



Penn Orthopaedic Spine Surgery in Trinidad

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In January 2012, Dr. Vincent Arlet joined the Penn orthopaedic team. Along with gaining a valued member of the faculty, PGY3 residents at Penn also gain a unique opportunity during their spine rotation with Dr. Arlet: joining him on a surgical outreach trip to the Caribbean island of Trinidad. Dr. Arlet has worked with Dr. David Toby, an orthopaedic surgeon in Trinidad and Tobago, for the past eight years.

Dr. Arlet volunteers his surgical expertise in complex spinal deformities at the surgical center of the Princess Elizabeth Centre for Physically Handicapped Children in Port of Spain, Trinidad. The Centre opened in 1980 and currently provides housing, education and rehabilitation services for approximately 70 children. The majority of the children at the Centre were born with physical disabilities, including CP, spina bifida, and muscular dystrophies. Dr. Toby provides orthopaedic care for those children. He operates out of a single operating room at the Centre, with a five-bed post-operative ward. Several times per year, Dr. Toby and Dr. Arlet operate collaboratively on complex cases, the majority of which are pediatric. Prior to Dr. Arlet's involvement with the Centre, many patients sought treatment outside of the country.

I had the opportunity to travel to Trinidad with Dr. Arlet in March of 2012. The operative team consisted of: Dr. Jeffers, a pediatric orthopaedic surgeon from Florida, Adele,

a nurse practitioner from Dr. Jeffers' team, Alicia Link, a neurophysiologist from Michigan, Dr. Arlet and myself. Along with Dr. Toby and the Centre's operating room staff and anesthesia team, we were able to operate on three children and one adult with complex spinal deformities.

My primary role on the team was acting as first surgical assistant to Drs. Arlet and Toby, assisting with exposure and instrumentation of the spine. Prior to each case, Dr. Arlet and I would review the relevant imaging in order to determine the appropriate level of fusion. Based upon plain x-rays, we mapped out the levels at which we felt we could safely obtain adequate pedicle screw placement without the luxury of fluoroscopic guidance. (Due to recent flooding, donated equipment including the C-arm and Jackson table was damaged and therefore unable to be used.) We were fortunate to have Alicia Link from NuVasive for intra-operative spinal cord monitoring.

This experience provided me with an opportunity to participate in orthopaedic spine surgery without relying on the resources we are accustomed to in the U.S. I was also able to appreciate how patients with complex spinal deformities obtain care in underserved countries. It was an invaluable experience, and a trip other residents will find rewarding.

Below is one case we performed at the Princess Elizabeth Centre, March 2012.



SS is a 9-year-old male patient with history of Neurofibromatosis 1 (NF1). He has the clinical manifestations of NF1, including numerous café-au-lait spots. He also has a dystrophic curve, with acute angulation and involvement of a short segment of the vertebral column, characteristic of NF1 scoliosis. The patient's characteristic rib penciling is demonstrated on the pre-operative x-ray. He had a pre-operative MRI that did not show any soft tissue masses within the spinal canal. He underwent posterior spinal fusion by Drs. Toby and Arlet. His pre-operative and post-operative x-rays are shown above.