Niche play

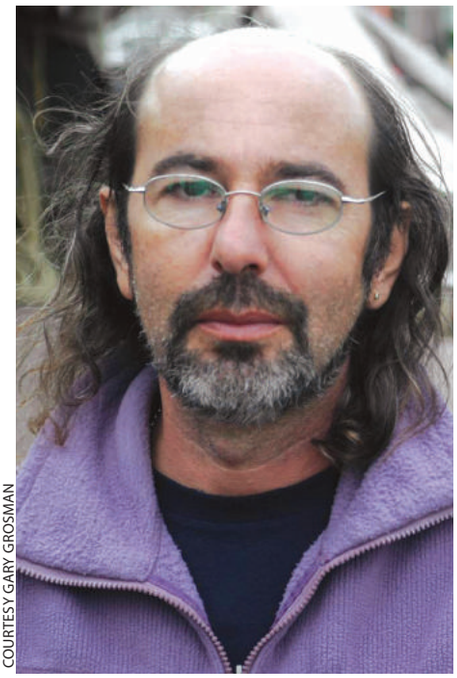
yers

From bloodless circumcision to personalized medical searches, Israeli medical entrepreneurs are coming up with ideas to solve unmet problems

by Bernard Dichek

AVISHAI SHAAR YASHUV / FLASH 90

COURTESY



COURTESY GARY GROSMAN

WHEN OREN Fuerst was caring for his late mother, he ran into a problem familiar to many people who have Googled medical treatments on the Internet. "There's just too much information out there and it took hours to pinpoint the articles relevant to my mother's particular condition," says Fuerst, a serial medical entrepreneur.

Fuerst's frustrations led him to found Medivizor, a personalized service that enables users to receive articles related to specific conditions from leading medical journals. To get the information they need, users fill out a brief questionnaire and then Medivizor's search engine retrieves the relevant articles, all of which have been summarized into laymen's terms.

Fuerst is one of many Israeli life science entrepreneurs, who have come up with ideas to solve problems in specific niches.

Medivizor is not the only company started by Fuerst. CircMedTech offers a practical way to get adult African males circumcised.

"After a World Health Organization study showed that in Sub-Saharan Africa, circumcised men had a 76 percent reduced chance of getting the HIV virus, healthcare agencies tried to encourage circumcision as a preventive measure," says Fuerst, who spent several years working in the African healthcare industry. "But it turned out to be very difficult to convince African men to have their most precious organ put under a local anesthetic and to give up several days of work while recovering," he adds, referring to conventional surgical procedures.

CircMedTech's solution is the PrePex, a device that enables circumcision by means of a bloodless procedure that can be performed without the need for anesthesia. "Using radial elastic pressure to compress the foreskin, the device cuts off blood supply until the unwanted foreskin tissue dies and is safely removed after a week," explains Fuerst.

The device has already been successfully used on 10,000 men in 10 different countries, with six clinical trials successfully carried out. Rwanda recently announced plans to scale up use of the device. Some 700,000 PrePex procedures are planned in the next few years.

The PrePex kit sells for $20 and can be applied by non-medical staff who undergo a brief training course. "It is much simpler and far less expensive than surgical incisions," says Fuerst, citing figures from a major AIDS-prevention group indicating that it would cost more than $1.5 billion to carry out 20 million circumcisions in Africa using the conventional method.

Fuerst notes that the PrePex kit will do more than just reduce costs. "This is probably the only way countries can rapidly scale up circumcision campaigns and in so doing save the lives of numerous men who otherwise wouldn't get circumcised."

SciVac is another Israeli company that is trying to fill an unmet medical niche – an effective vaccine for the deadly hepatitis B virus (HBV), which is 100 times more infectious than HIV.

An estimated 400 million people, mainly in the developing world, are believed to be carriers of HBV, which destroys the liver and is responsible for more than a million deaths every year.

In most countries in the West, an HBV vaccine is given to newborns within hours of birth. "But about 10 percent of newborn babies and 25 percent of adults over 40 do not respond to the HBV vaccines in common use," explains Lemuel Melamed, SciVac's business development manager. Consequently, he adds, many people in Western countries are unprotected against the virus, and at risk of contracting it, particularly those who travel in the developing world and medical staff who are at high risk of

(Far left) CircMedTech's Oren Fuerst showing the PrePex device in his computer; (left) Gary Grosman, founder of Global Medical Services, was inspired by the Israel Air Force combat search and rescue unit seen on the preceding pages bringing a wounded soldier to hospital

exposure in hospitals.

In the 1990s, a group of scientists at the Weizmann Institute, led by Prof. Yossi Shaul, developed a vaccine that could solve this problem. "The vaccine is effective on almost 100 percent of the population because it comprises all three envelope proteins of the native virus, compared with just one protein in the older vaccine," says Melamed, noting that ever since successful clinical trials were conducted in 1992 in Israel, the new vaccine, today called Sci-B-Vac, has been given to Israeli newborns.

GETTING THE Sci-B-Vac vaccine into markets outside Israel, however, has proven more difficult. The American and European regulatory agencies haven't approved it yet because clinical trials have not been conducted in the US or Europe, and other countries tend to follow the example of the US and the EU.

Until recently, the owners of the vaccine technology, including several different biotech companies, couldn't afford the heavy costs involved in conducting a US trial, and consequently the huge global marketing potential has been untapped.

Recently, however, a new group of seasoned pharmaceutical industry investors acquired the technology and began to raise the funds needed to conduct a US trial.

The new investors include FDS Pharma and Opko Health, which is headed by Phillip Frost, the multi-millionaire chairman of the board at Teva Pharmaceuticals. SciVac is currently racing Sci-B-Vac through a US clinical trial, to be completed in about 18 months. Once that is achieved, Sci-B-Vac can be expected to be rapidly adopted by countries across the globe.

Another Israeli entrepreneur filling an unmet medical niche is Gary Grosman, whose company Global Medical Services provides specialized emergency medical services in countries around the world.

A veteran and a volunteer of the elite Israel Air Force combat search and rescue unit, he has participated in numerous life-saving missions following terrorist attacks against Israelis and other disasters in places such as Kenya, Jordan, Turkey, Bulgaria, and other countries. During a recent visit of US President Barack Obama, Grosman was part of the local emergency medical team on hand for the guest and his entourage. He also was requested to provide medical support for abducted IDF soldier Gilad Shalit when he was released from captivity and brought home.

To demonstrate the types of conditions under which he honed his skills, Grosman screens a video that he uses to train IDF paramedics. "I call this the Flight to Hell," says Grosman, explaining that it was recorded some years ago when he flew on a helicopter mission to rescue wounded Israeli soldiers in Lebanon. A missile comes straight at the aircraft and is only a few meters away when it is deflected by the anti-missile system. Just before the helicopter lands, a second missile comes dangerously close.

"The adrenalin was really flowing even before we hit the ground," recalls Grosman. As the helicopter touches down, he and the rest of his medical team rush out of one side to bring in a soldier on a stretcher and begin trauma treatment. In the meantime, on the other side, the crew tosses out supplies to commandos engaged in a gun battle. "Barely 30 seconds after landing, we were back in the sky," recalls Grosman.

His first venture into commercializing battlefield medical skills came during the 1990s, when he set up emergency medicine simulation centers in several countries in the former Soviet Union. "I started out in Eastern Europe because I knew there was a shortage of training facilities there and, of course, being able to speak Russian helped," says Grosman, who was born in the Ukraine and immigrated to Israel in 1976.

After 9/11 created a demand for preparation in handling mass casualty incidents in the US, Grosman began to train American emergency teams. Showing a slide of a workshop for 800 medical personnel carried out in Texas, he points out how mannequins were used to simulate the treatment of victims in an emergency tent.

Grosman recently established another company known as the Aeromedical Group to improve emergency medical services at airports and on airplanes. He notes that most airports have no infrastructure for advanced emergency medical treatments and airline staff often lack emergency medical training.

"When a passenger undergoes a medical crisis during a flight, airplanes often need to make emergency landings, at a great cost to the airline companies," he points out. "But if the airline staff could get professional training, the inconvenience could be prevented and there would be a greater chance of saving the life of the passenger."

Grosman, like his fellow niche entrepreneurs, is optimistic that his new venture will follow in the same lucrative footsteps as other Israeli medical success stories in recent years. One of them, Given Imaging, a company that built its business solely on an innovation for viewing the small intestine, was recently sold for about $900 million. ■