



## Austin T. Fragomen, MD

Winter 2009-2010 Newsletter

### International Events

The island of Cuba has captivated the interest of American travelers and doctors since the early 1900's. Although images of gorgeous beaches, Tropicana style cabaret, and Fidel immediately come to mind, Cuban surgeons have been hiding a medical secret. Dr. Rodrigo Alvarez Cambras performed a fellowship under Professor G.A. Ilizarov in Russia in the 1960's and has been practicing and teaching limb lengthening and the Ilizarov method long before it was introduced to the United States. Cambras invented a system

of external fixation called "RALCA" which is a hybrid of two techniques: the ring-system from Russia and transfixion pin fixation from Western Europe. The result was a reasonably reliable apparatus to perform bone transport and bone lengthening. Dr. Fragomen attended the Cuban orthopedic society congress held in the southern coastal city of Cienfuegos. Accompanied by his wife, physical therapist Ivette Mayo, he



*Dr. Fragomen presenting in Cienfuegos, Cuba*

presented to the Cuban panel on his extensive experience with the modern, computerized Taylor Spatial Frame used in limb lengthening and



*Dr. Cambras' RALCA demonstrating bone transport*

deformity correction surgeries in the U.S. The lecture was very well received by a crowd of surgeons from the Caribbean and Latin America. Doctor Fragomen stated that, "the Cuban doctors are highly educated and sophisticated in their treatment approaches, but, sadly, hospitals lacked the resources to effectively offer first world medical care." He also noted the strong political ties between the "the revolution" (communist party) and the Cuban orthopedic society adding that one of Castro's sons is an orthopedic surgeon. The scientific conference opened with a formal communist ceremony in the center of the city. Attendants returned to the conference for a further one hour dissertation on how the medical community should appreciate the continued support received from their socialist leaders adding that without the backing from "the revolution" this conference would not have been possible. Despite this apparent alliance, Cuban doctors are property of the state, earn about US\$40 per month, and are often "volunteered" to

be shipped off to all areas of the third world to provide humanitarian services for two year tours of duty. Although Dr. Fragomen found his visit to Cuba fascinating, he states, "Cuba, with its esteemed reputation for medical prowess, was wholly underwhelming."

## Current Research

**Ankle distraction arthroplasty** has been gaining popularity as an alternative to ankle fusion in the treatment of ankle arthritis. Joint distraction is a surgical procedure where the joint is widened temporarily through traction to help induce a healing response for damaged cartilage. (Arthroplasty is a general term for joint surgery to treat arthritis.) In light of this trend doctors Fragomen and Rozbruch have been



*MRI before surgery shows severe arthritis*



*MRI done one year after distraction surgery shows great improvement*

directing resources toward understanding more about the inner workings of this exciting method. Dr. Fragomen has observed great improvement in damaged joint cartilage and adjacent bone on MR films after distraction in several patients. These fantastic findings have been submitted for publication, and he is writing a formal, prospective study protocol to further examine these findings on a larger scale. With the help of Cornell medical student, Tom McCoy, and the HSS biomechanics department Dr. Fragomen will investigate the ideal amount of distraction needed to obtain excellent clinical

results. His dedication to this new and exciting arthritis treatment has made Dr. Fragomen a forerunner in the field of joint distraction.

**Genu varum, or bowlegs**, is a common leg deformity that occurs around the globe and is typically thought of as a natural variation of normal. Despite their organic origins varus knees often cause discomfort and self-consciousness in the affected person. It is also clear that people with bowlegs are at least twice as likely as the average person to develop knee arthritis. What's more, as many as half of the people with bowlegs also have feet that turn-in or turn-out (rotational deformity) which further complicates knee function. Many people site awkward running or difficulty aligning

themselves in basic yoga poses as signs of this greater problem. The good news is that bowlegs and mal-rotation are correctable problems. Dr. Fragomen uses a state of the art, minimally invasive surgical technique that provides a highly accurate correction for this problem.

Patients who have undergone this procedure have minimal to no knee pain and describe "feeling right" for the first time in their lives. The Institute is dedicated to further understanding the mechanics of leg realignment and is embarking on a clinical research study using the gait laboratory at HSS. This study will greatly contribute to the world medical community by helping to determine how the mechanical pressure of walking affects the knee joint before and after re-alignment surgery. These results will then be compared to the gold standard (x rays) where new correlations can be determined.



*X ray showing external brace correcting a bow leg*

## National Education

Dr. Fragomen continues to be very active several orthopaedic societies where he presents original research annually. His academic travels have brought him to several sites in the Tristate area and as far as California in 2009. This year's LLRS (Limb Lengthening and Reconstruction Society) meeting was held in Louisville, Kentucky. Dr. Fragomen presented three original abstracts that illuminated interesting observations for patients undergoing toe lengthening, ankle contracture treatment, and external fixation. These projects are now being prepared for submission to several medical journals. He gave several lectures to orthopaedic residency training programs including the Long Island Jewish-Northshore University Hospital Medical Center, the State University of New York (SUNY) Downstate Medical School, and the Catholic Medical Center-Caritas Orthopaedic grand rounds. In March he had the distinction of debating a prominent orthopaedic trauma surgeon at the Brooklyn Orthopaedic Society meeting where his stance on the treatment of nonunions with external fixation was very well received.

## Industry

Traditionally medical and surgical pioneers have worked together with industry to advance the field



*Dr. Fragomen training new staff members.*

of medicine through directed research. This relationship has brought countless new advances to the people of the United States over the past several decades. Innovative surgeons were sought out by industry to assist in product development. To be selected by industry was a status

symbol, an affirmation that these few doctors were the top of the field. As such, nearly all of the orthopaedic innovators have relationships with the device companies. The year 2009 has witnessed a dramatic change in the connection that medical equipment companies have with doctors. The US Department of Justice (DOJ) has decided that doctors are being paid to use certain surgical devices (in lieu of another device) to the detriment of the patient. If this were actually occurring it was on a micro-scale. To stop this perceived behavior the DOJ has imposed restrictions on the medical device companies that have made the funding of research projects laborious and often unobtainable. By threatening severe legal action the DOJ has discouraged many would-be physician researchers from embarking on research projects. Despite this hostile environment, Dr. Fragomen continues to work with industry to help advance the medical field. An expert in external fixation and limb reconstruction he commonly trains new company staff members on how to use their own products. He has lectured and run training skill-labs for practicing orthopaedic surgeons located in California, Wisconsin, Rhode Island, and Boston, as well as locally.

## Academic Promotion

An effective educator and lecturer, Dr. Fragomen was recently promoted to "Fellowship Director" for the Limb Lengthening and Deformity Service (LLDS) at HSS. He has received formal education training and has participated in public speaking courses which have served him well in his role as an instructor. The LLDS fellowship program now boasts two full-time clinical orthopaedic fellows who strongly enhance patient care.

## Recent Publications

Khakharia S, **Fragomen AT**, Rozbruch SR. Limited quadsplasty for contracture during femoral lengthening. Clin Orthop June 2009

Tellisi N, **Fragomen AT**, Kleinman D, O'Malley MJ, Rozbruch SR. Joint preservation of the osteoarthritic ankle using distraction arthroplasty. Foot Ankle Int 2009; 30(4):318-25

Shafi R, **Fragomen AT**, Rozbruch SR. Ipsilateral fibular transport using the Ilizarov-Taylor spatial frame for a limb salvage reconstruction: A case report. HSS J. 2009; 5(1):31-9

Kendoff DO, **Fragomen AT**, Pearle AD, Citak M, Rozbruch SR. Computer Navigation and Fixator-Assisted Femoral Osteotomy for Correction of Malunion After Periprosthetic Femur Fracture. J Arthroplasty. 2009 Jan 14. [Epub ahead of print] PMID: 19150213 [PubMed - as supplied by publisher]

Rozbruch SR, Kleinman D, **Fragomen A**, Ilizarov S. Limb Lengthening and Then Insertion of an Intramedullary Nail. A Case Matched Comparison. Clin Orthop Sept 2008



Dr. Fragomen, portrait by Austin Jr., age 7

### Institute for Limb Lengthening & Reconstruction

Hospital for Special Surgery • 535 East 70th Street, NY, NY 10021  
Phone: 212-606-1550 • Fax: 212-606-1552 • FragomenA@HSS.edu  
www.hss.edu • www.limblengthening.com

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