F.O.C.O.S. NEWS

Foundation of Orthopedics and Complex Spine

Winter 2006

The Stockdale Paradox
By Dr. Boachie-Adjei, Founder/President

"Retain faith that you will prevail in the end and confront the most brutal facts of your current reality whatever they might be." **In Love & War** Admiral Stockdale

The "Stockdale Paradox" explicitly describes the F.O.C.O.S. experience and how our faith and perseverance got us through jumping hurdles which almost brought us to a breaking point. But victory was ours and thanks to all the volunteers who donned their suits to fight the battle.

A Whole New World
By Jason Moeser

I had heard about this trip numerous times. From friends to coworkers to my boss. It was always spoken of highly, but almost as if it was a person, as if the trip itself had a personality. I could not have imagined the experiences that were in store for the next 8 days. It seems like 8 days is quite a short period of time, but when it is 192 hours of new stimulus, you start to get an appreciation.

From the moment I landed in this new place, it was full of unfamiliar faces and smells. Then from out of the crowd a familiar face, my friend Bettye. She would act as my tour guide through this new place. It is intriguing to see that, even though this is far from her first trip to Ghana, her excitement is bubbling. It is also quite obvious to her that my anticipation is near peaking. After a quick introduction to a few of my compatriots for the next week, we make the journey from the airport to what will be home for the next week.

Although it is difficult to see through the unlit streets, it seemed like quite a different drive home from the airport than I am used to. We drive past small huts and stands that seem to be selling everything imaginable from libations to phone cards. It is often tough to see the wares for sale as it is now past 11pm. My stomach was beginning to speak for me as it had been quite a long flight.

After the short drive to the guest house, I finally get a chance to meet "the team". Upon arrival, even from the driveway, the smells emanating from the house are divine. We arrived to a late dinner already prepared. New and unfamiliar tastes are a welcome addition to my grumbling stomach. This late dinner scenario will become a familiar one as the week goes on. This would be my first introduction to what will become the most impressive team effort that I have ever had the pleasure of being associated with.

Looking around the room, it was quite clear to me that we had a vast array of both personalities and nationalities. From all across the world, there had been assembled "the team". It was a fantastic mix of both people that had enjoyed this experience before, as well as the "new meat" who would be having their first experience here in Ghana. From Japan, to Spain, to the United States, this was a talent pool that I had never seen the likes of. This was an opportunity to work with some of the most renowned names in spine, and it would certainly not disappoint.

Dr. Boachie, whom all will be familiar with as the organizer of this trip, introduced me to a new term as well: spine frenzy. At first glimpse, this may seem like an unflattering term, one that may convey a sense of chaos. But as I was to learn, spine frenzy translates directly to a symphony of unspoken and spoken words, perfect hand movements, and simply amazing surgical techniques applied to the spine. Each one of the surgeons that I had the opportunity to work with was nothing short of wonderful. The professionalism and talent in the face of challenging circumstances is not only to be commended, but was superb.

The beauty of what was coming to fruition in each of the operating rooms was only a brief glimpse of the beauty that made up this whole trip. There were new friendships forged and old friendships rekindled. Some of the veterans of the Ghana experience as well as a few of our new friends who worked with the FOCOS group at the house would take us to see some of the most amazing sights to behold in Ghana. These were to include a trip to the canopy of the rainforest, as well as a tour of some of the local villages and costal castles. Each of the stops on our tour held a lifetime of images, some of which were captured on film.

Most importantly were the children. These wonderful children and their families, some of which traveled over great distances to get to Ghana, would unknowingly change the lives and perspectives of at least one, most likely many, of the participants of this incredible trip.

This new world, for me, was not only a trip and its experiences to a new destination, but the start of a new journey, or maybe more aptly the modification of the current journey. I have come home with a new appreciation of what is possible, and of how small actions and contributions can add up to something truly miraculous, truly life changing for a few young kids.

I am grateful and humbled by the opportunity to participate in this FOCOS project. I cannot find the words to express my thanks, but must say that it was a privilege and honor to be a part of this trip.

My sincerest thanks,
Jason Moeser

INSIDE

PATIENT F.O.C.O.S.

By Pascalina

Surgery was performed on me on April 9th, 2002 at the Korle-Bu teaching Hospital to correct the spine deformity with which I was born. On the 8th of April I reported to the hospital where I prepared for my surgery the next morning. Following my surgery I stayed in the Cardio-Thoracic Unit for most of the next two weeks while I recovered.

Before my surgery, I could hardly walk or run long distances without losing my breath. Because of this I was not permitted to participate in many sports and games at school which made me feel bad. Even though the severe pain in my back was constant, I worked hard to make sure my academic work was not influenced by my situation. I strived hard to always give my best in school. This hard work is still pushing me higher up the educational ladder, as I am now in the University studying marketing. In the near future, once I complete my education, I hope to become a marketing manager.

I first heard about FOCOS on the TV, but I never thought I would be a patient. However, things changed for me one day when my Dad heard of FOCOS on the news and took me to the SSNIT Hospital the very next day to see the wonderful group of doctors who were performing miracles on people's spines. After a series of x-rays, scans and other medical examinations, I was told I would need to have surgery to help correct my spine.

During my stay in the Hospital, I had certain misconceptions about doctors not being careful and nurses giving wrong drugs and injections to people sometimes resulting in their death. I also thought that the hospital would smell. However, my experience with FOCOS quickly corrected these ideas. I was amazed by the way the doctors and nurses went about their duties diligently and that the hospital did not smell, except the places where drugs and other detergents were kept. The FOCOS doctors and nurses were very dedicated to their work.

My life in Korle-Bu was not bad except that my mother could not visit me because she had just given birth to my brother Edward. However, my mom was discharged from the hospital a week before I was.

At school and home, every one was very happy and their joy knew no bounds as I had grown taller and stood very straight from the perfect surgery. I would like to use this opportunity to congratulate all of the members of the FOCOS team for making life worth living for me, for others whom have you have operated on, and for those yet to benefit from your generosity. We are sincerely grateful to you all. We say ayikoo and may the Almighty God richly bless you and give you more knowledge to help correct our spines. LONG LIVE FOCOS, Pascalina

F.O.C.O.S. on Congenital Kyphosis

By Matthew Cunningham, MD PhD and Yaw Boachie-Adjei, MD

The spine, and the rest of the skeleton, forms within the first trimester of intrauterine life. Congenital deformity (scoliosis or kyphosis) is the result of abnormal formation of the spinal elements, that results in altered geometry of vertebrae (wedge or block vertebrae), altered formation of the anterior or posterior portions of vertebrae (hemivertebrae), or altered segmentation of the anterior, posterior or lateral aspects of vertebrae (bands). This mechanism for scoliosis differs from other idiopathic etiologies, in that the child is born with the vertebral abnormality, but does not have noticeable deformity. However, over the course of time the structurally abnormal vertebrae act as an "engine" to drive the deformation of the spine. Children with congenital scoliosis tend to have the largest progressions of their deformity during their normal rapid vertical growth periods, namely from birth to 3 years old, and then again at adolescence. Frequently, their diagnosis is made when a routine x-ray is obtained for another reason, and it is only after the radiograph is interpreted that the scoliosis is noted.

In the case of single vertebral abnormalities, there is no conclusive genetic linkage in family lines, or even among identical twins. On the other hand, for the case of multiple vertebral anomalies there is a clear genetic component to the inheritance pattern. In addition, there are several syndromes that are associated with multiple vertebral anomalies, including Jarco-Levin I and II, and oculoauriculovertebral dysplasia. Patterns of inheritance have shown both autosomal dominant and autosomal recessive inheritance in large kindreds.

Classification of congenital scoliosis is based upon defining the nature of the vertebral defect. As mentioned above, defects are classified as failure of formation, failure of segmentation, or mixed (both segmentation and formation components). Another component of the classification is the predicted plane in which the deformity will manifest, that is side to side (the coronal plane) or front to back (the sagittal plane). Failure of formation has the classical example of the hemivertebra. Over time, a hemivertebra will cause an average of 2-5 degrees of deformity per year, but can be much worse depending upon the specific geometrical change present in a given patient. A similar deformity can occur in vertebrae in the front to back direction resulting in congenital kyphosis, and these deformities progress in a similar rate and manner. Congenital kyphosis is the second (the coronal plane) or front to back (the sagittal plane). Failure of formation has the classical example of the hemivertebra. Over time, a hemivertebra will cause an average of 2-5 degrees of deformity per year, but can be much worse depending upon the specific geometrical change present in a give patient. A similar deformity can occur in vertebrae in the front to back direction resulting in congenital kyphosis, and these deformities progress in a similar rate and manner. Congenital kyphosis is the second most common cause of paralysis after tuberculosis. With these points out-lined to guide potential management, it should also be kept in mind that 25% of patients will not have progressive deformity, an equal percentage will progress slowly, and that the rest should be expected to progress rapidly and require surgical treatment. Surgery can be performed through the back, front of both sides of the spine depending on the deformity type, age of patient and size. Associated abnormalities are common in patients with congenital deformity. Problems in the genitourinary system (8-18%), gastrointestinal system (15%) and cardiopulmonary system (14%) top the list of non-orthopaedic associations. However, the most common associations are intraspinal abnormalities including dysraphism (failure of 2 halves of the spinal cord to fuse), diastematomyelia (bone/cartilage/fibrous bands through the spinal cord that tether it), dermoid cysts, teratomas, lipomas, tethered cord, syrinx, etc. These intraspinal abnormalities can be present in up to 40% of patients, and mandate a thorough presurgical workup including imaging of the contents of the neural canal (using magnetic resonance imaging or computerized tomography with myeolgraphy).

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Above: X-ray of FOCOS patient with congenital kyphosis. ***Right top***: Pascalina and Bettye Wright. ***Left Top:*** May 2006 FOCOS Team

Jumping Hurdles - Greetings From Ghana

By James Watt

FOCOS patient Gloria and Bettye Wright

Over the first two weeks of May, the FOCOS team truly put Korle-bu Hospital and its staff to the test with our ambitious schedule of surgeries. The trip began with a full week of spine surgeries that continued into week two, along with several hip and knee procedures. In all, we helped 32 patients with spinal deformities and completed 8 hip and knee replacements. The surgery count (40) for the two weeks of our recent trip is almost as large as the surgery count for the entire year of 2005 (49).

Even with the normal challenges of doing surgery in Ghana; power outages, lack of water to sterilize equipment and the occasional equipment malfunction; we accomplished more than we thought possible. In addition to the aggressive surgery schedule, we also held clinic most days to see new patients and to follow-up with previous ones. In all, we saw more than 70 new patients and old friends.

This trip was probably the most challenging FOCOS trip I have been on, and to hear the veterans talk, it was probably the most challenging trip to date.

The trials actually began prior to our arrival in Ghana with a country-wide strike of all health workers in the government hospitals. It was not until the morning of the first day of surgeries that we actually knew for sure that we would have nursing staff available to care for our patients. As it turned out, we had to hire a few nurses to make sure that all of the staffing needs were filled.

During the second week, the wet season began bringing with it extremely heavy rainstorms. The roof of the surgery building was ripped off during one especially heavy storm causing the cancellation of all surgeries until the roof could be repaired.

The most difficult part of the trip for the team was when one of our patients, a 25 year-old young man, went into cardiac arrest during his surgery. We tried to revive him for the next hour and a half, but unfortunately our attempts proved to be unsuccessful. We all feel great sadness at his death, and our deepest sympathies are with his family.

Even though the trip turned out to be extremely challenging for the FOCOS team and the hospital staff, it was our most successful trip ever. We were able to positively impact the lives of nearly 40 patients over two weeks. Their lives will be forever changed because FOCOS, its team member and its donors passionately care about people. Additionally, our lives will never be the same after seeing the courage of the FOCOS patients and the dedication of the people that love and care for them.

(Continued from page 2)

Other commonly associated non-spine, but orthopaedic related diagnoses include leg length discrepancy, club feet and developmental dysplasia of the hip. Treatment of congenital deformity has the same goals as that of any of the other etiologies of scoliosis, namely to obtain a straight and compensated spine. In order to achieve this for the congenital kyphosis patient, the diagnosis needs to be made early, before the relentless progression of their deformity has gone too far. Bracing can be attempted to control the deformity, but one must keep in mind that over 30% of patients with congenital deformity can be expected to have a poor result from brace treatment alone, as has been shown in clinical studies. However, bracing can be a very useful adjunct to act as a bridge to surgery to provide support to the spine, and prevent rapid progression of deformity until the patient gets to an appropriate age for surgery. Definitive management of progressive congenital scoliosis is surgery. The surgery required must address the particular pathology present, and may involve partial growth arrest operations (hemiepiphysiodeses), osteotomies, partial or total vertebrectomies, and anterior, posterior, or combined procedures.

Left: Orthotist Lee fits a patient for a brace.

Right: Bettye meets with FOCOS nurses

F.O.C.O.S. Personal Shopper

Since the FOCOS team often does not have time to go to the many marketplaces in Accra to shop for local artifacts, the FOCOS personal shopper, Pamela Boateng brings shopping to them: Dr. Ken Paonessa arrived with a request of Kente Cloth for his wife, he went home a happy man with his prize fabric, his wife was happy and now he will be allowed to come back on another trip J.

Ghana Experience

By Tonya Juge

Above: Dr. Boachie and physical therapist Tonya Juge

It was an honor to work with Dr. Boachie and the FOCOS team during the May 2006 trip to Ghana. Upon visiting Africa for the first time, I was excited about the possibilities this experience would bring. The unending commitment of every member of this group in the face of countless obstacles and extended hours kept me in a state of awe as to what can be achieved when a group of people are truly focused on one goal.

The noble and kind people of Africa, many of which were children, set an example of courage and strength as some traveled from as far away as Ethiopia without family, underwent spine surgery and successfully rehabbed at an accelerated pace. Most of these patients were walking within 2 days of their surgery. Teaching the specifics of transfers, gait, providing key therapeutic exercises and convincing the patients it was safe to move so soon post-operatively were some of the challenges faced as the sole physical therapist on the trip. It was rewarding to witness the patient's confidence and strength grow as they accommodated their new stature and progressed to ambulation and improved gait mechanics in a matter of days. In addition to treating a total of 40 spine and joint replacement patients at the Korle-Bu teaching hospital, I also had the opportunity to evaluate and treat outpatients at the Watson House FOCOS clinic during my last week.

Experiencing a new culture, exchanging personal stories and sharing my knowledge and skill with a population who normally does not have access to physical therapists have given me fond memories of this trip. It was both professionally and personally rewarding to be a part of a concentrated effort and higher purpose. This experience is one I will carry back with me as I return to the support of my patients and colleagues at H & D Physical Therapy.

Fundraiser a Success!

The first FOCOS Fundraiser held October 14, 2006 by Lee Jean-Gillad and his wife Jacqueline at the Pierre Paul Art Gallery in Ann Arbor, Michigan was a big success.

The fundraiser was well attended including HB Calder, Owner of Biotronics and Dr. Geigher. A significant amount of money was raised to go towards the work that FOCOS is doing in Ghana.

In addition to auctioning off many beautiful pieces of art, Dr. Michael Mendelow's son, Garret, performed an amazing array of musical scores on his marimba.

Lee Jean-Gillad and his wife Jacqueline plan to hold more fundraisers to support the efforts in Ghana so we can expect great things from them in the future.

ABOUT THE FOUNDATION

A comprehensive international program dedicated to treating children's orthopedic conditions and spine deformities and disorders in children and adults

To engage in clinical research (epidemiology, natural history, and treatment outcomes) and to use such knowledge to advance the prevention, diagnosis, treatment and control of injuries and diseases of the musculoskeletal system and the spine.

To cooperate with other international centers and specialists to establish specialty training and education programs in orthopedics and neurosurgery, nursing, physical therapy, surgical technology and physical medicine and rehabilitation.

Scope of the Programs

MAJOR SPINE DEFORMITIES

Pediatric and adult scoliosis, kyphosis, spondylolisthesis and other disorders of the cervical, thoracic and lumbosacral spine.

SPINE INJURIES

Acute surgical intervention and spinal cord injury rehabilitation

CHILDREN'S ORTHOPEDICS

Pediatric trauma and reconstruction (includes all anatomic regions)

ADULT RECONSTRUCTION

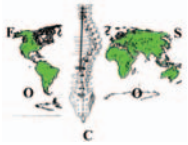
Major joint replacement

FOCOS SURGEON VISITATION PROGRAM

International physician and surgeon visitation to participate in selected educational, observational and fellowship training programs in the United States with FOCOS participating surgeons.

Pierre Paul Art Gallery

The marimba is a musical instrument in the percussion family. Keys or bars (usually made of wood) are struck with mallets to produce musical tones. The keys are arranged as those of a piano, with the accidentals raised vertically and overlapping the natural keys to aid the performer both visually and physically.



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