



## GB stem cell clinic puts Freeport on map

Groundbreaking treatments attract patients from all over the world

BY CATHERINE MORRIS

**I**n the four years since it opened its doors, Freeport's first stem cell facility has grown from strength to strength, treating hundreds of patients a year, contributing significantly to cutting-edge science and putting Grand Bahama on the map as a premier medical tourism destination.

The Okyanos Center for Regenerative Medicine began treating patients in September 2014, offering them a revolutionary new way to treat chronic heart disease. Since then, the clinic has broadened its services, treating neurological, orthopaedic and autoimmune conditions.



Dr Vincent Burton

COURTESY OKYANOS

*“Stem cell therapy is truly an evolving healthcare option for many unmet needs and areas of research.”*

At the helm is president of Okyanos, Dr Vincent Burton, who first joined the team as chief anaesthesiologist in 2014 but took up his current role in July 2017. Burton’s appointment coincided with a change of the clinic’s ownership. Okyanos was acquired by the US biotech investment firm Black Beret Life Sciences (BBL) that same month.

Under its new leadership, Okyanos is looking forward to expanding its services to offer more and more patients safe, effective and often life-changing treatments.

## **Cardiac care**

While new treatments are becoming available at Okyanos, the company maintains a focus on cardiovascular disease. The clinic uses cardiac stem cell therapy to treat coronary heart disease, damaged heart muscle, restricted blood flow (ischaemia) and congestive heart failure.

The same-day, outpatient procedure begins by extracting stem cells from a patient’s own adipose (fat) tissue. A small amount of fat is taken in a minimally invasive liposuction procedure and processed to isolate the required stem cells.



Body fat harvesting procedure in cell therapy operating room



COURTESY OKYANOS

Okyanos is expanding services to offer more treatments.

The patient rests and recovers for around two hours before the reconstituted stem cells are slowly and precisely injected into the heart via infusion into the coronary sinus.

Stem cells can reduce inflammation, prevent cell death and, most crucially in this instance, spur the growth of new cells. While they cannot regrow a damaged heart, doctors at Okyanos use treatment protocols to improve blood flow in the heart, easing symptoms and improving quality of life.

Okyanos's original procedure was based on a clinical study carried out in Europe from 2007-12. The PRECISE trial was a 36-month study using adipose derived stem cells to treat chronic ischaemic heart failure. Results were encouraging. Patients reported improvements in blood flow, oxygen intake and their ability to carry out physical tasks.

PRECISE was deemed a success and, soon after, the procedure was approved by the European Union. The US Food & Drug Administration has been slower to embrace stem cell research, although it did green light cell therapy company Cytori Therapeutics to conduct a US version of the PRECISE trial. These studies, known as the ATHENA trials, began in 2012 and published results in 2016. They also showed marked symptomatic relief among patients.

The executive team at Okyanos keeps a close eye on research and results in this rapidly changing field. "Stem cell therapy is truly an evolving healthcare option for many unmet needs and areas of

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research,” says Dr Burton. “We will continue to evolve with the research field to provide the best possible opportunity for a positive outcome for our patients. It’s an exciting time in medicine, and an especially exciting time in regenerative medicine. Research is moving at a fast pace, and there are wellness opportunities for patients and providers alike where previously there were none.”

## **Expanding services**

Building on the success of its cardiac treatments, Okyanos has since branched out into other areas and now treats conditions such as osteoarthritis, Parkinson’s disease and traumatic brain injury. Patients undergo therapy alongside their existing medical care plan or, in some cases, have exhausted all options before coming to the Freeport clinic.

“We treat patients with chronic conditions who are seeking additional therapies in conjunction with, or beyond, what is currently offered. The highest priority for us is our patients, and we utilize only tested treatment protocols to improve health,” says Dr Burton.

One of the clinic’s newest protocols treats a devastating condition that can be agonizing and severely limiting for sufferers. Diffuse scleroderma is an autoimmune disorder that can attack the skin, muscles and internal organs. It causes hardening and tightening of connective tissue.

In 2017, Cytori Therapeutics announced the results of the STAR trial, which used fat-derived stem cells to treat scleroderma affecting the hands and fingers. Most of the patients involved in the double-blind, randomized, placebo-controlled trial were suffering from diffuse scleroderma, a more severe type of the disease, and these patients showed significant improvement in their hand function and functional disability scores following the treatment.

Okyanos began offering the procedure in October 2017 after reviewing STAR’s promising results. “We are committed to continuously expanding our offerings of evidence-based regenerative medicine,” says Dr Burton. “Okyanos closely follows the treatment protocols laid out in clinical research, which have demonstrated safety and promising outcomes.”



COURTESY OKYANOS

Okyanos's state-of-the-art operating facility

As the range of treatments available at Okyanos has grown, so have the staff and facilities. The team now includes stem cell researchers, board certified orthopaedists, surgeons, cardiologists and licensed MDs, as well as highly trained nurses and technicians.

The clinic is fitted with a Class C operating theatre and a cardiac catheterization lab with advanced imaging systems (allowing doctors to see a patient's heart from all angles) and cutting-edge cell processing technology. Patients, and their caregivers, are offered hotel-style recovery suites with private bathrooms, television and Wi-Fi.

## Community growth

The Okyanos clinic in Freeport attracts an international crowd. Dr Burton says: "While the majority of our patients travel to Freeport from the United States, one of our first patients came to us from Australia. Others have travelled from Italy, Canada, Germany and Tanzania. We've also seen many from right here in The Bahamas. Okyanos is an international healthcare destination, and we're very proud of that."

And the clinic maintains a global presence. Staff frequently attend international conferences to spread the word that the clinic, and Freeport, are open for business.

Okyanos has also partnered with Medigo, an international network of medical practitioners that helps medical tourists find approved and vetted clinics all over the world.



COURTESY OKYANOS

Okyanos offices and treatment centre

The medical facility isn't just forging links abroad, it's also fostering close ties with the Freeport community, sponsoring local events such as the Grand Bahama Medical and Dental Association conference. The clinic's director of finance and administration, Fiona Daniels, joined the board of directors at the Grand Bahama Chamber of Commerce in 2018.



COURTESY OKYANOS

"Okyanos has developed into an international medical tourism destination [and] this has, in turn, introduced and encouraged medical tourism in Freeport and led to the employment and development of Bahamians, as well as meaningful professional relationships forged within the Grand Bahama business and medical communities," says Dr Burton.

"It is nice to see the effects of advancements in this field translating into growth in our community through medical tourism, new job opportunities, young students developing an interest in medical science and taking educational tours through our facility with their schools."

*Each patient treated at Okyanos has the chance to become part of medical history.*

## Highly regulated

Dr Burton, who has worked at both the Rand Memorial Hospital in Freeport and Princess Margaret Hospital in Nassau, credits the government with driving Grand Bahama's success in this niche field, in particular, the Ministry of Health's National Stem Cell Ethics Committee (NSCEC) which was created under stem cell legislation passed in 2013 and regulates the therapy in the country. Okyanos was the first facility of its kind to be approved by the NSCEC.

"Grand Bahama is an ideal locale for stem cell treatments due to the Bahamian government's strong focus on safety and its commitment to the acceleration of regenerative medicine for patients," he says.

Dr Burton highlights the growing number of unregulated stem cell clinics cropping up around the world as the field receives more interest, and says Okyanos is proud to operate in such a highly regulated and safe environment. "Regenerative medicine and stem cell therapies remain highly unregulated throughout the world. For patients, this translates to insufficient safety standards, zero facility inspection and no oversight of the resultant cell products for purity and viability. We're grateful for the NSCEC's dedication to making The Bahamas a world-class destination for safe and regulated cell therapy for all patients and providers in this country."

Each patient treated at Okyanos has the chance to become part of medical history. With the patient's consent, data is collected by the clinic and submitted to a third party research organization that analyses and validates the results. This information (which tracks patients over the months and years following their procedures) is used to inform further treatments and is also added to the growing body of research on stem cell therapy, tracked and assessed by providers all over the world.

Dr Burton says amassing this wealth of research, and using it to help future patients, is one of the key goals of his tenure as Okyanos president. "Stepping into this leadership role has been very meaningful. We have worked hard to differentiate ourselves as a leader in the field through our medical team, our superior standards of care and a culture of teamwork. Moving forward, I am excited to lead the collaboration to obtain clinically meaningful data. This data can be used to improve future treatments for the patient, and any other patients with similar medical conditions, and it furthers the development of the regenerative medicine field globally." ②