



Carnegie Shul Chatter

February 7, 2018



Candle lighting: 5:30 pm Sabbath services: 9:20am

Small Nation, Big Achievements

It never ceases to amaze me that a country the size of Israel can do so many remarkable things in the realms of technology and medicine. Here are five incredible health breakthroughs reported by Nicky Blackburn in the December 26 issue of Israel21c:

1. Compound kills energy generating system of cancer

An Israeli researcher devised a synthetic compound to disable the enzymes that allow cancer cells to metastasize.

When cancer cells leave the primary tumor and spread to other organs, they reprogram their energy-generating system in order to survive in harsh conditions with a shortage of nutrients like glucose.

Prof. Uri Nir of Bar-Ilan University identified an enzyme called FerT in the energy-generating mitochondria of metastatic cancer cells – an enzyme normally only found in sperm cells (which need to function outside the body they came from). When he targeted FerT in lab mice, the malignant cells soon died.



Using advanced chemical and robotic approaches, Nir's lab team developed a synthetic compound, E260, which can be administered orally or by injection, causing a complete collapse of the entire mitochondria "power station."

Jews in Football

The recent Super Bowl was won by the Philadelphia Eagles whose owner, Jeff Lurie, is Jewish. The Eagles defeated the New England Patriots whose owner, Robert Kraft, is Jewish. The game was played in Minneapolis at the stadium in which the Minnesota Vikings play their home games. The Vikings owner, Mark Wilf, is, you guessed it, Jewish.

But it wasn't just the owners. The General Manager of the Eagles, Howie Roseman, is Jewish, and in recent years he has also personified a key Jewish teaching: a willingness to learn from past mistakes. After volunteering with the Eagles as an unpaid intern straight out of law school, Howie was eventually appointed the team's youngest ever General Manager at age 35. He made a number of trades, more than any other manager in the league, but many of his decisions failed to pay off. In 2015, he was relieved of his duties, and was only reinstated a year later, when he began to shape the team that would eventually head into the 2018 Super Bowl.

But where were the Jewish players?

Some of the all-time greats of the NFL were Jewish, including the first ever T-formation quarterback, Sid Luckman of the Chicago Bears.

Julian Edelman of the Patriots is the last Jew to play in the Super Bowl, but he had surgery in September for a torn ACL and was not able to play in the big game. He should be healthy for next season, but the Super Bowl? Here we go Steelers!

“We have treated mice with metastatic cancer and this compound completely cured them with no adverse or toxic affect that we can see,” reported Nir, adding that normal cells were not affected. Phase 1 clinical trials are planned over the next 18 months.

2. Personal menu to help avoid diabetes



In 2015, two researchers from the Weizmann Institute of Science in Israel released a groundbreaking study showing that specific foods and food combinations affect each individual’s blood-sugar level differently.

That discovery was incorporated into a made-in-Israel app, DayTwo, which helps pre-diabetics and diabetics who are not insulin dependent choose dishes that can best balance their individual blood-sugar levels. The algorithm predicts blood-glucose response to

thousands of foods based on gut microbiome information and other personal parameters.

High blood sugar is linked to energy dips, excessive hunger and weight gain as well as increased risk of metabolic diseases such as diabetes and obesity.

To use the app, which went on sale in the US in 2017, users need to answer a questionnaire about their medical history, physical characteristics, lifestyle and diet. A stool-sample kit is then FedExed to the user, who sends it on to DayTwo’s lab. There the microbiome DNA is sequenced and the data is plugged into an advanced machine-learning algorithm.

In about six to eight weeks, users receive a microbiome report and a six-month plan of personalized meal recommendations to help balance blood sugar.

3. World's first bone implants

In August and December, doctors at Emek Medical Center in Afula performed rare bone implants – one on a man missing part of his arm bone and the second on a man missing five centimeters of his shinbone, both as the result of car accidents.

Normally, the human body cannot restore bone segments, but revolutionary tissue-engineering technology developed by Haifa-based Bonus BioGroup enables growing semi-solid live bone tissue from the patient’s own fat cells.

The tissue is then injected back into the patient’s body in the expectation that the missing bone fragment will be regenerated in around six weeks without any danger of implant rejection or the complications of traditional bone transplants.

“This surgery is truly science fiction; it changes the entire game in orthopedics,” said Dr. Nimrod Rozen, head of orthopedics at Emek, who carried out the experimental procedure.

In the future, the Bonus BioGroup regeneration technology could be used for a variety of bone-loss conditions, including bone cancer, for which there is currently no solution.

4. Artificial cornea

An early-stage Israeli ophthalmic medical devices startup developed a revolutionary artificial cornea implant that holds out hope to millions of blind and visually impaired people.



The nanotech-based synthetic cornea by CorNeat Vision of Ra'anana proved successful in initial tests on animals. The company plans human implantations in Israel in mid-2018, and a larger clinical trial in the United States.

According to the World Health Organization, diseases of the cornea are the second leading cause of blindness worldwide, affecting as many as 30 million people.

“Unlike previous devices, which attempt to integrate optics into the native cornea, CorNeat’s implant leverages a virtual space under the conjunctiva that is rich with fibroblast cells, heals quickly and provides robust long-term integration,” said CorNeat Vision’s Almog Aley-Raz. The surgical procedure takes just 30 minutes.

5. Hernia surgery just got simpler



In June, ISRAEL21c reported on a new tool developed by Via Surgical for attaching mesh to tissue, allowing surgeons to treat hernias with fewer complications, less pain and faster recovery.

In the US alone, some five million people have a hernia – a protrusion of an organ or tissue through a weak spot in the abdomen or groin — according to the National Center for Health Statistics.

Traditionally, open hernia-repair surgery involved stitching a mesh patch, or surrounding tissue, over the weak tissue. Today, many hernias are repaired laparoscopically, but because suturing through tiny laparoscopic incisions is difficult, most surgeons use a less ideal solution — screw-like tacks to secure the mesh to the abdominal wall or bone.

Via Surgical’s unique FasTouch cartridge system, which received FDA approval in 2016, affixes prosthetic material to soft tissue. It is designed like sutures and delivered like tacks, with the goal of providing the best of both worlds for laparoscopic hernia repair.

“Surgeons are very excited about it,” says Lena Levin, cofounder and CFO of Via Surgical. “Hernia repair is one of the most common surgeries.

Yahrzeit Plaques

Commemorate a loved one by dedicating a yahrzeit plaque in his or her memory at the Carnegie Shul. These beautiful plaques, mounted on the sanctuary walls, are lit on the loved one’s yahrzeit, Yom Kippur, and days when Yizkor is recited. The names are also read aloud from the Bimah during services on the Sabbath of the yahrzeit and on Yom Kippur. To purchase a plaque, for only \$175, please email Mike Roteman at mrmike7777@yahoo.com.



Please consider sponsoring a Kiddush in honor or in memory of a loved one, for only \$36. Your sponsorship will be announced from the bimah and in the weekly Chatter. To sponsor a Kiddush, email mrmike7777@yahoo.com.

SOUTH HILLS Town Hall Meeting

WEDNESDAY, FEBRUARY 21 - 7:00 PM
SOUTH HILLS JCC
345 KANE BLVD., 15243

Join South Hills Jewish Pittsburgh, JCC of Greater Pittsburgh, Jewish Federation of Greater Pittsburgh and Brandeis University's Cohen Center of Modern Jewish Studies as we reveal a demographic snapshot of Jewish Pittsburgh, from a suburban perspective, as well as reviewing current patterns of Jewish engagement.

* The study was funded by the Jewish Federation's Community Foundation and was overseen by the Federation's Jewish Community Scorecard

**FREE AND OPEN TO THE ENTIRE
JEWISH COMMUNITY**

Snacks and refreshments provided.

RSVP: southhillsjewishpittsburgh.org/townhall



SOUTH HILLS
JEWISH PITTSBURGH



SOUTH HILLS JEWISH COMMUNITY

PURIM CARNIVAL

SUNDAY, FEBRUARY 25 • 12:15-2:30 PM
SOUTH HILLS JCC
345 KANE BLVD., 15243

- Carnival Games & Prizes
 - DJ & Music
- Inflatable Obstacle Course
 - Moon Bounce
 - Airbrush Tattoos
- Balloon artist
- Face Painting
- Pizza, Hamentaschen,
Veggies, Snacks,
& Drinks

Food and Admission are FREE. Games and activities at additional cost.

Unlimited Game Bracelets (\$10) can be purchased in advance at Beth El Congregation, Temple Emanuel and the South Hills JCC. Bracelets also on sale at the Carnival.

Register in advance and be entered for a chance to win gift cards and other prizes courtesy of South Hills Jewish Pittsburgh.

southhillsjewishpittsburgh.org/purimcarnival

