



**PRESS RELEASE**  
**For immediate release**

## **EOS: A revolution in medical imaging**

### **New EOS Imaging system takes the guesswork out of orthopaedic surgery**

**Montreal, March 17, 2011** – Today, Shriners Hospitals for Children® - Canada unveiled a new EOS 3D imaging system which will allow for superior imaging capacity, significantly reduced exposure to radiation and reduced exam times. Patients Gabriel Cobzaru and Maika Bouffard were among the first to live the EOS experience, a standing X-ray akin to walking onto the set of a sci-fi movie. Orthopaedic surgeons at Shriners Hospitals for Children®-Canada now have an unprecedented three-dimensional view of the bone structure of their patients, thanks to the Ladies of the Oriental Shrine (LOSNA) who contributed the more than half a million dollars to fund the new equipment.

EOS was developed from a Nobel Prize-winning technology by a team of engineers, French orthopaedic surgeons and radiologists. With the patient standing, the system uses two beams to simultaneously take both a frontal and side view. Radiology technicians then use the latest computer technology to combine the images, enabling a complete assessment of balance in a weight-bearing position. This high-resolution image of the patient provides the orthopaedic surgeon with over 100 clinical parameters for pre- and post-operative surgical planning.

“In the past, surgeons had to rely on two-dimensional images to *imagine* the 3D pictures in preparation for the surgical intervention,” said Jean Ouellet, M.D., and Orthopaedic Surgeon at the Shriners Hospitals for Children® - Canada in Montreal. “The EOS system we have now eliminates the guesswork that came with traditional 2D images, and we can see what is happening to the joints when the child is upright. The better we understand where the problem is, the better our ability to correct the problem. With a clearer idea going into the procedure there is less trauma for the patient and the potential for faster rehabilitation.”

#### **Increased Patient Safety**

There's also an important, though unseen benefit for the patient: The EOS system uses up-to 89% less radiation than traditional X-rays while generating its high quality images. This is especially important for the young people who will be examined using the EOS system, as they are more susceptible to the negative effects of X-ray radiation. Past studies have shown a link between the exposure of teenage girls to X-rays and higher rates of breast cancer later in life. However, many of the young people being treated at the Shriners Hospitals for Children® have to undergo numerous periodic X-rays as physicians follow the evolution of their condition as it is treated.

For ten year-old Gabriel Cobzaru, the EOS X-rays mean doctors will be able to keep a closer eye on his spinal column as he grows without exposing him to unnecessary radiation. Born with three vertebrae that were tethered together and suffering from scoliosis, he underwent surgery at age nine in which one vertebrae was removed and then steel rods and screws were inserted to straighten out the extreme curve of his back.

“He will require these X-rays twice a year, probably until he stops growing,” said his mother, Lacramiara Pliot. “We are very happy that there won't be so much radiation, yet he can be followed closely.”



Now ten, Gabriel's condition has improved to the point that he wants to become an astronaut when he grows up. He even wrote a book on his dream of becoming an astronaut, which he gave to Dr. Ouellet. With the leading technology of EOS, Gabriel is moving ahead into the futuristic imaging equivalent to the Star Trek scanner.

### **A Shiners First**

The EOS system required the construction of an entirely new examination room at the Shriners Hospital to house it, complete with lead-lined walls and new electrical installations. Once in place, all of the radiology technicians had to participate in a specialized training session to operate the EOS machine, followed by on-computer training to perform the three-dimensional reconstruction.

"It's mainly intended for spinal work, but we can use it on other parts of the body as well," said Francois Champion, Chief Technologist at the Shriners Hospital for Children®. "This is the first machine of its kind in the Shriners hospital system and we are still discovering all of its possibilities. It is very motivating to have this kind of new technology coming in."

Bringing the EOS X-ray system to the Shriners Hospital was made possible by a donation of \$565,000 by the Ladies of the Oriental Shrine of North America, Bokhara Court no. 22 in honour of Lady Dorothy Erma Rutherford.

### **Research and Development**

With only a handful of the new EOS machines in North America, this is the first McGill University affiliated site to possess the technology. This new technology continues to evolve as medical experts continue to learn all of its potential clinical applications. The Scoliosis Research Society has been working on a 3D classification using EOS technology to better predict which treatment will provide the best outcomes for patients. Orthopaedic surgeons and medical imaging technicians at Shriners Hospitals for Children® - Canada will work closely with EOS to continue to develop the imaging capacity for complex orthopaedic conditions.

Shriners Hospitals for Children® is a health care system of 22 hospitals dedicated to improving the lives of children by providing pediatric specialty care, innovative research and outstanding teaching programs for medical professionals. Children up to the age of 18 with orthopaedic conditions, burns, spinal cord injuries and cleft lip and palate are eligible for care, and receive all services in a family-centered environment, regardless of the patients' ability to pay. For more information, please visit [www.shrinershospitals.org](http://www.shrinershospitals.org).