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Rambamcall

MEDICAL ETHICS

A person who seeks medical care hopes for and expects intelligent, compassionate and ethical problem-solving skills from the physician. This expectation is grounded in the elevated behavioral norms to which physicians have held themselves going back in history at least as far as the Hippocratic Oath.

The spiritually and psychologically wide-ranging 12th or 18th century CE Prayer of Maimonides historians dispute the date and authorship revised and expanded upon that ancient oath.

In the wake of the gross perversion of medicine practiced by Nazi-German physicians and scientists, the international community produced a flurry of documents re-codifying the norms of civilized behavior: the Nuremberg Code of Ethics on Medical Research (1946), the UN Declaration of Human Rights (1948), the UN Declaration of the Rights of the Child (1959), and two World Medical Association (WMA) edicts - the International Code of Medical Ethics (1949), which is broadly concerned with the duties of clinicians toward patients and colleagues, and the 1964 Declaration of Helsinki (revised 2008), which regulates biomedical research involving human subjects. ▶ cont. p8

GREETINGS FROM PROF. RAFAEL BEYAR



Dear Friends of Rambam,

Our dynamic healthcare campus continues to shape-shift before our eyes as we make progress toward realizing our Vision of Adam master development plan. Most visible - and audible - are the renovations of existing facilities and the construction work on the site intended for our new West Campus hospital

complex (related story, p7). Less obvious but as significant is the ongoing recruitment to our hospital staff of gifted physicians and innovative researchers (related stories, p4).

Most recently, the State of Israel's Supreme Hospitalization Authority (SHA), which includes representatives of the Ministry of Health, the Home Front Command of the Israel Defense Forces (IDF), and other officials responsible for national emergency and disaster preparedness, has requested that our planned underground facility serve as the county's Northern Regional Underground Emergency Hospital and that its bed capacity be revised to meet the needs of Haifa and the surrounding neighborhoods.



Pictured at Rambam are, L to R, quest surgeon Dr. Mark La Meir, Department of Cardiothoracic Surgery at Academic Hospital, Maastricht, the Netherlands; Dr. Avishai Ziser, Director of the Cardiothoracic Anesthesia Unit, RHCC; and Dr. Gil Bolotin, Director of the Department of Cardiac Surgery, RHCC. Related story p4, top left.

PORTRAITS OF COURAGE

"It's like an iceberg," N, the patient, says and adds grimly, "and iceberg doesn't even begin to describe it."

"It's like jammed cogwheels," says Prof. Menashe Zaaroor, Director of the Department of Neurosurgery, manipulating the patient's wrist to demonstrate the tock-tock-tock of shackled motion.

Each seeks a metaphor to describe the rigidity that Parkinson's disease imposes on normally fluent body movements.

In March, they met in the OR at Rambam determined to restore to N relatively normal physical movement and freedom from high doses of Parkinsonian medications and their side effects.

In the midst of so much change, the constant at Rambam is our commitment to saving and healing lives. Please join me in congratulating bride and groom Avital and Asael Lubotzky (pictured L, below, in June 2009) and Senior Orthopedic Surgeon Dr. Alexander Lerner (pictured below, dancing with the groom). During the Second Lebanon War of Summer 2006, Lieut. Lubotzky was airlifted to us at Rambam in critical condition, having sustained grave leg injuries in the Battle of Bint Jubayl. Dr. Lerner insisted that the young man's legs could be saved and attended Lieut. Lubotzky through twenty orthopedic and cosmetic surgeries.

This would be achieved by bilaterally implanting two leads consisting of four cylindrical electrodes apiece in the subthalamic nucleus of N's brain and two battery operated neurostimulators in N's chest, and connecting each neurostimulator to its lead by running two subcutaneous, insulated extension wires up N's nape, behind his ears and into his brain.

The therapy is called Deep Brain Stimulation (DBS) and is bilateral because the brain's left side influences the body's right side and vice versa.

DBS is tough on a patient for numerous reasons: it calls for two surgeries within a week of each other the first to implant the leads, and the second to implant the neurostimulators and extensions; the



PROFILE: PROFESSOR AARON CIECHANOVER

CHAIR, SCIENTIFIC ADVISORY BOARD **RAMBAM HEALTH CARE CAMPUS** Laureate, the 2004 Nobel Prize in Chemistry Cancer and Vascular Biology Research Center



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"With great excitement and emotion, I stood at Asael's wedding and watched him stand on his own two legs under the chuppah, break the glass on his very first try and dance with his family and friends and even with me – the joy was great." Dr. Alexander Lerner

In these pages, we are pleased to share with you many such stories of courage and optimism on the part of patients and caregivers.

Rappaport Faculty of Medicine & Research Institute Technion-Israel Institute of Technology

He wheels forward a bright-red, wooden school bus the approximate size of a Kleenex box, which is parked on his desk beside a filing tray. "Think of how simple and expressive is this toy hand-made by a carpenter that works in a market in Holland; he wrapped it for me in a newspaper." He lifts off the lid to reveal parallel rows of children with painted blocks for bodies and smoothly carved knobs for heads, each schoolchild nestled into place like an egg individually coddled in the carton – lifts out one doll, holds it, then replaces it gently and closes the lid: "I want to play a little bit and I take one kid and play with it. Here, we use virtuality to help our imagination; there are things that we need to see and touch in order to imagine how more complex things work. In science we use frequently the opposite approach – we use our imagination to track reality down. The bus has a role in this wonderful cycle."



PROFILE: PROFESSOR AARON CIECHANOVER

CONTINUED FROM P1



rofessor Aaron Ciechanover stands in the center of his small office playing catch with a Super FlipOut, a three-dimensional skeleton ball of metallic green, blue and gold plastic that expands each time he tosses it toward the ceiling, contracts as he grabs it during its fall, and changes surfaces and colors with every flight.

"I bought it on the Internet," he says. "It is a sophisticated toy that looks like a virus. I'm searching the Internet for such toys and am a frequent visitor to toy stores."

The office is tucked into a corner of his modern laboratory in the Cancer Center, high up in the Technion's Rappaport Faculty of Medicine building on the Rambam campus, and is crammed with toys, pictures and other tidily displayed treasures.

Who dusts this stuff?

"From time to time, I do. [These things] are all precious in the sense that they come from all over the world, from places I have visited, and each holds meaning for me," he replies.

There are five ceramic cows, "all from Chicago, all replicas of the [civic] Chicago cows, and I have another sixteen to twenty of them at home," he says. "It started with the Chicago cows; Berlin has bears, Jerusalem has lions, now Haifa has [civic] dinosaurs."

A small tray offers plastic sushi of exquisite verisimilitude such as Japanese restaurants display in their windows in lieu of menus; across the room, a wall chart from the Edogen Restaurant in Tsukiji, Tokyo's fish market, lists their varieties. "[The Japanese] have a culture of food very different from the culture of food here," he comments, taking obvious pleasure in naming the kinds of sushi: anago, ebi, tamago, ikura, uni and toro.

And clocks. "You see? This one tells the time counterclockwise, and that one" – he indicates a handsome cabinet of dark wood containing mechanical innards exposed behind glass – "is an electromagnetic clock for workers to punch their [time] cards.

"Time is a very elusive concept," he muses, "a philosophical question that many have discussed for centuries and have written about. What is time? Is it something that we have invented in order to be on time? If there were no clocks, would there be time? Are we progressing? Is it about aging, is it birthdays, days and nights, what is time?! I've always been fascinated by time, [and] clocks are a superficial expression of my fascination."

Most obvious among these many treasures, however, are the tens of miniature vehicles expertly parked atop metal cabinets. They are toy automobiles mostly, but also include two New York Checker Cabs, a double-decker London bus, a sleek Japanese bullet train, model airplanes, and a Sun Star 1/48th-scale Apollo Lunar Excursion Model.

"Each is either from a place that I have visited or something that I have experienced," the Professor says, and gestures toward a white VW Bug. "The Beetle was my first car; I had one from 1972 to 1978. Oh, yes, the Bug was also very popular in Israel! And look here: an old cable car from Lisbon; a wooden model of a *tuk-tuk*, a motorized rickshaw, from Thailand; a Volvo from a Swedish reporter who interviewed me after the Nobel Prize was announced. He saw my collection and gave me a gift – a mid-50s Volvo. He pointed out that in many Nobelists he found childlike characteristics expressed in various ways. t is late December 2008, and Professor Ciechanover, 61, has just returned from a brief trip to Kobe, Japan, where he lectured to a joint meeting of the Japanese Societies for Molecular Biology and Biochemistry, and Sydney, Australia, where he was awarded an Honorary Doctorate from the University of New South Wales and met with leaders of the Jewish community there, discussing with them the apparently paradoxical subject of how to carry out high quality research in a small country still fighting for its existence.

On this cold Haifa morning, he wears a charcoalgray cardigan, a checked cotton shirt in citrus hues, faded blue jeans, white gym socks, and navy-blue Crocs (powdered with a layer of dust, presumably from the major excavation of land currently underway at Rambam directly outside the building).

A wavy current of graying hair flows over the top of his head and tumbles down his brow, further suggesting a boyish aspect to this large man with the weathered face, slow-paced voice, and dark, profound eyes. One might mistake him for an outdoorsman if not for the delicate white skin of those large and animated hands.

"No, I'm not at all in love with cars in my real life," he replies to a question. "I like toys because they are very sophisticated. They don't have to have all the details. Adults think that toys are too simple, but they are not, they are a wonderful reflection of real life, and the simpler the toys, the better. They are like abstract art, where one has to imagine reality, building it from sparse details. Toys are an ingenious invention that uses brain plasticity in children for the development of their imagination.

"You see? This is a Swedish crane –"

Rambam Call

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"Look!" he says again, drawing attention to a model railway: "Thomas cars for kids! It's one of the most famous toys for kids. I bought them at *Toys" R" Us*[®]. I love them because they are very simple and flexible. You can build stations, add trees, a water tower, construct a rich world." He detaches one section of the graceful track and lifts a passenger car, a tanker, and a coal car, emphasizing how simple they are – probably to allow children to use their imaginations to close the gap between their toys and reality, he says. "The cars are connected by magnetic knobs and run on wooden tracks," he demonstrates. "I like to touch them, to take them to my desk.

"Look!" his deep voice resonates, "a big model, a true Vespa. And a Tonka Truck. [As an adult,] I bought my two beloved toys that I had when I was a kid – a Tonka Truck and a Tonka Bulldozer. They're very durable. I love them."

He plucks a tall, bright-yellow model from where it towers above the toy cars and brings it to his desk. "It's very basic, but it's real, you can really play with it," he says, placing the clear cap of a pen into the crane's lift basket, raising the basket by a slender rope-pulley, and using a crank to further raise the jib. "I bought it in Stockholm, and one can clearly see how very simple yet greatly sophisticated it is.

"I am an avid collector of junk," he concludes, "and this is nothing compared to what I have at home. This office is a small mirror image of what I have at home and represents my loves and the personal stations in my life – in my career and around the globe. Each item elicits a memory. Look, down there inside the cabinet under those papers: that's a rotor on an ultracentrifuge from my graduate-student days in the laboratory, thirty years ago. In this rotor I prepared the cell extracts in which we later discovered the ubiquitin system."

PROFILE continued at www.rambam.org.il »

PORTRAITS OF COURAGE

CONTINUED FROM P1

DBS AT RAMBAM

DBS therapy to correct movement disorders was pioneered by French neurosurgeon Prof. Alim-Louis Benabid in 1987 and has been available to the medical community for about a decade, says Prof. David Yarnitsky, Head of the Department of Neurology at Rambam. It was introduced in Israel six years ago, and because of its expense, performed for the first time at our medical center only in 2008. Since then, neurosurgeon Prof. Menashe Zaaroor and his team have performed the procedure at Rambam more than half a dozen times. With 15,000 PD patients in Israel, Rambam's therapeutic goal is to perform two DBS procedures a month.

medications that have been controlling the patient's symptoms must be withdrawn for several days prior to the first operation; this first surgery is performed under only local anesthesia as the patient must remain awake in order to communicate and cooperate with the medical team; and, of course, the organ to be penetrated is the body's control center and home of the mind, the personality and, some would say, the soul.

FUSION

On the morning of the first surgery, *N* displays stoic courage as Prof. Zaaroor injects local anesthesia into his scalp, fits a metal *stereotactic* helmet or frame to his head and screws it tightly in place, and sends him for a pre-op CT scan to complement the MRI scan undergone the day before.

MRI imaging yields a very accurate picture of brain tissue; this is the image with which most laypeople are familiar, in which the brain appears as a walnut sliced in half [*Fig. 1*]. CT imaging yields a spatially accurate cross-section of the brain and skull [*Fig. 2*]. When fused by means of software, MRI and CT images can be precisely superimposed upon one another to yield a hybrid, virtual-reality, 3-D view of the brain's anatomy [*Fig. 3*].

The helmet worn for pre-op scans and during surgery includes nine radio-opaque rods that parallel the brain's midline and baseline and appear on the resulting images as extra-cranial points of reference. The leads must bypass blood vessels; the neurosurgeon will use these reference points and the other visual and mathematical data yielded by the scans to plot within a 0.2 mm margin of error each lead's trajectory on its careful journey through the brain. displaying the same Zen focus that has characterized his plotting of surgical coordinates and trajectories in his office – uses a compass and marker to draw on this surface a small circle and a central dot.

He makes a horseshoe-shaped cut in the patient's scalp with his knife, pries open and clamps back a tiny flap of scalp to expose a small area of skull bone, and cauterizes the surrounding blood vessels.

He gives *N* a roll of gauze and instructs him to grip it between his teeth to protect them from drill vibrations.

"We are drilling near the *coronal suture*," he announces, and Monitoring Neurophysiologist Dr. Alon Sinai picks up the narrative: "He's already on the *cortex*; there is the *dura* with lots of blood vessels; now we're in the area that he wants to enter."

If you have ever had a mere tooth drilled, you can imagine the sound, but that part is over quickly and, similar to what occurs in the dentist's office, Dr. Constantinescu places a suction tip near the wound and draws off excess blood.

The result is a neatly drilled hole, 14 mm in diameter, in the left side of *N*'s skull. Just below the rim, a miniature pond of blood pulsates in time with the vital-signs monitor's calm and rhythmic beeping.



Images courtesy of Monitoring Neurophysiologist Alon Sinai, PhD, Department of Neurosurgery, RHCC.

HIDE AND SEEK

calibration for the lead in order to gain the maximal benefit and avoid the side effects that can be caused by overstimulating or understimulating the brain area responsible for motor function and Parkinsonian symptoms.

Having positioned herself at the right side of *N*'s body, Dr. Schlesinger manipulates the patient's wrist, brings his knee up toward his chest, asks him to flex his fingers, and checks for double vision. Meanwhile, Dr. Sinai uses a mouse device to guide the electrode deeper into the patient's brain along its predetermined trajectory while experimenting with the voltage and monitoring the jagged lines (representing brain-wave activity) that appear across his console screen.

THE MUSIC OF THE SPHERES

The OR has been fairly noisy with conversations. Suddenly, Prof. Zaaroor commands silence.

The earth possesses any number of eerie sounds that lend themselves to aided or unaided human hearing and understanding yet at their core remain profoundly mysterious: steady rain penetrating sleep, perhaps, or the high-pitched cry of dolphins. In the OR's abrupt silence, Dr. Sinai is listening intently to what uninitiated ears might identify as *white noise* and then crackling – as if the popcorn you have been waiting for has suddenly started to pop.

He is listening to the electrical activity of single brain neurons.

The eerie cracklings that rise above the audio recording's general static, and the peaks that rise above the graphic recording's lesser crests, signal a surge of electrical current (called a *spike* or *action potential*) in neurons. It is in particular the pattern of spikes, which helps to identify various brain structures, for which Dr. Sinai is looking and listening.

CODA

The graphic and audio data has provided the medical team with a wealth of information to help them decide where to locate the first lead. Prof. Zaaroor fishes out the microelectrode by its cable, inserts the lead at the ideal depth determined by Dr. Schlesinger in consultation with Dr. Sinai, and nimbly closes the incision.

The medical team turns to their next task of this long day – penetrating the right side of the patient's brain and freeing the left side of his body. \bullet

PD 101

In his office prior to performing the first surgery, Prof. Zaaroor closely studies images of *N*'s brain anatomy labeled *Coronal* (back to front sections), *Sagittal* (left to right sections), *Axial* (bottom to top sections), and *Probe's Eye*. The Latin-derived names are beautiful, and so are the whorls and convolutions bared by MRI, the finely sliced axial views like slivers of tropical fruit, and the Probe's-Eye images evoking the iridescent inside of an abalone shell or a geode.

THE ZEN OF NEUROSURGERY

Prof. Zaaroor and Senior Neurosurgeon Dr. Marius Constantinescu billow in their surgical gowns as they step forward into the sacred, sterile space directly behind the patient.

"I'm cleaning your head now," Prof. Zaaroor says, swabbing antiseptic on *N*'s shaved scalp. He smoothes thin plastic over the area and –

Prof. Zaaroor has affixed a microelectrode-tipped metal cable to the patient's helmet; by means of the cable, he guides this temporary electrode through the hole in the patient's skull to a depth of 25 mm above the target area where he will eventually implant the first lead.

He then connects the cable's free end to a console that will graphically record and aurally amplify the brain's electrical activity. Now it is the turn of Dr. Sinai and Senior Neurologist Dr. Ilana Schlesinger, Head of the Movement Disorders and Parkinson's Center at Rambam.

In Israel's tiny corner of the Middle East, veiled faces are rarely seen, but in the OR, where everyone but the patient wears a surgical mask and cap, the communicative power of the eyes becomes enhanced. The Senior Neurologist and Monitoring Neurophysiologist make eye contact across the space that divides them as they work in sync to identify the ideal depth location and The central nervous system is comprised of approximately one hundred billion neurons (nerve cells), whose job is to send and receive electrical messages throughout the body. Neurotransmitters are naturally produced chemicals that send messages from a neuron to a neuron or other cell. In neurodegenerative diseases, some neurons die or are damaged and, as a result, some body functions are impaired because messages are not sent or received. The incapacitating symptoms of the neurodegenerative disease Parkinson's (PD) are caused by a loss of specific populations of neurons that produce dopamine, a neurotransmitter associated mainly with motor-function control; this loss results in a dopamine deficit in the brain.

HEART AND SOUL- AND BRAIN!

ADVANCED HYBRID SURGICAL ANSWER TO HEART ARRHYTHMIA

In March, Rambam became the second medical center in the world to use a new, advanced hybrid surgical procedure to treat atrial fibrillation (irregular heart rhythm), a common disorder affecting 80,000 Israelis, the majority of them elderly.

P4

The ailment makes it difficult to carry out such everyday physical tasks as climbing stairs, and is a risk factor for stroke due to blood clots formed in the heart that travel to the brain.

Throughout the world, only nine such procedures had been performed to date, all in the Netherlands; the tenth took place here in Israel, at Rambam.

> The conventional treatment for atrial fibrillation has been to administer blooddiluting medications or to perform two separate procedures – which, however, carry a 30-50% failure rate: a catheterization for internal *ablation* and, if failed, open surgical ablation.

The new, two-in-one procedure marries catheterization to surgical ablation. The cardiothoracic surgeon inserts a miniature thoracoscopic video camera into the patient's chest and performs an ablation around the left atrium of the heart by means of a specialized probe. Immediately afterwards, the electrophysiologist performs an advanced internal heart scan to locate the ablation line created by the surgery and identify any point or points requiring further internal ablation. Benefits include not only an anticipated 90% success rate but also less catheterization time and thus a 75% reduction of patient exposure to radiation.

Members of the Rambam team included Dr. Gil Bolotin, Director of the Department of Cardiac Surgery at Rambam; Senior Cardiologist Dr. Boulos Monther, Director of the Electrophysiology Unit; Senior Anesthesiologist Dr. Avishai Ziser, Director of the Cardiothoracic Anesthesia Unit; and guest surgeon Dr. Mark La Meir, Department of Cardiothoracic Surgery at Academic Hospital, Maastricht, the Netherlands. • INNOVATIVE METHOD CONFIRMS VASCULAR GRAFT INFECTION

A team of Rambam clinician-researchers has applied PET/CT hybrid-imaging technology to the precise diagnosis of vascular graft infection.

Infected vascular grafts have to be removed by major surgery that carries a high morbidity and mortality risk, and therefore precise diagnosis is of utmost clinical significance in order to prevent life-threatening complications. However, up until now, vascular graft infections have presented a diagnostic challenge to physicians using the standard-procedure armamentarium.

The innovation, developed and assessed for the first time at Rambam, calls for performing a combined PET/CT scan after having injected the patient with FDG, a glucose analog drawn to highly metabolic activity such as infection. This combined technique provides precise diagnosis of both the presence of infection and the involvement of the vascular graft.

The Rambam team that conducted this novel research project with important clinical applications was led by Dr. Zohar Keidar, Deputy Director, Department of Nuclear Medicine. It included the Director of the Department of Medical Imaging, Dr. Ahuva Engel, and the Director and Deputy Director respectively of the Department of Vascular Surgery and Transplantation, Prof. Aaron Hoffman and Dr. Samy Nitecki.

Dr. Nitecki is also Director of the Peripheral Vascular Surgery Unit. In November 2008, he traveled to New York City to present the team's findings to the 35th Annual VEITH Symposium, the world's largest vascular convention. •

The new method represents the most recent patient-oriented application for PET/CT technology and, fittingly, builds on the R&D success of the team of RHCC-based clinical scientists and physicists in the Department of Nuclear Medicine at Rambam. A decade ago, the team at Rambam partnered with industry based engineers to evaluate a first of its kind PET/CT device, which is now in use by most major imaging departments around the globe.

CLOT BUSTERS

- In Israel, a stroke occurs every 35 minutes, and 15,000 people are afflicted annually
- 77% of stroke patients, failing to recognize their symptoms, arrive at the hospital over three hours after the stroke process has begun
- 85% of strokes are *ischemic* and occur when a clot, generated locally or in the heart or other blood vessels and traveling with the bloodstream, interrupts blood flow to the brain

nvasive neuroradiologist Dr. Yaaqov Amsalem, member of an exclusive club comprised of four specialists nationwide that perform intraarterial brain catheterizations, joined Rambam's medical staff in December 2008 and immediately went to work in collaboration with Senior Neurologist Dr. Gregory Telman. Dr. Amsalem's field of expertise uses catheterization to treat medium to severe cases of *ischemic* stroke.

Strokes cause an oxygen deficiency in the brain and initiate a rapidly expanding process of brain tissue death; clinically, impaired speech and paralyzed limbs are among the most common neurological symptoms. Recent studies have shown that in cases of ischemic stroke, the damage can be limited by injecting a clot-melting substance called a *tissue plasminogen activator* (*tPA*) into the brain. The method is applicable for up to three hours after stroke onset, but in Israel, only 1.3% of ischemic stroke patients recognize their symptoms and reach the hospital within this time frame.

Intra-arterial brain catheterization broadens the window of opportunity for medical intervention to eight hours maximum after stroke onset - time for physicians to intervene by dissolving or urgently extracting the clot.

HOW IT WORKS

The medical term for clot busting is

thinner catheter is channeled through the first and reaches into the brain as far as the clot, enabling the neuroradiologist to inject intra-arterial *tPA* locally and directly. The window of opportunity for this treatment is six hours after stroke onset.

If intravenous injection fails to solve the problem, or if the patient has arrived at the hospital between 3-8 hours after stroke onset, the invasive neuroradiologist uses diagnostic catheterization to map the clot's location and size and then inserts one of two tiny devices through the smaller catheter: the corkscrewshaped *MERCI* (*Mechanical Embolus Removal in Cerebral Ischemia*) device, which unscrews the clot, or the butterfly net-shaped *CATCH*

- 15% of strokes are *hemorrhagic* and occur when blood leaks through a ruptured vessel into surrounding brain tissue
- Strokes are the 3rd highest cause of death nationally and globally

thromboembolectomy: (Gk, thrombos, lump) + (Gk, embolos, plug) + (Gk, ektomia, a cutting out of).

In the new method, a catheter is inserted into a groin artery and pushed up to the neck; a second, which grabs the clot and pulls it out.

Dr. Amsalem says that about 30% of ischemic stroke patients qualify for this invasive treatment, and estimates that dozens of patients in Northern Israel will benefit annually.



L to R: Colleagues Dr. Yaaqov Amsalem and Dr. Gregory Telman.

Nous disons **MERCI**



Leave it to a native Frenchman, Prof. Y. Pierre Gobin, currently Director of Interventional Neuroradiology at the New York-Presbyterian Hospital/Weill Cornell Medical Center, to invent a lifesaving medical device shaped like a gadget to uncork fine wine.

ONCOLOGY INSTITUTE AN ALL-TERRAIN VEHICLE

At the initiative of Prof. Abraham Kuten, Director, the Oncology Institute at Rambam provides continuous advanced training for staff oncologists and incubates compassionate-care projects with hospital-wide relevance. Two recent initiatives are described below.

INT'L RADIATION ONCOLOGY GROUP HOSTED

In May, Prof. Kuten and his colleague Prof. Ora Israel, Director of Research Operations and Nuclear Medicine, hosted a two-day international meeting of the Radiation Oncology Group of the European Organisation for Research and Treatment of Cancer (EORTC ROG).

Among the many guest speakers from Europe and the USA were Prof. Vincent Grégoire, President, European Society for Therapeutic Radiology and Oncology (ESTRO) and Chair, EORTC ROG; Prof. Karin Haustermans, immediate past Chair, EORTC ROG; and Radiation Oncologist Prof. Perry Grigsby, School of Medicine, Washington University in St. Louis.

The event was attended by 285 professionals – oncologists, oncology nurses, surgeons, nuclear-medicine specialist physicians, medical-radiation physicists and radiotherapy technologists.

Prof. Kuten serves on the Steering Committee of the EORTC ROG and co-coordinates its Breast Cancer Working Party. •

ONCOLOGY INSTITUTE FACTS & FIGURES

- 200-250 radiotherapy outpatients daily
- 120 chemotherapy outpatients daily
- 120 multidisciplinary, tumor site-specific outpatient clinical consultations daily
- 50 inpatient beds for individuals receiving chemotherapy, treatment for complications, symptom control, and palliation
- Rambam Medical Center is a *European Society* for Medical Oncology (ESMO) – accredited Designated Center of Integrated Oncology and Palliative Care for 2009-2011
- Oncology Institute physicians perform patient-oriented clinical and translational research in collaboration with the Technion's Rappaport Institute and the pharmaceutical industry

THE SPIRITUAL TERRAIN

In 2007, in the person of Naomi Segal, a graduate of Shaare Zedek Medical Center's *B'Ruach (By Spirit)* training program, Rambam's Oncology Institute introduced spiritual caregiving into the spectrum of services offered to inpatients. Two years later, Ms. Segal has become a valued member of the Oncology Institute team and of the hospital-wide palliative-care team.

Ms. Segal uses presence, conversation, prayer, meditation, song and other tools to assist patients, families and staff in exploring the spiritual terrain that comes with cancer – a life-changing disease that brings with it chaos and fear and the real possibility of death, but on the other hand, hope, renewed and deepened ties with loved ones, and opportunities for personal growth.

In the above context, Senior Physician Dr. Gil Bar-Sela, Director of Supportive and Palliative Care Services, and Ms. Segal look forward to welcoming Rabbi Michael Schultz to our staff this year. He and his wife Rachael, a Jewish educator, will be making *aliyah* to Carmiel from New York City.

Whereas in Israel, professional hospital chaplaincy is in its first decade, it was introduced fifty years ago into North American hospitals and in the intervening years has developed greatly. Today, North American chaplaincy certification requires four units of postgraduate Clinical Pastoral Education (CPE), which provides religious professionals of all faiths with 400 hours of clinical supervision and a minimum of 1,200 hours of patient visits.

"Ten years from now," Rabbi Schultz says, "we could have chaplains working with patients throughout Rambam Hospital, providing seminars in spiritual care and medical ethics to staff members and medical students, and running an in-house training program for Chaplain-Residents."



For patients who want religious care, the chaplain can provide it – and for patients who do not want religion brought in, focus is placed on the broader world of the spirit.



HEART TO HEART

Pictured at Rambam in this heart-to-heart are 11-year-old Zohara from Baku, Azerbaijan and her physician, Dr. Avraham Lorber, Director of the Pediatric Cardiology Unit. While on a voluntary humanitarian medical mission to Azerbaijan, Dr. Lorber diagnosed the girl for a congenital cardiac anomaly; her patent arterial duct did not close after birth, which caused significant shunt blood flow from the aorta (the main blood vessel leading to the pulmonary artery).

A coordinated Israeli charitable effort brought Zohara to Rambam in March for a 25-minute, minimally invasive cardiac catheterization unavailable in her home country. Pfm Medical, Inc. donated the transcatheter Nit-Occlud® spiral coil device that upon implantation, quickly occluded the shunt and normalized all cardiac blood flows, resulting in a normal heart. The procedure took place without complications, and Dr. Lorber has been informed by Zohara's physicians back home that she is doing very well and is physically active.

FRIENDS HELP BUILD A HOSPITAL!



BRITISH FRIENDS

"Congratulations on the 18th birthday of your outstanding school. As you know, the numerical value of the Hebrew word for life, 'chai,' is 18, and it is my honor this evening to tell you about the life-affirming work of Rambam Health Care Campus in Israel."

Prof. Rafael Beyar, May 7, 2009, London

Anglophone first-time visitors or new immigrants to Israel are often amused to find themselves tagged *Anglo-Saxons* by native Israelis, but the real Anglo-Saxons were Germanic tribal peoples that settled in 5th century *Angleland* and ruled there until the Norman Conquest.

Fast forward sixteen centuries to May 7, 2009. Four Rambam Medical Center representatives – Director General Prof. Rafael Beyar; Prof. Ora Israel, Director of Research Operations and Nuclear Medicine; Prof. Jacob Rowe, Director of the Department of Hematology and Bone Marrow Transplantation; and Ms. Talia Zaks, Head, International Relations and Resource Development – journeyed to the north London district of St John's Wood, itself historic real estate once part of the Great Forest of Middlesex and owned by the Crown until 1688.

The Israelis came to St John's Wood Synagogue (est. 1876) for the 18th Birthday Fundraising Dinner of Immanuel College. The gala was held in the presence of 250 parents and their guests, and was celebrated in speeches by Head Master Philip Skelker, Chief Rabbi Sir Jonathan Sacks, and Lady Jakobovits (in honor of whose husband, Chief Rabbi Baron Immanuel Jakobovits ליד , the College is named). Dinner Chair Ms. Lynda Dullop organized the event with great style.

Immanuel College provides secular and Jewish education to children ages 12-18 and instills in them social responsibility and the importance of *tzedakah* (just and charitable acts). In expression of the value placed by the school on these ideals, our medical center will be the focus of the schoolchildren's *tzedakah* projects this year.

"Rambam really is the story of Israel," Prof. Beyar told his listeners, and summarized our medical center's history for them. He also presented Mr. Skelker with a copy of *Rambam Health Care Campus 70th Anniversary*. The Head Master was visibly moved by receipt of the handsome book, and said that he would give it to his students to use as a resource in preparation of their seminar projects.

Among the celebrants were Friend of Rambam Mr. Pujo Zabludowicz, and Ms. Anita Alexander-Passe, Director, British Friends of Rambam Medical Centre. •

CANADIAN FRIEND RAISING

In Canada during April, May and June, Rambam Health Care Campus was all over the map.

"With a new CFRAM Board, educational events featuring prominent members of the Rambam Health Care team, and several articles in the Jewish newspapers in just the last month, we are optimistic about the future of CFRAM and our success in promoting the future growth of Rambam." Mr. David Green, President,

Canadian Friends of Rambam Medical Center

TORONTO – RHCC Director General Prof. Rafael Beyar met with UJA Federation officials Adam Minsky and Carole Kassel and UIA Federations Canada official Linda Kislowicz to thank them in person for their support of Rambam, and especially for the emergency funding sent our way during the Second Lebanon War. Prof. Beyar also welcomed new CFRAM Board Members at a luncheon hosted by Jules Berman at Minden Gross LLP.

Director of Research Operations and Nuclear Medicine Prof. Ora Israel, in town to attend the 2009 Annual Meeting of the International Society of Nuclear Medicine, spoke at a luncheon hosted by new Board Member Rachel Blumenfeld at Miller Thomson LLP.

Dr. Dagan Schwartz, Director of the Emergency Department at Rambam, attended an evening of the UJA Federation Maimonides Society at the welcoming home of Dr. Jeffrey Lipsitz and Judith Laxer.

MONTREAL – New Board Members Henri Elbaz and Gabriel Soudry hosted a meeting of Jewish Community leaders that came to hear Dr. Dagan Schwartz speak of emergency medicine's challenges and convey his excitement over Rambam's newly renovated, expanded and fortified Emergency Trauma Center.

VICTORIA, VANCOUVER ISLAND – Tim Humphreys of the Jewish Federation hosted Dr. Schwartz at an intimate event that gave this small west coast Jewish Community its first opportunity to hear about Rambam.

New CFRAM Board Members include Jules Berman, Rachel Blumenfeld, Daphne Gladman, Karen Goldenberg, Edwin Goldstein, Marilyn Gotfrid, Cary Green, Ron Kalifer, Jules Kronis, Diane Wilson and Lesley Wynn (Toronto) and Henri Elbaz and Gabriel Soudry (Montreal).



Pictured at Rambam in July are, *L to R*, Mr. David Green, President, Canadian Friends of Rambam Medical Center; Dr. Michael Halberthal, Director, Pediatric Cardiac Critical Care Unit, RHCC; Canadian Friend Ms. Daphne Wagner; and Ms. Talia Zaks, Head, International Relations & Resource Development, RHCC.

YAFFA'S FRIENDS SAY IT WITH FLOWERS

"God gave me this job and the freedom to grow and to enlarge my ability to help people. I have built a way of life here, and we – I mean the whole hospital administration – have developed an ethos that puts the patient at the center." Yaffa Perez, Assistant Director, RHCC

In January at a ceremony attended by hundreds of admirers and well-wishers, RHCC Assistant Director Yaffa Perez received a Certificate of Merit in the name of

the Minister of Health, Mr. Yacov Ben Yizri. The unique prize was created especially for her in appreciation for decades of public service.

Ms. Perez has served as hospital liaison on behalf of generations of grateful patients and their families at Rambam. She is known for an office door always open to patients and staff that signifies her open-door, direct-access philosophy of service.

Yaffa Perez has also fulfilled any number of leadership roles at municipal and national political



L to R: Director General Prof. Rafael Beyar congratulates Assistant Director Yaffa Perez.

levels. Currently, she is Deputy Chair of the Council of Volunteers in Israel, and from 1998-2006 served Haifa as a City Councilwoman and Chair of the Municipal Health Committee.

In one of the event's most moving segments, *Yaffa's Girls* – specialist Head Nurses and top medical administrators at Rambam who first came here as high-school graduate volunteers in the *Sherut Leumi* (National Service) program, were nurtured and mentored by Ms. Perez, and have risen to hospital-wide or departmental senior-leadership roles – took the Spencer Auditorium stage to

> present her with red roses. They told the audience of a woman gifted with a gracious, can-do attitude who over the years has attended to and assisted tens of thousands of patients, families and staff members.

Among the many people that came to Rambam to congratulate her were Ministry of Health Director of Information and International Relations Yair Amikam; current Mayor of Yeruham and former Mayor of Haifa Amram Mitzna; current Mayor of Haifa Yona Yahav; immediate past Director General of RHCC Prof. Moshe Revach; and current Director General of RHCC Prof. Rafael Beyar. •



STAR SPANGLED EVENTS



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CALIFORNIA DREAMIN'



A February 2009 visit to the City of the Angels by Professors Rafael Beyar and Aaron Ciechanover, RHCC Director General and Chair of Rambam's Scientific Advisory Board (SAB) respectively, and Friend of Rambam Ambassador Gabriela Shalev, Representative of Israel to the United Nations, coincided with Academy Awards night. The three Israeli guests were nevertheless the stars, and they delivered the speeches, at several events held in Rambam's honor. These included a dinner reception at the home of Dr. Rebecka and Prof. Arie Belldegrun – she is President of Intertech Corporation, and he is Chief of Urologic Oncology and Surgical Director of the Kidney Cancer Program at U.C.L.A.; a meeting of the American Israeli Medical Association; and presentations by Professors Beyar and Ciechanover to a full house of physicians at Cedars-Sinai Medical Center.

North along the coast, sea lions sunned themselves on the rocks, and the Pacific dashed itself like briny, cold champagne against the San Francisco cliffs. Thirty-three miles southeast of this display, in the heart of Silicon Valley, corporate real-estate developers Linda and Skip Law opened their Palo Alto home to friends and colleagues for a frank exchange of ideas with the three esteemed Israeli visitors. The evening was chaired by AFORAM Board Member Atty. Alan Mendelson and co-chaired by Dr. Dan Maydan, President and CEO Emeritus of Applied Materials (see related news, below), and Dr. Levy Gerzberg, President and CEO of the Zoran Corporation. "Wherever we went," Prof. Beyar says appreciatively, "everyone - Hollywood filmmakers, California-based Israeli physicians, Jewish-Community leaders – was attracted by Rambam and expressed feelings of friendship." •

NEWS IN BRIEF

HAIFA – In May, New Yorkers Mr. Joel Mesznik and his daughter Kara visited our Children's Hospital, to which Mr. Mesznik and his brothers have generously contributed in memory of their mother Geula. In June, Rambam welcomed AFORAM Board Member Mr. Harold Magid and his daughter Julia; Ms. Heidi Rothberg of Allenspark, Colorado; Dr. Dan Maydan of Los Altos, California (see top photo, *R*); and Chicagoans Patricia and Albert Frank and family (see bottom photo, *R*).

NEWTON, MASSACHUSETTS – On June 17th, Dr. and Mrs. Stephen Gerzof of Newton, Massachusetts graciously hosted a reception on Rambam's behalf for more than 25 local business executives, healthcare professionals, investors and community leaders. Featured speakers included AFORAM Board Members Aaron and Irma Spencer and Relly and Brent Dibner. The event was organized by Robin JR Blatt, Director, Boston-Haifa Life Sciences Initiative, and Yair Kagan, Executive Vice President of AFORAM.





L to *R*: Prof. Rafael Beyar, Director General, RHCC; Dr. Dan Maydan, President and CEO Emeritus of Applied Materials; Dr. Esty Golan, Chief Administrative Officer, RHCC; Mr. Yair Kagan, Executive Vice President, American Friends of Rambam Medical Center (AFORAM).

Prof. Jacob Rowe, Director of the Department of Hematology and Bone Marrow Transplantation (**2nd from L**) is flanked by Friends of Rambam Ms. Lauren Rose (**far L**), Lauren's parents Patricia and Albert Frank, and Lauren's brother-in-law Mr. Damon Rose. Albert and Patricia Frank have munificently donated to Rambam's Department of Hematology and BMT and to the establishment of the Frank Family Nephrology Fellowship at Rambam.

RAMBAM'S WISDOM TEETH COME IN

Not by chance did the buffet tables offer abundant goodies for healthy teeth and fresh breath – a serving bowl of *crudités*, another of fragrant *nana* (mint leaves), and pitchers of iced lemonade and orange juice – although to be fair, cheese cake, chocolate-frosted chocolate cake, and *Hamantaschen* (in honor of Purim) were also on offer.

The occasion was the inauguration of Haifa and the North's first Graduate School of Dentistry, a mutual venture of Rambam Medical Center and the Technion's Rappaport Faculty of Medicine. This achievement was fifteen years in the making, and is enhanced by a contract with Harvard University to conduct joint academic research.

The new school's mission is to increase the number of dental specialists in Israel by providing

postgraduate education in endodontics, orthodontics, periodontics, pedodontics and maxillofacial reconstruction. In addition, the school will provide hospital-wide advanced training and consultation to physicians whose specialties converge with dentistry – e.g., cardiology or infectious diseases.

The event was attended by Departmental staff members, their families, and tens of top dentists from throughout the country, and was addressed by joyous speaker after speaker in remarks lauding the new school's historic importance for the State and priceless significance for Northern Israel's residents. Prof. Eli Machtei, Chairman of the Department of Periodontology, Director of the school and the driving force behind the school's establishment, emceed. Lovely musical interludes were provided by harpist Olga Moitlis and violinist Leonid Rotshtein of the duo Amoré. But perhaps because dentistry concerns the lower face, all was not high-brow; the Spencer Auditorium lights dimmed, and Prof. Machtei, a cineaste and amateur historian of film, regaled his audience with clips from a dozen movies stereotyping dentists as, in his words, "sadists [e.g., Laurence Olivier in Marathon Man (1976)], drug dealers and buffoons." Prof. Machtei brought the event to a happy ending by screening a scene from Cactus Flower (1969) in which dentist Dr. Julian Winston (Walter Matthau) sensitively romances his Assistant, Miss Dickinson (Ingrid Bergman).

Because the pit [the building site] has by now been excavated below sea



Pictured at the heart of campus on the site of the planned Sammy Ofer Northern Regional Underground Emergency Hospital is 3 m deep, 20,000 sq m wide *Lake Rambam*. You won't find it on a map of Haifa, and because of the tin fencing and signage surrounding it, few of the thousands of pedestrians skirting its rim were aware of its existence. For a few charmed days in June, however, the seven pumps that had been working round-the-clock to drain the *lake bed* dry had stopped, and this ephemera resulted. level, if pumping stops, the seawater and groundwater want to flow back into the pit and rise back up to sea level. In order to keep the pit dry so that digging may continue, the pumps must empty out more water per hour than naturally flows back in.

Several days after this photo was snapped, the pumps had resumed their work under the hot summer sun. Two drainage pipes – one an underground, cement pipe that has existed for years but was enlarged to 80 cm in diameter for this project, the other an above-ground, 40 cm in diameter polypropylene pipe – were carrying the encroaching water, mixed with pulverized dolomite dust, 200 meters northward from the pit back out to sea.

The site was dry save for a few turquoise puddles. Lined up at the bottom of the pit and facing the currently 11 m deep, western retaining wall, half a dozen Caterpillar vehicles, like long-necked, heavy headed prehistoric beasts feeding, were steadily chomping and crunching.

If, however, you were to have stood at the top of the pit's dirt access ramp (which appears half submerged near the center of this photo), you would have discerned the piquant and delicious scent of an invisible sea. •

AUTHOR! AUTHOR!

KUDOS!

Kudos to recently published Rambam authors and editors Prof. **Rafael Beyar**, Director General, RHCC; Dr. **Israel Eisenstein**, Attending Physician, Pediatric Nephrology Unit; Prof. **Ze'ev Hochberg**, Director, Pediatric Endocrinology Unit; Prof. **Ora Israel**, Director of Research Operations and of the Department of Nuclear Medicine; Prof. **Eddy Karnieli**, Director, Institute of Endocrinology, Diabetes & Metabolism; Dr. **Geila Rozen**, Director, Clinical Nutrition Department; and Prof. **Israel Zelikovic**, Director, Pediatric Nephrology Unit.



Endocrinology and Metabolism Clinics of North America, v.37 (3 & 4), Sept. & Dec. 2008: *Obesity: Brain-Gut and Inflammation Connection: Parts I & II* /Guest Editor Eddy Karnieli. Elsevier Saunders.



Atlas of PET/CT with SPECT/CT with DVD / Richard L. Wahl, Ora Israel. Churchill Livingstone, 2008.



Control and Regulation of Transport Phenomena in the Cardiac System /Editors Samuel Sideman, Rafael Beyar, and Amir Landesberg. Blackwell Pub. on behalf of the New York Academy of Sciences, 2008.

Practical Algorithms in Pediatric Nephrology / Editors Israel Zelikovic, Israel Eisenstein. Karger, 2008.



Hybrid PET/CT and SPECT/CT Imaging: A Teaching File / Editors Dominique Delbeke, Ora Israel. Springer, 2009.



The Intelligence of Nutrition: The Complete Guide to Smart Eating, Health and Lifestyle / Ram Reifen, Geila Rozen. Impress Media, 2008. In Hebrew.



Yearbook of Pediatric Endocrinology 2008 / Editors Jean-Claude Carel, Ze'ev Hochberg. Karger.

With thanks for assistance in compiling this bibliography to Margie Serling Cohn, Head Librarian, Alfred Goldschmidt Medical Sciences Library, Technion – Israel Institute of Technology.

MEDICAL ETHICS

CONTINUED FROM P1

"Ethics make it possible for physicians to work within society because ethical standards address behavior between people. Medical ethics is a discipline that must guide the way of life of every physician and also of the hospital."

> Yaron Bar-El, MD Deputy Director & Director of Medical Operations, RHCC **Member, Medical Ethics Study Forum**

Today in Israel, several law codes regulate the interrelationships between healthcare providers and patients: the *National Health Insurance Law* (1995), the *Patient's Rights Law* (1996), the *Terminal Patients Law* (2005), and rules published by the various healthcare professions (e.g., the *Ethical Code of Nurses in Israel* [2004]).

Rambam's *Helsinki*-mandated **Clinical Studies Ethics (Helsinki) Committee**, analogous to Institutional Review Boards (IRBs) abroad, is chaired by Prof. Moshe Berant, co-chaired by Prof. Amihay Rubin, and coordinated by Ms. Dolly Haddad. "I want physicians to understand that their seriousness toward biomedical research is reflected in the care and seriousness of their observance of regulations when submitting documents to our committee," Prof. Berant says. "This is an ethical process, not merely a bureaucratic procedure in the derogatory sense; the analogy would be well-kept clinical files." The committee's careful vetting of more than 30 proposals submitted monthly reflects Rambam's emphasis on clinical research excellence.

Two additional, Patient's Rights Law mandated instruments are the **Medical Ethics Committee**, composed of physicians and public individuals and chaired by prominent Haifa attorney Yaacov Gilat, and the office of **Ombudsman for Patient Services**, held by Emeritus Head of Internal Medicine and Gastroenterology Prof. Shmuel Eidelman. "[RHCC Director General] Prof. [Rafael] Beyar really is interested in total transparency," Prof. Eidelman remarks. "He has been tremendously supportive of my own belief that we need to be transparent and honest and change when change is needed."

"We want as many relevant parties as possible to be involved in our

The **Advisory Ethics Committee** (est. 1996) was originally conceived by attorney and University of Haifa based philosopher Gershon Grunfeld, PhD, LLB, and Ms. Roni Gagin, Director of the Social Work Department at RHCC, and is chaired by co-founder Dr. Gad Bar-Joseph. Whereas Rambam's statutory Medical Ethics Committee addresses a specific and limited category of cases (e.g., administration of treatment to a patient incapable of informed consent), the AEC tackles a far broader range of medical-ethics quandaries. Over the years, it has delivered seventy carefully weighed recommendations, the majority in response to dilemmas regarding the high-tech prolongation of life.

The **Medical Ethics Study Forum** (est. 1996), also chaired by Dr. Bar-Joseph, convenes monthly and brings together approximately 25 physicians, psychologists, lawyers, social workers and ethicists. It was initiated by Specialist in Internal Medicine Prof. Rosalie Ber and late Professor of Internal Medicine Gidon Alroy.

The University of Haifa based, Rambam affiliated **Center for the Study of the Doctor-Patient Relationship** (est. 2003) is the brainchild of RHCC Ombudsman Prof. Shmuel Eidelman, who also chairs the Center and delivers an elective in the Masters of Public Health (MPH) program.

"Our forum aims to empower the nurses by providing them with ethical decision-making simulations so that at the moment of clinical truth, they have the competence and maturity to express their professional conscience."

Pnina Dagul, RN, MA Coordinator, Nursing Staff Training and Development, RHCC **Chair, Nursing Ethics Forum**

The goals of the **Nursing Ethics Forum** (est. January 2009) are to increase the nurses' awareness and sensitivity regarding clinical-nursing ethics, to provide them with a resource for coping with ethical conflicts, and to strengthen the leadership skills necessary for conducting ethical discussions among colleagues. The pilot project's 27 participants, handpicked for leadership qualities and including representatives of each of the Nursing Department's 9 divisions and 21 units, have received training in a process-oriented model of ethical decision-making pioneered by Dr. Nurith Wagner, Chair of the Israeli Nurses Ethics Bureau.

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committee's decision-making process because our secondary goal is to bring ethical issues to the surface, to expose them and thereby educate healthcare professionals' thinking process."

Gad Bar-Joseph, MD Director, Pediatric Intensive Care, RHCC Chair, Advisory Ethics Committee

A number of other, voluntary forums attest to the vitality of Rambam healthcare professionals' engagement with the practical ethical dilemmas confronting them in their daily working lives.



Nursing Ethics Forum

ARTICLE continued at www.rambam.org.il »

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>>> www.rambam.org.il



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