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A 60 Minutes focus

Brain's Area 25 probed in fight versus severest depression

By AMANDA PEDERSEN

Medical Device Daily Staff Writer

New experimental types of brain implants are offering hopeful possibilities for the millions of people diagnosed with the most severe cases of depression.

According to the **National Institute of Mental Health**, a unit of the **National Institutes of Health**, nearly 18 million American adults are affected by depression, and millions suffer from a disabling form of the disorder known as treatment-resistant depression (TRD). For them, neither antidepressant drugs nor psychotherapy — not even shock therapy — have worked.

But researchers are now experimenting with deep brain stimulation (DBS), targeting a region of the brain known as Brodmann Area 25 — or just Area 25 — in hopes of being able to treat major depression.

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EpineX develops prototype for monthly Type 2 diabetes test

By KAREN YOUNG

Medical Device Daily Staff Writer

Development-stage company **EpineX Diagnostics** (Irvine, California) said it has completed the development of a proof-of-concept prototype for a monthly rapid test to monitor Type 2 diabetes.

The company said such a test might provide information sooner to diabetics about whether or not they are doing a good job of managing their blood glucose levels by providing a measurement of glycated albumin, compared to total albumin in a person's bloodstream. It says that albumin is the most abundant protein in the bloodstream and is subject to damage by excess levels of sugar in the blood.

"[Our test] measures serum protein glycation, specifically glycated albumin, and compares it to total serum albumin; that's how it gives an index as a percentage," David Trasoff, PhD, director of communications at EpineX, told *Medical Device*

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Report from Europe

IMI adds EUR15M to pursue retinal implant clinical trials

By DON LONG

*Medical Device Daily Managing Editor
And MDD Staff Reports*

Intelligent Medical Implants (IMI; Zug, Switzerland), a privately-held neurostimulation company, reported raising EUR15 million in a Series B financing led by Global Life Science Ventures and Abingworth Management. Existing investors, including the Series A lead investor PolyTechnos, and a new investor, Quantum Technology Partners, also participated.

Stephen McCormack of GLSV has become chairman of IMI, and Timothy Haines, a partner at Abingworth, has joined the company's board.

IMI, with an R&D subsidiary **IIP-Technologies** (IIP; Bonn, Germany), is developing the Intelligent Retinal Implant System (IRIS), which provides some visual perception to blind people.

The company says that the technology is best suited for patients with degenerative diseases such as retinitis pigmentosa and macular degeneration.

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Cook receives FDA approval for large-neck AAA graft system

By HOLLAND JOHNSON

Medical Device Daily Associate Managing Editor

Cook (Bloomington, Indiana) has received FDA approval for its new 36 mm Zenith Flex AAA endovascular graft system for the treatment of abdominal aortic aneurysms (AAA), company officials reported last week.

The new device is designed to provide a minimally-invasive treatment option for patients with large abdominal aortic neck diameters who previously may not have been candidates for endovascular aortic repair (EVAR).

With FDA clearance of the system — which includes the 36mm Zenith Flex AAA Endovascular Graft and the 22 French H&L-B One-Shot Introduction System with Flexor Sheath and Captor Hemostatic Valve — Cook said that physicians can offer an endovascular solution for the interventional treatment of AAA in large aortic necks ranging from 29 mm to 32 mm in diameter.

Barry Thomas, director of endovascular therapies for Cook, told *Medical Device Daily* that this new device will

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ENDOCARE IN \$16M STOCK SALE; UROPLASTY FILES \$12M OFFERING3

 **AHC Media LLC**

*Deals roundup***Qiagen in \$22M buy of Genaco;
Applied Imaging price increased****A Medical Device Daily Staff Report**

Qiagen (Venlo, the Netherlands), a provider of molecular diagnostics products and a supplier of solutions for preanalytical sample preparation, reported acquiring all outstanding shares of **Genaco Biomedical Products** (Huntsville, Alabama).

Genaco is an early-stage company applying a proprietary PCR-based multiplexing technology, Tem-PCR, to develop Templex molecular diagnostic tests.

Qiagen acquired the shares of Genaco for \$22 million in cash, plus 125,000 shares of restricted Qiagen stock which are issued to the founder and chief scientist of Genaco. In addition Qiagen will pay up to \$18 million in milestones to be triggered by the receipt of anticipated grants and comparable funding in the same amount.

Qiagen said it expects to incur one-time charges of about \$0.02 in EPS in the 4Q06, primarily related to in-process R&D and the write-off of certain assets. In addition, Qiagen said it expects the transaction to contribute about \$200,000 in sales in the last quarter of 2006 and about \$3 million in sales for full year 2007.

On an adjusted basis, Qiagen said it expects the acquisition to reduce EPS in 4Q06 by about \$0.01 and to be dilutive to EPS by up to \$0.03 in 2007, largely due to the costs associated with conducting clinical trials and filing for regulatory approvals for the infectious disease panels.

Multiplexing is a diagnostic test approach in which multiple targets are screened for in one single test, typically in situations in which one or more of several pathogens or disease markers could be present in one sample.

With the Templex panel, a patient sample can be tested against a panel of 10 or more pathogens to rapidly determine the identity of the cause of infection. In a second step,

a highly sensitive and quantitative qPCR test can then be used to confirm the identity and quantify the amount of pathogens present in the sample.

Genaco has developed multiplex testing products used by medical researchers to investigate respiratory, hospital-acquired, and bacterial infections as well as additional panels for other pathogens, available as for research only. The ResPlex III multiplex panel that is designed to differentiate between different subtypes of Influenza from a single sample.

Genaco said it is in the process of completing clinical studies in order to submit a 510k application to the FDA for its H5NI avian flu assay, which is a subset of its ResPlex III panel product.

"Genaco has developed a truly innovative approach to sensitive and high-level multiplex testing," said Peer Schatz, Qiagen CEO. "We believe that multiplexed molecular diagnostic testing is increasingly attractive due to current trends in molecular diagnostics and research, where identifying pathogens and disease markers against a broad panel of potential markers in a quick and in a cost efficient manner is developing into a significant need. The Genaco solutions leverage and employ Qiagen preanalytical and assay technologies and offer novel and highly attractive molecular diagnostics solutions to our customers in clinical research, applied testing and molecular diagnostics."

Dennis Grimmaud, CEO of Genaco, said, "We are very pleased and excited to join forces with Qiagen, the world's leading provider of preanalytical solutions and the broadest portfolio of highly synergistic qPCR-based molecular diagnostic assays. Given leadership in molecular diagnostics and strong technology, sales and operational resources, we believe the combined companies can expand and accelerate getting our technologies into the market and into the hands of more customers."

In other dealmaking activity:

Applied Imaging (San Jose, California) said that in
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AHC Media LLC

Financings roundup

Endocare in \$16M stock sale; Uroplasty files \$12M offering

A Medical Device Daily Staff Report

Endocare (Irvine, California) a company providing minimally-invasive technologies for tissue and tumor ablation, said it signed a \$16 million common stock purchase agreement with Fusion Capital Fund II (Chicago), an institutional investor.

Sales of common stock by the company to Fusion Capital can occur over a 24-month period after the U.S. Securities and Exchange Commission has declared effective a registration statement relating to the transaction.

The proceeds will be used to continue its efforts in prostate and renal cancer cryoablation and to further expand into the interventional radiology and oncology markets treating cancers of the lung and liver, as well as bone pain associated with cancer metastases, it said.

Endocare has the right to sell shares of its common stock to Fusion Capital from time to time in amounts between \$100,000 and \$1 million. The purchase price of the shares will be determined based upon the market price of the company's shares at the time of each sale without any fixed discount, and Endocare will control the timing and amount of any sales of shares to Fusion Capital.

"The Fusion Capital agreement, along with our available borrowing capacity under our existing \$4 million credit facility with Silicon Valley Bank, will help provide the company with the opportunity to use the most appropriate source of operating and growth capital, whether debt or equity, if and when we need it," said Michael Rodriguez, company CFO.

Seven Hills Partners (San Francisco) acted as the company's financial advisor in negotiating the agreement and evaluating financing alternatives.

Uroplasty (Minnetonka, Minnesota) a company developing products for the treatment of voiding dysfunctions, reported filing a registration statement with the SEC in anticipation of a proposed public offering of up to \$12 million of its common stock. Subject to regulatory review, Uroplasty said it expects to conduct the offering in early December.

Uroplasty's products include the Macroplastique, a minimally-invasive, implantable soft-tissue bulking agent for the treatment of urinary incontinence, and the I-Stop, a minimally-invasive biocompatible, polypropylene, tension-free sling for the treatment of female urinary incontinence.

Craig-Hallum Capital Group will act as exclusive selling agent in connection with this proposed public offering.

In other financing news, **PaperFree Medical Solutions** (St. Kokomo, Indiana), a managed services provider

to the medical practice market, reported an agreement with a group of accredited investors who will provide up to \$1.5 million principal amount to the company through the sale of its 8% senior secured convertible redeemable notes. The investors also will receive 1.5 million warrants as part of the agreement.

The company has received gross proceeds of \$1 million under this facility and will receive a further \$200,000 of additional gross proceeds upon the filing of a registration statement covering the common stock underlying the notes and warrants, with an additional \$300,000 upon effectiveness of such registration statement.

"We anticipate this funding [enables us] to achieve our new product-service strategy; thus building the foundation for growth in our market," said company Chairman William Sklar.

PaperFree provides medical practitioners with professional and technical services, software and associated hardware solutions, which meet or exceed security levels specified by the Health Insurance Portability and Accountability Act of 1996. ■

Deals

Continued from Page 2

response to "an unsolicited [higher] bid from a third party" to acquire all of its securities, its agreement to be acquired by **Genetix Group** (New Milton, Hampshire, UK) was amended on Oct. 27, increasing the deal value. The third party was not named.

The amendment reflects an increase in the consideration payable by Genetix to Applied Imaging's stockholders from \$3.50 a share to \$3.70 a share, putting the value of the purchase at about \$19.6 million.

Applied Imaging originally disclosed the agreement to be acquired by Genetix in September for about \$18 million (*Medical Device Daily*, Sept. 6, 2006).

Mark Reid, chief executive of Genetix, said that the group continues to feel very positive concerning the potential growth seen in combining the two business and that he was still confident that the additional investment will result in enhanced shareholder value.

A special meeting to approve the proposed acquisition is set to take place on Nov. 21, 10 a.m., at Applied Imaging's headquarters.

Applied Imaging is supplier of automated imaging and image analysis systems for the detection and characterization of chromosomes and molecular markers in genetics and cancer applications. The company develops imaging and image analysis systems for fluorescence and bright-field microscopy, including its Ariol and CytoVision product families.

Genetix, with additional offices in the U.S. and Germany, develops systems for cell biology, proteomic and genomic research. ■

Agreements**Cardiac Science, GE Healthcare extend 'crash cart' partnership****A Medical Device Daily Staff Report**

Cardiac Science (Bothell, Washington) has signed an amendment to its agreement with **GE Healthcare** (Waukesha, Wisconsin) which extends the agreement's term to five years from the original three years.

GE Healthcare, a division of General Electric (Fairfield, Connecticut), will sell Cardiac Science's "crash cart" defibrillator/monitor to hospitals in the U.S. and Canada under Cardiac Science's Powerheart brand, and to customers outside North America under the GE Responder brand.

GE and Cardiac Science said they have partnered to refine the product specifications and features to ensure successful launch. Arrangements were also made to support GE's worldwide service model. Product shipments are being made under a pilot program.

The defibrillator/monitor is a rugged portable device with resuscitation and pacing therapies for use by professionals. The pilot program tests the worldwide logistics of the product launch by shipping finished devices to customers as well as service kits to GE service centers. Full shipments will begin upon the completion of the pilot program.

"GE's global presence in hospitals, physicians' offices and clinics, combined with world-class products from Cardiac Science, positions us to establish a leadership role in providing defibrillation technologies to healthcare providers," said Matthias Weber, MD, GE Healthcare's vice president and general manager, Diagnostic Cardiology.

In other agreement news:

- **CryoLife** (Atlanta), a biomaterials and biosurgical device company, has signed a licensing/distribution agreement with **BioForm Medical** (San Mateo, California), for CryoLife's BioGlue Surgical Adhesive for use in cosmetic and plastic surgery indications.

BioGlue is a two-component adhesive that creates a flexible, mechanical seal in 20 to 30 seconds and reaches maximum bonding in two-three minutes. BioGlue is approved in the U.S. as an adjunct to sutures and staples for use in adult patients in open surgical repair of large vessels and is CE-marked and approved in Canada and Australia for cardiac, vascular, pulmonary and other soft tissue repair.

BioForm will pay for clinical development and regulatory approval process for BioGlue for use in cosmetic and plastic surgery in the U.S., Canada and various countries in Europe. CryoLife will receive an initial fee from BioForm, as well as a milestone payment upon the first FDA approval for use in cosmetic and plastic surgery indications.

BioForm will be responsible for precommercialization activities involving the use of BioGlue in cosmetic and plastic surgeries, including all clinical trials and regulatory filings for the U.S., Europe and Canada. In addition, the company will oversee all aspects of the marketing, sales and distribution of

BioGlue on a worldwide basis for these indications. CryoLife will remain the exclusive supplier of BioGlue for all applications.

- **Mentor** (Santa Barbara, California) has entered into a commercialization pact with **Genzyme** (Cambridge, Massachusetts) for Genzyme to develop future hyaluronic acid (HA) dermal filler products. Terms of the agreement were not disclosed.

The first product launch under the agreement is scheduled to occur internationally in early 2007, with worldwide launch of an additional product in late 2007. Under the agreement, Genzyme and Mentor will partner to develop a next-generation, longer-lasting HA dermal filler.

Mentor makes products for surgical and non-surgical medical procedures designed to allow patients to retain a more youthful appearance. Its products and services are focused on rare inherited disorders, kidney disease, orthopedics, cancer, transplant and immune diseases, and diagnostic testing.

- **Misys Healthcare Systems** (Raleigh, North Carolina) reported a partnership with **mTuitive** (Centerville, Massachusetts) to better ensure the accuracy of cancer diagnosis in anatomic pathology laboratories.

mTuitive develops software designed to assist healthcare professionals in recording clinical findings according to established protocols and guidelines, to provide a structured data reporting (synoptic analysis) solution for anatomic pathology laboratories. "Together, Misys and mTuitive will bring anatomic pathology reporting to a new level by providing clinicians with the most advanced laboratory tools to distinguish clinical findings and ultimately optimize patient care," said Richard Atkin, president of Misys Healthcare Systems Hospital System business unit.

"Our partnership with Misys and its laboratory products helps to provide the best care and treatment options to patients," said John Murphy, CEO of mTuitive. "Surgical pathologists are required to report an increased amount of clinically significant findings. This partnership helps meet the definitive need for a standardized terminology pathology report to clearly pinpoint the most important findings, communicate results among pathologists, oncologists and surgeons, and to quickly and accurately determine the proper treatment."

Misys Healthcare develops and supports software and services designed to enable physicians and caregivers to more easily manage the complexities of healthcare. ■

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Brain

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Area 25 recently was put in the spotlight in a “60 Minutes” segment, providing Sunday evening introduction to millions of Americans, most of whom had never known they had such a region, or knew of its importance.

Currently targeting Area 25 is a DBS technology called Activa. Developed by **Medtronic** (Minneapolis), Activa is a pacemaker-like device that delivers electrical stimulation to Area 25, Joe McGrath, a spokesman for the company, told *Medical Device Daily*.

McGrath described Activa as being made up of three implantable components — the lead, extension, and neurostimulator.

The lead includes four thinly coiled insulated wires with four electrodes at the lead tip, implanted in the brain. It is connected to an extension consisting of four insulated coiled wires. The extension is threaded under the skin from the head, down the neck and into the upper chest and is connected to the neurostimulator.

The neurostimulator, or “brain pacemaker” is the battery pack, McGrath said, a small, sealed device that contains a battery and electronics and is implanted beneath the skin in the chest below the collarbone. It produces electrical pulses delivered through the extension and through the lead to the targeted areas in the brain, he said.

Medtronic plans a full-scale clinical trial of Activa in the U.S. as a treatment for depression. Activa has already been used in smaller studies at independent centers, including one last year at the **University of Toronto** (Toronto, Canada), led by Helen Mayberg, MD, now a professor of psychiatry and neurology at **Emory University** (Atlanta). The Toronto study was the focus of the 60 Minutes segment “Changing Minds: Area 25” that aired earlier this month.

In the Toronto study, six patients diagnosed with major depression that did not respond to any other type of treatment, including medication, psychotherapy and electroconvulsive therapy, participated. Guided by MRI, researchers implanted the thin wire electrodes in each patient’s brain adjacent to Brodmann Area 25 — more technically the subgenual cingulate region (Cg25).

Located in a band that runs deep within the frontal lobes, down the midline, the area plays a critical role in modulating sadness and negative mood states in both healthy and depressed people, according to Mayberg’s abstract about the trial published in March 2005 in *Neuron*.

Mayberg is continuing her research at **Emory Medical Center** (Atlanta) with a study to evaluate the safety, feasibility and efficacy of chronic, high frequency stimulation of Area 25 using another DBS device, this one made by **Advanced Neuromodulation Systems** (ANS; Plano, Texas), acquired last year by **St. Jude** (*Medical Device Daily*, Nov. 30, 2005).

The trial is now enrolling patients and will include 10 unipolar and 10 bipolar patients, Andrea Barrocas, research coordinator for the study, told *MDD*. The study is scheduled

to begin after the first of the year.

Rohan Hoare, PhD, vice president of strategy and emerging therapies at ANS, told *MDD* that the company is also involved in four different pivotal trials with the device — two in the U.S. focused on treating Parkinson’s disease and Essential Tremor, and two outside the U.S. focused on treating depression and obsessive compulsive disorder. Those trials are in the early stages, Hoare said, and are expected to take three to four years to complete.

ANS has named its DBS device Libra, after the zodiac sign considered to symbolize the concept of balance, because the device is intended to help restore balance, he said.

The ANS Libra Deep Brain Stimulation System operates similarly to Medtronic’s device, sending pulses of electricity into particular areas of the brain, such as Area 25, for the treatment of depression.

“Brodmann Area 25 is being viewed as a very interesting target for depression,” Hoare said.

If and when DBS is approved as a depression treatment, Hoare said, it would most likely be used with other strategies, including drugs, to treat the disorder.

“I don’t think that neurostimulation will be a stand-alone treatment,” Hoare said.

Studies have also been done at **Cleveland Clinic** (Cleveland, Ohio), and **Butler Hospital of Brown University** (Providence, Rhode Island), on the use of deep brain stimulation to treat severe depression.

John Grohol, PsyD, publisher/CEO of PsychCentral, an online portal targeting mental health and mental health therapies, said the studies that have been done on DBS as a treatment for depression are part of a good “first-result” program.

“Anything that helps treat people for depression, especially people who are drug-resistant or psychotherapy-resistant, is beneficial,” Grohol told *MDD*.

But because previous studies have been so small-scale, Grohol said it would be too soon to start recommending the procedure to patients from a clinical standpoint.

“Very little can be conclusively said about such a small-scale study of only six people, where two of them did not receive benefits from the treatment,” Grohol said in an article he wrote for PsychCentral about the study done at Cleveland Clinic and Butler Hospital. “Put into context, if one more person hadn’t received any benefit from the DBS treatment, the treatment would have no better than 50/50 chance in helping someone with depression.”

While the use of DBS to treat depression has just recently emerged in the experimental stage, neurostimulation is hardly a new concept.

Medtronic has been using DBS to treat patients with the most severe and disabling forms of neurological movement disorders such as Parkinson’s disease, Essential Tremor, and Dystonia, for the past decade, McGrath said.

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Diabetes

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Daily. "There are a number of things that are important about that. One is it isn't just a value; it's actually a normalized index. It gives you a reading that is normalized to the individual."

Trasoff explained that different people have different levels of serum protein, so rather than providing an absolute number "that would then need to be interpreted," the index provides a picture, or value, "relative to their system," he said.

The two primary ways of diabetes monitoring involve multiple daily blood glucose testing and the HbA1c test for long-term hemoglobin glycation. Daily testing may have to be done multiple times during the day, particularly for those on insulin, and it is often avoided by diabetics because of the pain of fingersticks and the expense of monitoring systems and test strips.

Trasoff said that research has shown that "there are a lot of factors that can affect how much of, and what sorts of, hemoglobin are present in the bloodstream at a given time," making the so-called "A1c" test highly variable.

"That's why there's a big push right now and a lot of work going on to find a way to standardize A1c, because it really isn't at the moment — never has been," he said.

While glycated albumin "has been available as a test for a long time in the clinical laboratory," there has never been a rapid albumin test, which is what makes the Epinex Diagnostic test unique.

Results from its test can be had in a matter of minutes. While there are "fairly well-established values" — or ranges — for the measurement of such tests, he said Epinex does not want to disclose any ranges for its test at this point.

"We're obviously going to refine that as we develop the test," he said.

The test will consist of a disposable test cassette and a handheld reader devices. Results will be displayed in five minutes.

Although the company submitted its preliminary patent application in 2003, the device is still patent-pending.

It was developed by the founders of Epinex, president/CEO Asad Zaidi and Dr. Henry Smith, chief technology officer. Epinex was founded in late 2002.

One of the problems with the A1c test, Trasoff said, is that hemoglobin in red blood cells are replaced about every 120 days.

Because of that, those with diabetes must wait a minimum of three months and a maximum of six months, to repeat the A1c test.

"Many people feel that that's quite a long time to measure," Trasoff said, adding that diabetics may find that damage may have been done based on their readings with A1c values, and they are faced with their healthcare provider as to how to treat that.

Epinex's objective is to have people complete its test at home, although it is expected to be available from physicians in addition to over-the-counter, to help them better

manage their disease.

The company expects to go before the FDA in about 18 months, Trasoff said. And while the company cannot make any claims about its prototype test at this point, such a test on a monthly basis could potentially reduce daily blood glucose testing, as well as offer the potential to reduce long-term effects of diabetes.

Epinex said it has been financed through a Series A private placement memorandum, having raised about \$3.2 million of \$5 million it hopes to raise. It expects to continue fundraising to "complete the shortfall of \$1.8 million."

The company said it will use the funding to continue development of its prototype, pursuit of FDA approval and market introduction.

Also importantly, the company said that it "anticipates that the test will be reimbursed, as it falls under the existing CPT code for Glycated Protein," under the **Center for Medicare & Medicaid Services**. ■

Brain

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The FDA approved its Activa therapy for the treatment of tremor in 1997 and for treatment of advanced Parkinson's disease in 2002. Similarly, ANS has been using neurostimulation for about 20 years, Hoare said, to treat chronic pain.

Cyberonics (Houston), another company pursuing deep brain stimulation — in this case stimulating the vagus nerve — received FDA approval in July 2005 for its implantable device as an adjunctive treatment for adult patients with TRD. The device is approved for patients with unipolar or bipolar depression in a major depressive episode.

However, Cyberonics' Vagus Nerve Stimulation (VNS) system has not been widely accepted by doctors or insurance companies (*MDD*, Sept. 8, 2006), and the company faces an uphill road in this sector.

Similar to other DBS devices VNS Therapy consists of an implanted device, roughly the size of a pocket watch, that delivers mild, intermittent electric pulses to the patient's left vagus nerve, which then activates areas of the brain.

Cyberonics's first target was commercialization of the system for reducing seizures from epilepsy in the U.S., winning FDA approval for that indication in 1997.

PsychCentral's Grohol said larger-scale clinical trials will demonstrate the effectiveness — or lack thereof — for the various DBS treatments for depression. He also said the risks of neurosurgery shouldn't be underestimated.

But that, of course, is the major drawback of much device therapy — especially that which is invasive — when it is first unveiled, a major example being "flap and zap" surgery, now commonly called LASIK, when it first emerged for vision correction.

"With greater use and greater amounts of doctors learning the procedure and doing it, certainly there's the possibility of it becoming as common place as something like laser eye surgery," Grohol said. ■

Eyes

Continued from Page 1

Speaking from Germany yesterday, Hans-Jürgen Tiedtke, CEO of parent company IIP, told *Medical Device Daily* that the funding will initially support launch of a 30-person clinical trial in Europe to support pursuit of CE marking.

The endpoint of the trial is visual “resolution” by the subjects, sought with the use of “a standardized visual acuity test, applicable to low-vision people, who can almost see nothing.”

This test will involve the trial subject, after implantation, looking at a circle on a wall, about 4 feet in diameter, with the circle containing black bars in horizontal and vertical arrangements. They will be asked to determine whether the bars are horizontal or vertical to help establish the amount of resolution achieved. Additional circles contain additional bars in different patterns.

Tiedtke said that the plan is to use the European trial results to move on to FDA approval, and that IMI already has had “good discussions” with the agency. The European trial will take from 12 to 18 months, including a six-month follow-up, he said, and the company will then have more detailed discussions with the FDA to see what it will want in terms of “different requirements.”

“For sure, we will approach the FDA most likely in the second quarter or first quarter next year, depending on results on Europe,” Tiedtke told *MDD*.

Start-up firms always have an appetite for more funds, but Tiedtke projected that the EUR15 million funding would take it at least through the European trial phase.

The company’s device consists of a retinal stimulator implanted in the eye, a set of glasses the person wears — containing a mini-camera — and a transmitter that acts as an interfacing component intended to provide what it has termed “intelligent information.”

The company has moved from its prototype instrument, which enabled the observation of light in 19 of 20 individuals, to one in which a camera will be used to provide “information from the outside world,” Tiedtke said. The company also is working to move from the prototype, which used 49 electrodes, to a third-generation device that will contain 231 electrodes, to produce greater resolution.

“We have no clear idea how much the brain can get out of the information provided,” Tiedtke acknowledged.

While there are a handful of other companies working on systems to provide some sight to blind patients, Tiedtke said that he thought only one, **Second Sight**, is in the same category as IMI in terms of clinical trial progress.

But Second Sight has provided little information concerning its system and so their relative positions and potential regulatory outcomes are unknown.

Eyegate now has U.S. operations

Another company working in the area of reduced sight is **EyeGate Pharma** (Paris), a company using iontophore-

sis technology to deliver therapeutics non-invasively to the anterior and posterior chambers of the eye.

The company has reported the launch of its U.S. operations in Waltham, Massachusetts, in 12,200 square feet of combined office and lab space.

The company also introduced its President/CEO, Stephen From, a former CFO and life science investment banker, as well as other members of its management team.

Thomas Finneran, president of the **Massachusetts Biotechnology Council** (Boston), said, “EyeGate is the latest in a growing number of companies coming from the Continent to Massachusetts. The scientific talent pool our area offers is unmatched by any region and this is evidenced by the pace and quality of the new hires EyeGate has recruited in a very short time.”

Michael Mullen, EyeGate’s chairman and managing director and founder of Tarvos Capital, said, “Starting U.S. operations in the Boston area is an important step for EyeGate because of the region’s deep roots in biotechnology.”

From was formerly a senior executive and CFO at **Centelion**, a 100-person independent biotech company with a Phase II biological drug for the treatment of peripheral vascular disease. In early 2006, **Sanofi Aventis** (Paris) acquired 100% ownership of that company.

EyeGate says it is the first company to demonstrate clinical significance utilizing iontophoresis for the local treatment of ocular disease. The company is developing products for severe uveitis and glaucoma and says it will seek to partner indications that address other sizeable opportunities that treat ocular disease.

Oridis to use NIH TMA technology

Oridis Biomed (Graz, Austria) reported that it has entered into a license agreement with the U.S. **National Institutes of Health** for the worldwide commercial use of NIH’s proprietary Tissue Micro-Array (TMA) technology.

Georg Casari, PhD, head of **Oridis Tissomics** business. “This license agreement further strengthens our Tissomics business for the life-science industry worldwide, where we offer our clients the ability to validate their research, such as biomarker and target verification programs.”

Tissue Micro-Arrays are a research tool within Oridis’s Tissomics platform that enables the rapid and simultaneous study of several hundred tissue samples, using standardized high-throughput analysis by in-house pathologists. Oridis commercializes its Tissomics platform in collaborations with industrial partners, as well as its own R&D programs.

Oridis develops therapeutics, diagnostics and biomarkers for liver diseases. Therapeutic programs include primary liver cancer (hepatocellular carcinoma, HCC), and metabolic liver diseases, such as alcoholic steatohepatitis (ASH) and non-alcoholic steatohepatitis (NASH), where incidence rates are rapidly increasing due to modern lifestyles, while treatment options are limited, expensive, and often ineffective. ■

Neck

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treat an additional patient population equal to about 10% of the current market for these grafts. He acknowledged that while this doesn't represent a huge market opportunity, it validates the company's goal to provide systems for every aspect of the AAA graft market.

"It's part of the whole Cook philosophy of treating all patients that need treating, based on the need, rather than only looking at the financial side of things," he said.

According to Thomas, this new system represents the "largest abdominal device available in the world." He noted that while patients with large aortic necks may not necessarily be the most difficult group to treat, they are "more difficult to access" in a minimally invasive fashion.

He said that the ability to make this new system work was the company's Flexor slip-coated sheath delivery system, which the company plans to make available for other graft sizes in the U.S. in the near future.

"When we sat down and worked it through, having the Flexor available in the larger sizes was the key to being able to get this product into the market. The standard non-slip-coated non-Flexor delivery systems would have made it much more difficult."

Key problems that other companies have had in this market often have not been with the grafts themselves but rather with the delivery method, Thomas told *MDD*. He said that "high-profile devices no longer on the market" had problems with delivery that Cook has taken pains to avoid.

"Cook has always had a very good reputation, catheter-wise, in the delivery systems and that whole area," he said. "In Australia we developed this [next generation] around the delivery system, so you can put it exactly where you want it and deploy it correctly. The Cook device has two more steps than any other device, but those steps allow us to control the device."

While Thomas said Cook has pursued coverage of the entire AAA graft market, he acknowledged work still to be done, particularly in the U.S. in the area of fenestrated grafts.

The fenestrated graft is unique in its architecture, he said, with a particular approach to construction needed to fit difficult aneurysms.

The treating physician first uses a variety of imaging techniques to describe the anatomy of the aneurysm, and this description is then sent to Cook's Australian facility that uses specialized techniques to create a custom endograft. A customized design, he said, is needed for the short difficult "necks" of the diseased anatomy "between the bottom margin of the renal artery and the top margin of the expansion of the aneurysm." These shorter necks, Thomas said, are found in "a particular range of patients" who can't be treated with standard AAA grafts, which are susceptible to endoleaks.

The company has completed a Phase I trial for the fenestrated device and is working with the FDA to put together a Phase II trial, Thomas reported.

Cook estimates that the AAA market as a whole is worth \$350-\$400 million in the U.S. and about \$225 million in the European market which is largely under-penetrated.

He said that company is also moving forward with a few implantations of its TX2 device to treat thoracic aneurysms, which he called "not a huge business market" but nevertheless extremely important for those with this type of aneurysm. In that market, the company has finished its U.S. clinical trials and hopes to submit a PMA application to the FDA later this year.

In the U.S. the company competes with **Medtronic** (Minneapolis), with its AneuRX system, and **W.L. Gore** (Flagstaff, Arizona), which makes the Excluder.

AAA, a life-threatening disease, occurs when a section of the abdominal aorta, the body's main circulatory vessel, weakens and bulges outward to form a balloon-like swelling called an aneurysm. If the aneurysm ruptures, the patient is at high risk of death as a result of internal bleeding. ■

BRIEFLY NOTED

Matritech facing possible AMEX delisting

Matritech (Newton, Massachusetts), a developer of protein-based diagnostic products for the early detection of cancer, said it has filed a plan with the American Stock Exchange (AMEX) outlining the actions it proposes to take to bring it into compliance no later than March 21, 2008, with AMEX's listing standards.

Matritech previously reported it had been informed that it was not in compliance with AMEX's continued listing standards but was allowed to submit a compliance plan by Oct. 23.

If AMEX accepts the plan, the company may be able to continue its listing for up to 18 months, during which time it will undergo periodic review concerning progress. If there is no progress, AMEX can initiate delisting proceedings.

Millipore opens \$50 million R&D Center

Millipore (Billerica, Massachusetts) has opened a new \$50 million research and development center in Bedford, Massachusetts.

The 110,000 square foot building contains 47,000 square feet of lab space, and consolidates multiple functions for 500 employees who will work there.

Martin Madaus, CEO and chairman of Millipore, said the center enables the company "to attract scientific talent and bring together multiple research disciplines to develop integrated solutions. These solutions will create value for our biotechnology and pharmaceutical customers and fuel our continued growth as a leader in the life sciences industry."

Millipore is a provider of products and services designed to improve productivity in biopharmaceutical manufacturing and in clinical, analytical and research laboratories.

PRODUCT BRIEFS

- **Artes Medical** (San Diego), focused on making a new category of aesthetic injectable products for men and women, reported FDA approval of ArteFill, calling it “the first and only non-resorbable aesthetic injectable implant approved by the FDA.” The product is indicated for the correction of facial wrinkles known as nasolabial folds, or smile lines. Unlike existing dermal fillers that are completely metabolized by the body, ArteFill represents the first product in a new category of non-resorbable dermal fillers providing a permanent support structure for enduring wrinkle correction, according to Artes. ArteFill contains a combination of ArteFill Precision-Filtered Microspheres suspended in a carrier gel containing purified bovine collagen. Artes said it will begin marketing and selling ArteFill to dermatologists, plastic surgeons and cosmetic surgeons in the U.S. through its direct sales force.

- **CPC of America** (Sarasota, Florida) reported that its subsidiary, **Med Enclosure**, in its preliminary findings of the randomized, prospective, multicenter trial of the MedClose VCS produced successful results with no adverse effects reported in diagnostic and interventional studies. Trial of the MedClose VCS as a “non significant/low-risk” device determined by both a U.S. Independent Review Board and a Canadian Independent Review Board — with subsequent approval by the Canadian Health, Health Products and Food Branch, Therapeutic Products Division for Protocol #CL-7000 — is intended to seal femoral arterial puncture sites and reduce time to hemostasis and ambulation in patients who have undergone interventional and diagnostic catheterization. The MedClose VCS is a catheter-based system that uses approved biologic fibrin sealant with approved labeling to rapidly seal arterial puncture sites following diagnostic angiography, interventional cardiology and radiological procedures.

- **HydroCision** (Billerica, Massachusetts) reported that it will sponsor the training of spine surgeons at a Korean venue to perform a new, herniated disc repair procedure called HydroDissectomy. This minimally-invasive procedure uses a high-velocity waterjet to decompress herniated discs, providing relief to patients suffering from back and/or leg pain. The HydroDissectomy training will be performed in a “live” procedure by Richard Nussbaum, MD, of the Los Angeles Orthopaedic Institute, on Nov. 4, during the 17th annual Spine Total Care: New Technologies in Spinal Surgery meeting in Seoul.

- **Hydromer** (Branchburg, New Jersey) has developed an anti-thrombogenic polymer coating complex (F202) designed to minimize blood coagulation. The surface bonding capabilities of the F202 polymer, which maintains long-term non-leaching properties, “are outstanding on a wide variety of medical materials such as cardiovascular devices and stents,

hemodialysis equipment and intravenous catheters,” the company said. Hydromer said it will be seeking medical device manufacturers who will enter into confidentiality agreements with non-analysis restrictions, submit their device samples for trial coating and provide feedback to Hydromer.

- **Nanogen** (San Diego), a developer of diagnostic products, said that it has been issued four patents by the U.S. Patent and Trademark Office for inventions related to diabetes and Alzheimer’s disease biomarkers, the most recent patents in a series describing biomarkers associated with these diseases. U.S. Patent No. 7,125, 678, “Protein biopolymer markers predictive of type II diabetes,” U.S. Patent No. 7, 097,989, “Complement C3 precursor biomarker predictive of type II diabetes,” and U.S. Patent No. 7,094,549, “Fibronectin biopolymer marker indicative of insulin resistance,” relate to the use of mass spectrometry and time-of-flight detection to identify biopolymers that characterize type II diabetes. These markers could potentially be used in applications of disease risk assessment and development of therapeutic avenues, the company said. In addition, U.S. Patent No. 7,101,680 “Method for detecting the presence of monomeric brain associated human glutamine synthetase,” relates to a method for detecting a biochemical marker, human glutamine synthetase, by immunoassay as a potential diagnostic for Alzheimer’s disease. In addition, a method for distinguishing between AD and non-AD dementia is disclosed.

- **Shire** (Basingstoke, UK) said that its Attention Deficit Hyperactivity Disorder (ADHD) patch, Daytrana (methylphenidate transdermal system), has “significant” efficacy in reducing the symptoms of ADHD in children aged 6 to 12, even when the ADHD patch is taken off earlier than the recommended nine hours. The ability to remove the patch earlier than the recommended 9-hour wear time allows the opportunity to manage late-day side effects, such as lack of appetite or difficulty sleeping. The phase IIIb clinical trial results were reported at a scientific meeting of child and adolescent psychiatrists in San Diego. The company said Daytrana is the only patch medication FDA-approved by to treat the symptoms of pediatric ADHD. Daytrana combines the active ingredient, methylphenidate, with Noven’s DOT Matrix transdermal technology.

PEOPLE IN PLACES

- Edward Daihl has been named CEO of **Surgical Information Systems** (SIS; Atlanta) replacing Bob Schlotman who had been serving as interim CEO. Schlotman will remain a member of the SIS executive leadership team. Daihl previously served on the executive management team as senior vice president of revenue management and pricing for Manugistics. SSI describes its role as providing automated intelligence across the perioperative continuum.