

Having created the world's Smallest Surgical Camera, Physiologic Metric Technologies and Drug Delivery Tools, Sanovas Surgical Technologies is enabling Surgeons to Diagnose, Treat and Deliver Drug and Immune Therapies in a way that will turn the Tide on the Epidemic of Pulmonary Disease and Lung Cancer

**Healthcare
Life Science Technology**

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**Larry Gerrans
CEO**

BIO:

Larry Gerrans began his medical device career as a Total Joint Replacement specialist for Depuy Orthopedics (Johnson & Johnson); where he worked with many of the world's premier orthopedic surgeons in the education and intra-operative consultation of primary and revision total joint arthroplasty. Gerrans became a recognized expert in the training and consultation of mobile bearing knee arthroplasty and was a clinical devel-

opment specialist in the launch of various total joint arthroplasty and spine reconstruction systems. During his tenure, Gerrans grew his business unit to \$25M in four years and secured Depuy's very first National HMO Contract with Kaiser Permanente.

As minimally invasive surgery (MIS) became prevalent in the 1990's Mr. Gerrans played an active role in the innovation and deployment of MIS techniques, devices and implants for the burgeoning endoscopic market; to include surgical technologies and protocol for the General Surgery, Gynecology, Urology, Cardio-Thoracic, Neuro-surgery, ENT and Orthopedic /Sports Medicine sectors. Accordingly, he participated in a number of technology development initiatives, becoming adept at forging 'Innovation Teams' comprised of surgeons, engineers, regulatory, manufacturing, clinical education, marketing and sales; bringing hundreds of products from concept to commercialization.

Gerrans' team was among the first medical industry personnel to enter the Los Alamos National Laboratory to evaluate various technologies for transfer to private industry. The most recognizable being the solution to the Oxy-Hydro combustion equation; relating to the use of radiofrequency ablation technology for soft tissue modification in Orthopedic Sports Medicine.

Gerrans pioneered the Endo-Suite and Digital Operating Room technologies for Stryker and Smith &

Nephew, respectively, and architected one of the first electronic operative notes systems; leading to the rise of electronic medical records. He led the clinical development and sales of the medical industry's first voice-activation technology for surgical device control in the operating theatre – the Hermes Voice Activation and Surgical Device Control System. His technology development and acquisition initiatives grew this new technology sector into a multi-national, multi-billion dollar health care construction enterprise that has re-invented operating rooms worldwide.

As co-founder of Sanovas, Mr. Gerrans is currently leading the next generation of Interventional Pulmonary Science. Mr. Gerrans serves on the advisory board for the Advanced Medical Technology Association's (AdvaMed) Emerging Growth Companies Council, which provides a forum for promoting the interests of AdvaMed's emerging companies. AdvaMed is the world's largest medical technology association, representing more than 1,200 developers and manufacturers of medical devices, diagnostic products and medical information systems. He is also an advisory board member for Frost & Sullivan's 2013 Medical Device Program.

His personal initiative in Technology, Business Development and National Contracting works on behalf of Smith & Nephew culminated in Smith & Nephew being awarded an \$80 million national sole-source contract with Kaiser Permanente Medical Group for the development and construction of

over 250 Digital Operating Rooms as well as a \$15 million contract award for Sports Medicine devices and implants. Mr. Gerrans has gained extensive organizational development and P&L experience; working for Depuy (J&J), Stryker, Smith & Nephew and Halo Management Group. He has advanced through Sales to positions of Key Market Specialist, Director of Business Development, Director of Sales, Vice President, General Manager, President & CEO.

About

Sanovas Surgical Technologies:

Sanovas Inc., based in Sausalito, Calif., is a life science technology company focused on developing and commercializing next-generation micro-invasive diagnostics, devices and drug delivery technologies for unmet clinical needs. Sanovas' microsurgical technology platform is designed to give surgeons the ability to access and visualize previously inaccessible areas of the body; enabling them to diagnose, treat and deliver drug and immune therapies to small diameter anatomy in entirely new ways. Privately held, Sanovas was founded by the pioneers in minimally invasive surgery. The company has more than 45 multi-national patents pending.

**Interview conducted by:
Lynn Fosse, Senior Editor
CEO CFO Magazine**

CEO CFO: Mr. Gerrans, would you tell us the overall vision of Sanovas?

Mr. Gerrans: The overall vision of Sanovas is to turn the tide on the epidemic of pulmonary disease and lung cancer. Sanovas is a company that is creating technologies to treat patients who suffer from pulmonary diseases such as COPD, emphysema, asthma, cystic fibrosis and lung cancer.

CEO CFO: What is it in your approach that differs from other methods?

Mr. Gerrans: The approach that Sanovas has taken is to advance the miniaturization and to improve the intelligence of miniaturized technologies in the effort to go to places and spaces in the pulmonary anatomy where we have heretofore never been

able to reach. I think the most impressive thing about the company is that the founders of the company and the individuals working in the company were on the ground floor of minimally invasive surgery in the eighties, nineties, and two thousands. They have participated in many of the advances that have made minimally invasive surgery what it is today. As for what brought us together on this initiative, we have long recognized the unmet needs of the pulmonary marketplace. We identified a major lack of technology and innovation capable of overcoming the procedural risks of operating in the lungs. It had everything to do with the size of the airways and the remote passages in the lungs, in addition to the fact that the Lungs cannot be turned off to be operated upon. Operating on a moving, vital organ creates a lot of complexity. We set about to create an advanced approach to making small diameter imaging technologies that could be delivered via small diameter catheters. We further innovated new physiologic measurement systems and on-board diagnostic technologies to provide surgeons the intuitive command and control of the operating environment they had been lacking. Our approach has been evolutionary in that regard. After observing and listening to the key opinion leaders in the science, we invented a portfolio of technologies that would not only allow us to access, image, measure and diagnose small diameter airways, but to remove the obstructive pathology that is found within them, and to deliver drugs and immune therapies to the tumors residing outside of the airways.

CEO CFO: Would you explain the major technologies that you are advancing?

Mr. Gerrans: Sanovas has created the world's smallest surgical camera, which is essential to imaging the lungs. It is a 0.75-millimeter bronchoscope. We have a 1.0mm, 1.5mm, as well as a 2.0-millimeter scope. These technologies are paramount to the delivery of diagnostics and therapy enabling technologies vital to advancing care in the pulmonary disease population. We are effectively changing the paradigm of pulmonary inter-

vention and by that, I mean that we have improved the way physicians can introduce a number of tools into the lungs to work harmoniously together to remove obstructions and to operate on the lungs. We have this 1.0-millimeter man concept, wherein we imagine ourselves as a construction worker that is 1.0 millimeter tall. We put ourselves into the anatomy and we evaluate what the tools are that we would need in our belt to provide therapy to that anatomy - we then set about to create those tools. What is remarkable about our technology is that it evolved over time, through physician input, and has come together as a very synergistic solution set. The cameras are very exciting. However, our outstanding contributions are really in the Physiologic Metric technologies and the Drug Delivery tools. While everything we make is proprietary, those two facets of our portfolio promise manifest opportunity to the interventional sciences at large and to patient care, in general.

CEO CFO: You are working on a number of drugs; what was easiest and hardest and have you prioritized what you are doing?

Mr. Gerrans: Our focus has been on the delivery of drugs, in general. We certainly have some unique agents in development. However, we have found that there is tremendous promise for many well-known drugs that have fallen out of favor, were put back on the shelf and are, currently, falling off patent; due to their systemic toxicity. It was never imagined that these drugs could be delivered locally, in high doses; we are miniaturizing the technology and improving the intelligence to get these drugs directly and precisely to target tissues and tumors. Our inspiration is to enable early intervention. In some instances, that is by reversing hypoxia in therapy resistant tumors. Oftentimes, Lung cancer patients are given radiation to control the spread of the cancer. Unfortunately, some cancers lack oxygen at the molecular level. This is consequential, as oxygen is required at the molecular level of a cancer cell to facilitate the transport of the electron beam to the nucleus of the cell to

kill the DNA of the cell and thus kill the cancer cell, itself. If the cancer cell lacks molecular oxygen, the Electron Beam will pass through the cancer cell and, effectively, kill the immune-suppressor cells surrounding the cancer cell. Thus, increasing the margins adjacent to the cancer and enabling it to grow. This is a unique phenomenon of tumor pathophysiology that is now being addressed. It has led to what is being termed 'Personalized Medicine', where solutions specific to the individuals own immune system are being generated. It is like 'New Age' genetic compounding. This is a very exciting and promising area of research and treatment and we are excited to be at the 'tip of the spear'.

CEOCFO: Does the medical community 'get' it immediately or do they need convincing?

Mr. Gerrans: We have been met with great respect and appreciation by the physicians in the community. We have trended feedback from over 225 of the very best interventional pulmonologists and key opinion leaders in the interventional pulmonary space. They have provided us with significant feedback and great endorsement for the efforts and strides that we have made. Doctors come in all types and some are more competent than others are. I think the one thing that we have found about the pulmonary disease community, at least from a physician standpoint, is that they are very humble individuals. There have been very few companies that have aspired to help them overcome the complexities of the lungs and who have planted their flags on behalf of the pulmonary disease community. It is the only anatomy in the body that cannot be turned off to during an operation. You can turn a heart off and open it up, you can bypass and perfuse it, and you cannot do that with the lung. Unfortunately, there have not been many technologies that have enabled doctors to operate in a live, vital, breathing anatomy. That is what's needed to provide

therapy to patients with pulmonary disease. Regrettably, most of these patients, even today, are being medicated and sent home or to hospice. We are excited about the opportunity to first improve treatment and then to contribute to a cure.

CEOCFO: Are your products in use now?

Mr. Gerrans: We have about 37 products in the pipeline and our first product is expected to enter the marketplace in 2013.

CEOCFO: Has the investment community showing interest?

Mr. Gerrans: One of the great things about Sanovas is that despite the economy, we have been blessed to

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- Larry Gerrans

see significant support from friends, families and from pulmonary disease patients who are inspired to support a company like us. We have not had to reach out to the investment community. It has been very gratifying to build a company by people and patients for people and patients. This has really been a unique experience to grow the company organically. To see the American ideal achieve the American dream.

CEOCFO: Why should the business and investment community pay attention to Sanovas?

Mr. Gerrans: Pulmonary disease is worth paying attention to because it is the next frontier of innovation. I think if you are a CEO or CFO in the healthcare space, pay attention to the National Lung Screening Trial. It was

the seminal study of the last decade. Sponsored by the NIH and the NCI in 2002, the NLST was a comparative effectiveness study that contrasted the ability of a low-dose helical CT, a new imaging modality, against the existing standard of care, a chest x-ray, to detect pulmonary disease. The patient population consisted of patients who had a documented exposure to a known pulmonary carcinogen. They had either smoked for six months out of their life; they had been exposed to radon, to asbestos, to uranium in the military or to Agent Orange in Vietnam. The study enrolled 53,000 patients at 33 medical centers throughout the US and ran from 2002-2010. The NIH called the study off for humanitarian purposes

on October 20, 2010. The study concluded that patients in the x-ray group had a 20.3% mortality rate, which was highly significant but what was most compelling was the levels of effectiveness of a low-dose helical CT for detecting a pulmonary disease. The low-dose helical CT had a 24.2% detection rate as compared to the chest x-ray, which only had a 6% detection rate, so there was a 400% increase in detection. From a 'C' level perspective, a new standard of care

has effectively been declared for diagnostic imaging in pulmonary disease patients. What is interesting about that is that a standard x-ray will only yield a \$250 reimbursement, while a low-dose helical CT will yield a \$2500 reimbursement. Lung Cancer Alliance and American Lung Association are now advocating for low-dose helical CT as an adjunct to pulmonary screening much as mammographies for breast cancer detection, colonoscopy for colorectal cancer detection and prostate exams for prostate cancer detection have improved detection and reduced the cost burden of those diseases on the US GDP. There has been no detection mechanism for pulmonary disease. Yet, pulmonary disease affects more people in the US than breast cancer, prostate cancer and colorectal cancers combined.

There are currently 47 million Americans in the US that are suffering from a chronic pulmonary disease. There are 96 million Americans that are at-risk of suffering from a chronic pulmonary disease, so it is epidemic. From a humanitarian standpoint, you should pay attention to this, from a business standpoint, if you are a Hospital CEO or health care executive you are staring down the gun barrel of a 21% cut in Medicare and a prospective 28% cut in Physician reimbursements, not to mention the Affordable Care Act. You should pay attention, if you are evaluating which programs you are going to cut and what personnel you may have to cut. You should pay attention if you are looking to where the new opportunities of care reside and how you are going to improve care in your community. If you have a patient that presents with a

pulmonary complaint, a new standard of care has been declared. You have to weigh the use of a low-dose helical CT, given its statistically superior detection rates over the existing standard, which is x-ray. In addition to that, you have a 10X reimbursement multiple. The x-ray is going to reimburse \$250; the CT will reimburse \$2500. WellPoint who insures about 35 million Americans has just authorized reimbursement for elective CT for those 50 years of age and older. We are soon going to see pulmonary screening become standard, as have screenings for breast cancer, prostate cancer and colon cancer. Finally, because of increased detection, you are going to yield a 24% increase of those patients wherein you will prospectively find a pulmonary disease, which will then prompt additional procedures in the forms of diagnostic biopsies

and other diagnostic imaging to help these patients. This is a huge humanitarian opportunity to improve the lives of our fellow citizens through the early detection and the early intervention of chronic pulmonary disease. Financially, it is probably one of the only improvements in the health care business model that could serve to reduce the \$150 billion annual cost burden of chronic pulmonary disease on the US GDP, while commensurately providing a valued service that contributes net profits to our local community hospitals. This restores the ideal that we can do well by doing good!



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