Katia Berros**, and **Rabanit Coty Bendahan**, wife of Spain's **Chief Rabbi Moshe Bendahan**. The program was hosted by **Gema Ruth Lazovsky** of Spain's Shalom broadcasting channel.

February 2017



Rambam International Relations

Rambam Honors its Visitors from Around the World



Visit by Marc Kross,
USA
July 2016



Visit by June Diamant,
USA
July 2016



Visit by Emory
Medical University
Delegation, USA
July 2016



Visit by Minister of
Religious Affairs of
Israel, Israel
July 2016



Visit by the Hochberg
Family, USA
July 2016



Visit by the Israel
Export and
International
Corporation Institute, China, Israel
July 2016



Visit by JDC Eshel,
Israel
July 2016



Visit by Golnspire
Group, USA
August 2016



Visit by Gary Jacobs,
USA
August 2016



Visit by Noa Shemer,
USA
August 2016



Visit by Israel
Experience Student
Delegation, Russia
August 2016



Visit by Thai Embassy
Doctors Delegation,
Thailand
August 2016



Visit by Sheryl
Blechler of the
Atlanta Jewish
Federation, and the Moses' from
Australia
September 2016



Visit by Shanghai
Education Municipal
Delegation, China
September 2016



Visit by Ming VC China,
September 2016



Visit by Lonza Group,
Switzerland
September 2016



Visit by Hispanic
Journalists,
USA, Mexico
September 2016



Visit by AONE
- American
Organization of
Nurse Executives, USA
September 2016



Visit by Professors
Ilana and Peter
Crome, UK
September 2016



Visit by Major General
Jau Shankner Menon,
Syrian Division, UN
Forces, UN Forces
September 2016



Visit by Helmsley
Charitable Trust, USA
September 2016



Visit by Pax
Medicalis
Delegation,
France, Italy, Morocco
September 2016



Visit by Lucille
and Sidney
Cohen with
John Booth, UK, Israel
September 2016



Visit by Arnold and
Dora Boom, USA
October 2016



Visit by French Attache
for Health Education,
France
October 2016



Visit by Mr. and
Mrs. Grinberg from
Morgan Stanley,
Miami, USA
October 2016



Visit by Russian
Endocrinology
Delegation, Russia
October 2016



Visit by delegation of French government officials led by the French Attache for Health Education, France

November 2016



Visit by the Honorable Ambassador Esteban Alfonso Penrod Padilla of Costa Rica

November 2016



Visit by Czech HealthCare delegation, Czech Republic

November 2016



Visit by Jon Branner, Norway

November 2016



Visit by Sayfer Family, USA

November 2016



Visit by IDF International Army Mission, Netherlands, Germany, USA, Chile, Canada, China

November 2016



Visit by Linda Small of the George Lopez Foundation, USA

November 2016



Visit by Connex Israel Business Expedition, USA

November 2016



Visit by Sandy and James (Jim) Danto, USA

November 2016



Visit by Chinese delegation, International Conference on Innovations, China

November 2016



Visit by Donna Lutrell of Puerto Rico, USA

November 2016



Visit by Bob Glaze and Larry Spargimino of Southwest Radio Ministries, USA

November 2016



Visit by Reali High School students, Israel

December 2016



Visit by Chinese delegation, International Conference on Innovations, China

December 2016



Visit by Boston Jewish Community Relations Council, USA

December 2016



Visit by delegation from Sri Lanka

December 2016



Visit by InSightec guests from China, Israel

December 2016



Visit by Prof. Elizabeth Nabel, CEO, Brigham Women's Hospital, USA

December 2016



Visit by Insightec guests from Thailand

October 2016



Visit by Rector Ole Peter Otterson - University of Oslo, Norway

December 2016



Visit by Manor Medical Center Delegation, Russia

December 2016



Visit by Birthright Group, USA

December 2016



Visit by Linda and Elliot Ingerman, USA

December 2016



Visit by Golnpsire Youth Group, USA

December 2016



Visit by Hollywood actors with NCSM, USA

December 2016



Friends of Rambam in Spain host high-profile diplomatic guests, Spain

December 2016



Building a Strong and Healthy Israel



Ruth and Sandor Frankel

As one of the key trustees of the Leona M. and Harry B. Helmsley Charitable Trust, Mr. Sandor Frankel has spearheaded an ambitious philanthropic mission to improve the quality of health care, education and other fields in Israel. With its focus on ensuring the wellbeing and security of the citizens of Northern Israel, Rambam has been one of the greatest beneficiaries of this mission.

The partnership between the Helmsley Charitable Trust and Rambam has grown and flourished under Mr. Frankel's leadership. A major gift from the Helmsley Charitable Trust enabled the purchase of essential equipment for the Sammy Ofer Fortified Underground Emergency Hospital.

Staunch supporters of Israel, Sandor Frankel and his wife Ruth are warmly embraced within the Rambam family. In honor of his deep commitment, on behalf of the Helmsley Charitable Trust, to strengthening the scientific, technological and medical capabilities of Israel in general, and Rambam in particular, Sandor Frankel and the Helmsley Charitable Trust were bestowed the 2016 Rambam Award.



Dozens of high-level surgeons from over 22 countries watched on live TV as surgeons from Rambam's Maxillofacial Surgery Department performed complex endoscopic surgery of the salivary glands. The live broadcast was part of a session on endoscopic surgery, presented at an international conference in Geneva, Switzerland. This minimally invasive technique offers better outcomes without the need for major surgery, as in the past.



Prof. Marc Eidelman, Director of the Pediatric Orthopedics Department at Ruth Rappaport Children's Hospital, was one of the lead faculty in a deformity and external fixation course for local surgeons at the CoRSU Rehabilitation Hospital in Campala, Uganda. The team operated on the most difficult cases, most of them children and adolescents, giving them a new chance for normal life. Prof. Eidelman joined his mentor, **Prof. John Herzenberg** of Baltimore's Rubin Institute for Advanced Orthopedics, on this humanitarian mission.



Dr. Ariel Neiman, an intern in Rambam's Plastic and Reconstructive Surgery Department, joined Doctors Without Borders on a mission to operate on dozens of extreme cases in East-Uganda. Over 10 days, working 12 hour, non-stop shifts, the team performed 60 corrective surgeries on infants, children, youth and adults, for cleft palate, scar repair, burns, congenital deformities, and many more conditions that local services were unable to remedy.



L-R: Ian Leventhal, Ron Riesenbach, Ron Kalifer, Lindy Green and Ellen Fialkov

Celebrating Canadian and Israeli Innovation

"Innovating Together - Baycrest and Rambam", was the theme of a cocktail event hosted by Canadian Friends of Rambam and its Director, David Green, along with Daphne Wagner and Lindy Green, at the Al Green Art Gallery in Toronto. Ron Riesenbach, VP of Innovation and CTO at Baycrest Health Sciences, and Dr. Michael Halberthal, Assoc. Director of Rambam, spoke about new developments in healthcare for the aging population, as a prelude to potential collaboration between the two institutions.

December 2016



L-R: Prof. Rafi Beyar, Dr. Esty Golan and Rick Hirschhaut

A New Director for AFORAM

Rambam extends a warm welcome to Richard (Rick) S. Hirschhaut, who joined us in February as the new National Executive Director of American Friends of Rambam (AFORAM).

As the leader of Rambam's largest overseas support organization, Rick will be focusing AFORAM's efforts upon building greater awareness and support for Rambam across North America. In his own words: "I am truly excited and deeply committed to enlisting many more people of goodwill in our life-transforming work that is benefitting Israel and all of humanity." Rick earned a B.A. in International Relations and Judaic Studies from Tulane University and also studied at the Hebrew University of Jerusalem. He lives in New York with his wife Susan and their two children.

February 2017

AFORAM Gala Celebrates Cardiology Innovation and Rambam's Future Cardiovascular Hospital



Biological pacemakers and heart attack repair kits made of stem cells. These were among the transformational innovations presented by Prof. Rafi Beyar, Rambam's Director and CEO, to a rapt audience of distinguished guests at AFORAM's Annual Gala Dinner last December. Held in New York City, the Gala was a benefit for Rambam's new Cardiovascular Hospital, and was organized down to the smallest detail by Meri Barer, Gala Co-Chair and a member of AFORAM's Executive Committee, Co-Chair Carol Schwartz, and the AFORAM team.

Devoted AFORAM supporters Edna and Jonathan Sohnis and Tatyana and Alan Forman were the special guests of honor, with their longtime support for Rambam highlighted in a special film screened at the event.

A silent auction, including tickets to a NY Knicks basketball game and a guitar autographed by Bruce Springsteen, were among the unique items bid upon to benefit the Cardiovascular Hospital.



American Friends of Rambam Medical Center

www.aforam.org
info@aforam.org
Tel: (212) 292-4499

Canadian Friends of Rambam Medical Centre

www.cfram.ca
info@cfram.ca
Tel: (416) 481-5552

British Friends of Rambam Medical Centre

www.rambamuk.co.uk
anita@rambamuk.co.uk
Tel: (208) 371-1500

Spanish Friends of Rambam Medical Center

www.amigosderambam.org
info@amigosderambam.org
Tel: (609) 580-268

French Friends of Rambam Medical Center

joelleabitbol16@gmail.com
www.amisfrancaisrambam.asso-web.com
Tel: 07 82 53 71 10

Friends of Rambam in India

ralphy44@gmail.com
Tel: 91 9819864340

Israeli Friends of Rambam Medical Center

www.rambam.org.il
y_aguda@rambam.health.gov.il
Tel: (04) 852-0670

Israel Main Office & All Other Countries

www.rambam.org.il
ContactUs@rambam.health.gov.il
Tel: +972 (4) 777-2919



JUNE
2
2017

SWIM FROM THE HEART

Join hundreds of swimmers from Israel and around the world in the Second International Swim from the Heart meet in Haifa, Israel on Friday, June 2, 2017.

Swim from the Heart was established to raise awareness and critical research funds to predict and prevent sudden cardiac death (SCD) in children and young adults—a major cause of natural death worldwide. Inspired by open-water swimmers in Northern California and Israel, participants will give of their strength, passion, and resources to swim in one of four heats in the Haifa Bay—all in support of SCD research at Rambam.



DONATE FROM YOUR HEART TO
PREVENT SUDDEN CARDIAC DEATH



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