Message from the President and Founder

I am pleased to present you with our annual report reflecting the activities of the San Diego Spine Foundation for the academic year August 2012–July 2013. Since its inception in 2004, our Foundation has grown tremendously and made great steps toward achieving our mission of fostering excellence in education and research related to the care of patients with spinal disorders.

First, I would like to acknowledge and thank our Board members, Sarah Aghassi, Esq.; Robert Eastlack, M.D.; Pat Kostial, R.N., B.S.N.; and Greg Mundis, Jr., M.D., for their voluntary contributions and commitment in moving the goals of the Foundation forward with their advice and hard work. Because of the expanding scope of services provided by our Foundation, the Board felt it was time to bring in a fulltime Executive Director/Fellowship Program Administrator to manage the Foundation and Fellowship Program. Pat Kostial has taken up this role since mid-2013 and has hit the ground running, helping the Foundation stay on course with its mission.

Since last year, significant progress has been made toward our research goals, including expanding our staffing and continuing to build a fellowship program that competes with the country’s finest on every level. I would like to congratulate our Fellowship Co-Directors, Bob Eastlack and Greg Mundis, Jr., and our outstanding faculty, who are dedicated to building and improving upon the existing program. We also continue to host international fellows and offer them opportunities to observe cutting-edge spine care.

Community spine surgeons regularly participate in our educational activities, such as weekly Conferences, monthly Journal Clubs, and our annual Spine Symposium, which in 2013 was renamed as the San Diego Spine Foundation Visiting Professorship. This meeting was launched in 1997, with leaders in the field of spine surgery participating each year as keynote speakers. This year, we were pleased to have R. Shay Bess, M.D., President of the International Spine Study Group Foundation, serve as our Visiting Professor. Next year, the meeting will take place on Friday, July 25th, 2014, with Brian Kwon, M.D., Ph.D., F.R.C.S.C., serving as our Visiting Professor.

The Foundation is extremely proud of its research program and is actively involved in both clinical and basic science research. Most medical innovations tend to be driven by a great need to improve the lives of patients and, in this respect, our Foundation is no different. Whether we are treating a young child with devastating scoliosis or an aging adult with severe pain and disability, our physicians and researchers are dedicated to finding ways of improving quality of life for patients worldwide.

The results of these studies are presented at numerous meetings and have been published in peer-reviewed journals. Some of these research projects have been conducted as multicenter studies in collaboration with centers located throughout the United States and abroad. We believe the future of spine research will be significantly enhanced by the collaboration of prestigious institutions and talented staff working together toward a common goal. The Foundation’s physicians take great pride in their association with the Growing Spine Study Group and the International Spine Study Group, two exceptionally active study groups that conduct research in adult and pediatric spinal deformities.

I cannot thank our Research Director Jeff Pawelek enough for his dedication and foresight as his department has changed and grown during this past year. We are pleased to announce the arrival of Stacie Nguyen, M.P.H., as a new member of our research team. We also welcome Navid Arandi, B.S., as our new Research Fellow for 2013–14, and Bo Robertson as our research assistant. In the past year, we also sadly bid farewell to Nima Kabirian Dehkordi, M.D., our Research Fellow since 2010, wishing him well as he leaves us to pursue his residency education.

Our faculty continue to donate their time and talent by giving back to underserved regions of the world in Africa, the Middle East, and other countries where service and education is needed. Our plan is to expand this program as we find new funding sources. Our mission statement calls for us to strive for excellence in medical education, research, and outreach, in order to achieve the best possible medical care for our patients so that we may better serve our community and the public. I hope you find this annual report demonstrates our continued commitment to dedicate ourselves to the SDSF mission.

Behrooz A. Akbarnia, M.D.
San Diego Spine Foundation Board of Directors

San Diego Combined Spine Fellowship Program
Co-Directors’ Report

The San Diego Spine Fellowship faculty includes 7 spine surgeons covering both orthopaedic and neurosurgical spine backgrounds, thus providing extensive exposure for our fellows in adult, pediatric, trauma, tumor, deformity, degenerative and minimally invasive spine care.

Our clinical and research fellows generate a great deal of basic science and clinical research for presentation and publication throughout the world. In 2012-13, clinical fellows Dr. Daniel Barba and Dr. Matthew Goldstein, completed a total of 3 research projects. Two of these projects were accepted for presentation at the 7th Annual International Congress for Early Onset Scoliosis and are currently in the process of being submitted for publication. In addition to this productive academic year, our fellows were very busy honing their clinical and operative skills, generating enormous experience for them as they launch their clinical practices.

Our outgoing research fellow, Dr. Nima Kabirian Dehkordi, was highly prolific with more than 25 podium presentations and 20 poster exhibits at scientific forums including a Russell A. Hibbs Award nomination for the best clinical podium presentation at the 47th annual meeting of the Scoliosis Research Society, September 2012, Chicago, USA. He also has 4 peer-reviewed published manuscripts, and 5 book chapters (published, or pending publication) and 7 published abstracts to his credit during his time with our program.

Please visit our Fellowship section below to get more information about all of our fellows as they join us, or depart to begin the next chapter in their lives. We couldn’t be more proud of our fellows!

Robert K. Eastlack, M.D.                                                                 Gregory M. Mundis, Jr., M.D.

Additional Members of the Faculty

Ramin Bagheri, M.D.
Faculty, San Diego Spine Fellowship
San Diego Center for Spinal Disorders,
San Diego, CA.

Maneesh Bawa, M.D.
Faculty, San Diego Spine Fellowship
San Diego Orthopaedic Associates Medical Group,
San Diego, CA.

James D. Bruffey, M.D.
Faculty, San Diego Spine Fellowship
Scripps Clinic,
La Jolla, CA.

Donald Blaskiewicz, M.D.
Faculty, San Diego Spine Fellowship
Neurosurgical Medical Clinic,
San Diego, CA.
“We were embraced as part of the fellowship family this past year and are excited to remain involved going forward!”
Dr. Goldstein and his family, wife Orly and daughter Noah, have relocated to Port Washington, NY. He has begun working in his new position at Orthopaedic Associates of Manhasset in Great Neck, NY where his primary area of interest will be adult degenerative spine as well as pediatric and adult spinal deformity.

Best Memory of Fellowship: “No single best memory for me -- the whole experience was incredible. The caliber of work being done and the camaraderie amongst the fellowship... we really felt that we were embraced as part of the fellowship family this past year and are excited to remain involved going forward!”

Matthew Goldstein, M.D.

Dr. Barba and his wife Jill have remained in the San Diego area. He has begun working in his new position at Arch Health Partners in Escondido, CA where his primary area of interest will be adult degenerative spine and adult scoliosis.

Best memory of San Diego: getting married in La Jolla.

Best Memory of Fellowship: Weekly Fellow’s Spine Conferences and discussions. “Great well-rounded training. One of the best programs I know of.”

Daniel Barba, M.D.

“I feel really blessed in having an opportunity to work with some of the pioneers in the field of spine.”

The visiting fellowship was a great opportunity for improvement of my knowledge. I want to do a special thank you to Dr. Gregory Mundis. I learned so much about adult degenerative scoliosis and XLIF procedure with him.”

Jose Bruggemann, M.D.
Florianopolis, Brazil

“I learned a lot during my 3 months at the SDSF program. You will visit the “best of the best” spine surgeons; Monday morning spine conferences are really helpful learning from the challenging cases and discussions for your own practice.”

Naveed Nabizadeh, M.D.
Tehran, Iran

Dr. Kabirian Dehkordi and his wife, Eimanah have relocated to Old Town Pasadena, CA. He has begun his PGY1 surgical residency at Keck School of Medicine of USC, with the hope of continuing on in Orthopaedic Surgery or Neurosurgery: “My interest is specifically on pediatric and adult spinal deformity. Complex anatomy and meticulous surgical treatment, to me, is the ultimate art of practicing medicine and I hope I to be a deformity surgeon one day.”

Best Memory of Fellowship: Russell-Hibbs Award finalist at 47th Annual Meeting of Scoliosis Research Society. Chicago. 2012, joining the Scoliosis Research Society as a candidate fellow, and the first MCGR surgeries at Rady Children’s Hospital; San Diego. “My fellowship was a lesson for my life, first hand and unbeatable.”

Nima Kabirian Dehkordi, M.D.
You’ve probably heard of scoliosis and may even know somebody who has been diagnosed with it. Early Onset Scoliosis (EOS) affects a small percentage of these patients who are diagnosed with progressive curves at a very young age. This type of severe scoliosis in our smallest patients may cause pulmonary problems such as Thoracic Insufficiency Syndrome (TIS) that can be life threatening.

Traditional scoliosis treatments used in older patients, such as spinal fusion, can inhibit lung and spine growth, making these treatments inadvisable for children with EOS.

Current Surgical Treatments
Growing Rod Technique was the first surgical treatment proven safe and effective for children with EOS.

Growing rods and other surgical techniques, such as rib-based and spine-based distraction devices, all have a common goal of promoting spine and lung growth while controlling the progression of scoliosis. Children who undergo these non-fusion procedures can expect multiple trips to the operating room for lengthening the rods under general anesthesia to allow for growth. For a family with a child facing multiple surgeries, recoveries and the associated risk of complications compounded with each surgery, this path can be a difficult and intimidating journey.

Magnetically Controlled Spinal Distraction
For a number of years, surgeons of the San Diego Spine Foundation have been exploring a highly innovative technology that uses Magnetically Controlled Growing Rods (MCGR) as a potential alternative treatment in hopes of minimizing repeated surgeries for lengthening the spinal rods. This new technology would require an initial surgery while allowing the rods to be remotely lengthened in an outpatient clinic without additional surgery, or, the use of anesthesia.

One form of MCGR was developed with the help of San Diego Spine Foundation surgeons and subsequently was used for the first time in Hong Kong in 2009. Since then, this type of MCGR has been implanted in nearly 600 children outside of the United States. The first studies of these patients have shown that the device is safe and effective and that these children face fewer surgeries and risks as compared to traditional growing rods.

The future of MCGR in the US
In May, 2013 two MCGR procedures were performed at Rady Children’s Hospital in San Diego under an FDA Compassionate Use Pathway along with IRB (hospital) approval. As of November 2013, FDA HDE (Humanitarian Device Exemption) approval is still pending.

We are confident that this new surgical technique offers real hope for families with children currently undergoing surgical treatment for EOS in the United States.

Our Hope
We, at San Diego Spine Foundation, hope to be able to continue to advance the research and adoption of MCGR and help fully develop it’s potential as a treatment for the thousands of children who currently face a very long path of difficult surgeries and treatments for an often devastating disorder.

Anthony Wainess was one of the two patients implanted with the MCGR rods on May 7th, 2013. We asked Anthony’s father, if he would be willing to sit down and help us write a story about his experience.

Steve Wainess went on to write an incredibly honest and poignant story about his son’s difficult path and how the MCGR procedure changed and altered his life.

There is nobody more qualified to tell the story of Early Onset Scoliosis than somebody who has direct experience with it. While we were unable to print the story in it’s entirety in this publication due to space restrictions, we have included an abridged version of the Wainess family’s story on the next page.

The full story can be viewed on our website at www.sandiegospinefoundation.org/patientstories
Anthony’s Story

SAN DIEGO, May 8, 2013 - In a revolutionary treatment for Early Onset Scoliosis (EOS), a team of surgeons implanted magnetically controlled spinal distraction growing rods (MCGR) in two children from California. My son, Anthony was one of these patients.

It was 2005 that we received the first devastating news that Anthony suffered from Early Onset Scoliosis (EOS). I am somewhat ashamed to admit it, but I probably trivialized Anthony’s diagnosis in the beginning and hoped that non-surgical treatments would manage his scoliosis. By the time Anthony was 3 years old I could no longer downplay the situation. I spent lots of time and money searching for the finest doctors and medical treatments for Anthony’s scoliosis. It was daunting. And depressing. Every path seemed to lead to a situation where Anthony would face multiple risky surgeries through most of his youth and teenage years.

In 2010, I learned about magnetically controlled spinal growth rod. The fact that Anthony would not be subjected to anesthesia and the pain/risk of surgery every six months to lengthen the growth rods helped lessen my wife, Lena’s basic objection to growth rod surgery. I found that the MGCR procedure was not available in the U.S., even on a clinical trial basis. In desperation, I began to explore the possibility of liquidating everything we owned and moving our family overseas so Anthony could undergo the procedure.

In 2012, we were referred to Dr. Akbarnia. We were very impressed with Dr. Akbarnia’s knowledge and experience, especially the fact that he was already working on this type of MGCR surgery. Unfortunately, there was nothing he could do to help us obtain this kind of surgery for Anthony.

In March 2013, we were told that waiting was no longer an option and that there were no other options but to schedule traditional growth rod surgery. We were devastated. Hours after that doctor’s visit, I received a call informing me that Dr. Akbarnia and his team were making a special application to the FDA for “Compassion Use” exemption in order to implant the MCGR rods in Anthony. For the first time in years – we had hope that Anthony would be spared the pain and associated risks of undergoing major surgery every six months or so throughout his youth and teen years.

We were overjoyed when the FDA granted the Compassion Use exemption and Rady Children’s Hospital approved the procedure. The surgery on May 7th could not have gone more smoothly. Dr. Akbarnia, assisted by two other surgeons, Dr. Burt Yaszay and Dr. Greg Mundis, Jr., implanted the MCGR rods in Anthony. As a result of straightening his spine, Anthony instantly grew 2 inches! The before and after x-rays speak volumes.

On June 3rd, less than 30 days after his surgery, Anthony underwent his first lengthening. He felt no pain, but did feel a little movement/tingle during the procedure. He returned to school the very next day! His second lengthening occurred on August 19th. This time the rods were extended slightly longer than the first time. The third lengthening took place on October 21, 2013. It was totally uneventful as far as the lengthening. Anthony felt a little “push” as he called it, but no pain or discomfort.

Anthony was lucky in the sense that he has greatly benefited from implantation of MCGR rods. So many children endure risky, painful surgeries every six months because their doctors are forced to use standard growing rods. I trust and pray that the FDA will ultimately approve the MCGR rod system for all children with EOS.
In 2005, an 84-year-old patient presented to the San Diego Center for Spinal Disorders, as she could not stand upright. Due to her age and medical health, she was not a candidate for traditional scoliosis surgery. A less morbid Minimally Invasive Surgery (MIS) was considered, however, this type of surgery had not been previously performed for the treatment of focal kyphosis. This was discussed with her fully and she was offered this procedure as a viable option for surgical resolution of her deformity.

Dr. Akbarnia and his team chose to use the lateral MIS approach to remove the disc and mobilize the spinal column to allow them to correct the kyphotic deformity and relieve the pressure on her spinal nerves. By using a lateral MIS approach they were able to access her spine using small, muscle-preserving incision on the side of her torso. Once they removed the disc, ALL (Anterior Longitudinal Ligament) of the spine was released to allow for a large angular correction in the spine. They then restored stability of this new alignment through the application of specialized cages, screws and rods. The patient had an excellent recovery and outcome, and through this endeavor, the concept of Anterior Column Realignment (ACR) performed as a Minimally Invasive Surgery was born. Since then, the technique has evolved in technique, instrumentation, and indications.

As leaders in this novel technique, we have designed special implants and equipment, and embarked to carefully train other physicians on the technique. Importantly, we have carefully monitored the outcomes on all of our ACR patients. We have compared this new technique with traditional osteotomies utilized for sagittal spinal corrections, and found the outcomes comparable in a carefully matched group. These scientific findings have been published and presented at surgical meetings across the globe and the technique has been well-received as a powerful alternative to typically highly-morbid corrective spinal surgeries.

The surgeon faculty of the SDSF at both SDCSD and Scripps Clinic continue to provide training in this new minimally invasive approach to surgeons in a variety of settings. San Diego live-surgery and cadaver training is done routinely, and other worldwide training has been undertaken through presentations, outreach programs and personal visits to other surgical sites.

San Diego Spine Foundation
Setting the Standards Worldwide

It’s been eight years since that first minimally invasive procedure for correction of sagittal deformity and in many ways our work is just beginning on researching this new procedure. In 2014, our goal is to complete more prospective studies on the MIS – ACR procedure.

The personnel working on this and other research projects with the San Diego Spine Foundation are a dedicated group, routinely volunteering their time in order to complete these important research goals. Each study involves countless hours of protocol planning, treating patients, collecting and analyzing data, writing and presenting research and educating the surgical community at large about the procedure and its results. It is our belief that MIS techniques, such as the ACR, will reduce complications, improve recovery and greatly increase the quality of life for people who would otherwise have no choice, but to live with markedly disabling deformities.

This study is only one of over 30 studies that the San Diego Spine Foundation is currently conducting. Our considerable focus on research stems from a deep desire to make our patient’s lives better and to continue improving our techniques for accomplishing this goal. The surgeon faculty volunteers their time to lead this effort, and yet there is a considerable funding requirement that comes with performing these noble research projects.

At the San Diego Spine Foundation, we strive each day to make a difference in our patient’s lives, and as Dr. Akbarnia sums up our approach, “After each surgery one must wonder, could I have done something else to make it better?” It is in this spirit that we undertake our research in spinal disorders each and every day.
“We were pleased to have R. Shay Bess, M.D., President of the International Spine Study Group Foundation (ISSGF), as our Visiting Professor.”

Dr. Kawakami and Dr. Bagheri
Japan 2013

Marc Asher, MD and Behrooz Akbarnia, MD
at Harrington Archives at KU

Above: 2013 San Diego City-Wide Spine Conference

Research Leads to Education
SDSF Research Group at 2013 ISSG

Dr. Bruffey With Guest Surgeons
Dr. Gregory M. Mundis, Jr. and his wife Lesley Mundis, PA-C as well as Dr. Donald Blaskiewicz and his wife Ursula Vacarro, PA-C traveled to Kenya in early 2013 to volunteer their time and expertise towards the evaluation, surgical management and postoperative care of patients with severe spinal deformities in need of their care.
PEER-REVIEWED PUBLICATIONS: ADULT


PEER-REVIEWED PUBLICATIONS: PEDIATRIC


BOOK CHAPTERS


RESEARCH PRESENTATIONS: ADULT

Table of Meeting Icons and Acronyms

<table>
<thead>
<tr>
<th>Meeting Name</th>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMISS 2012</td>
<td>Miami, Florida</td>
<td>Sept. 21-23, 2012</td>
</tr>
<tr>
<td>IANSS 2013</td>
<td>Dallas, TX</td>
<td>Oct 24-27, 2012</td>
</tr>
<tr>
<td>SCIS 2013</td>
<td>San Diego, CA</td>
<td>May 9-11, 2013</td>
</tr>
<tr>
<td>AANS 2013</td>
<td>Vancouver, BC</td>
<td>July 20-23, 2013</td>
</tr>
<tr>
<td>EOS 6th Annual Meeting</td>
<td>San Diego, CA</td>
<td>May 9-11, 2013</td>
</tr>
</tbody>
</table>


Society for Minimally Invasive Spine Surgery (SMISS), Miami, Florida, Sept. 21-23, 2012


20th International Meeting on Advanced Spine Techniques, Vancouver, BC, July 20-23, 2013


6th International Congress Of Early Onset Scoliosis And Growing Spine (ICEOS), Dublin, Ireland November 15-16, 2112


A. Podium Presentations (Adult):


*Disease State Correlates For Type And Severity Of Adult Spinal Deformity (ASD): Assessment Guidelines For Health Care Providers*

**IMAST**

*Severity And Treatment Response Of Back And Leg Pain Piffer By Curve Location In Adult Spinal Deformity (ASD)*

**IMAST**

*Health Comparison Of Cervical Sagittal Deformity And Thoracolumbar Sagittal Deformity On Baseline Disability And Surgical Outcomes: Cervical PSO Versus Lumbar PSO*

**IMAST**

*Cervical Sagittal Deformity Develops After PJK In Adult Thoracolumbar Deformity Correction: Radiographic Analysis Utilizing A Novel Global Sagittal Parameter, The CTPA*

**IMAST**

*Clinical Improvement Through Nonoperative Treatment Of Adult Spinal Deformity: Who Is Likely To Benefit?*

**IMAST**

*Impact Of Major And Minor Complications On Health Related Quality Of Life Following Adult Spinal Deformity Surgery: Multi-Center Prospective Database*

**IMAST**

*Coronal Imbalance May Be Neglected In Patients Undergoing Majority Sagittal Deformity Correction*

**IMAST**

*Stiffness After Fusion For Adult Spinal Deformity Does Not Significantly Impact Patients? Functional Status Or Satisfaction*

**IMAST**

*Does T1 Pelvic Angle (TPA) Effectively Assess Sagittal Imbalance And Can It Predict Sustainable Correction?*

**IMAST**

*Less Invasive Surgery For Treating Adult Spinal Deformities (ASD): Ceiling Effects For Cobb Angle Correction With Three Different Techniques*

**IMAST**

---

**B. Poster Presentations (Adult):**

*Subsidence and Lumbar Sagittal Alignment Following Lateral Lumbar Interbody Fusion*

**SMISS**

*Analysis of Transpsoas Lateral Lumbar Interbody Fusion (LLIF) for the Treatment of Adult Lumbar Degenerative Spondylolisthesis (DS): A Radiographic Review*

**SMISS**

*Operatively (OP) Treated Adult Spinal Deformity (ASD) Patients Report Worse Health-Related Quality Of Life (HRQOL) Than Nonoperative (NON), Regardless Of Age, However Radiographic Deformity Differs Between Age Groups*

**NASS**

---

Dr. Akbarnia at Japanese Scoliosis Society, 2012
**A. Podium Presentations (Pediatric)**

1. **Akbarnia BA, Cheung KM, Noordeen HH, Elsebaie HB, Yazici M, Dannawi Z, Kabirian N** *Next Generation Of Growth-Sparing Techniques: Preliminary Clinical Results Of A Magnetically Controlled Growing Rod In 14 Patients.*

   **SRS 2012**


   **SRS 2012**


   **SRS 2012**


   **Hibbs Award Nomination For Best Clinical Research Paper**

5. **Lebl, D.R., Boachie-Adjei O, Akbarnia BA, Gogia J., Krajbich, J.I., Woo, R., King, A.B., Cunningham ME, Rahm, M.D., CSSG** *The Treatment Of Thoracolumbar/Lumbar Adolescent Idiopathic Curves (Lenke 5c): Anterior Vs. Posterio Approach With Modern Instrumentation*

   **SRS 2012**

6. **Schwend, R.M., Blakemore LC, Akbarnia BA, Reigrut, J.L., Schmidt, J.A., CSSG** *Coupled Symmetry And Proportional Expansion Of The Ribs Through Adolescence*

   **SRS 2012**


   6th Triennial Congress Of The International Federation Of Pediatric Orthopaedic Societies, Toronto, Canada, May 1, 2013


   **AAP**


   **AAP**


   **GSF**


   **GSF**


   **GSF**


   **GSF**

**RESEARCH PRESENTATIONS: PEDIATRIC**
"The Foundation is very proud of its research program, and actively involved in both clinical and basic science research."
• SMISS at III WCMISST, Bahia, Brazil
• Scoliosis Research Society (SRS) Annual Meeting, Chicago, IL
• Iranian Orthopaedic Association Annual Meeting, Tehran, Iran
• UCSF Techniques in Complex Spine Surgery; Las Vegas, NV
• University of Texas, Houston, TX
• Jeddah Spine Summit, Jeddah, Kingdom of Saudi Arabia
• Scripps Foundation, La Jolla
• Alicante Medical Society Meeting, Alicante, Spain
• Meeting of the Minds, Rome, Italy
• American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL
• SRS World Wide Conference, Brazil

• Chinese Spinal Deformity Society Annual Meeting, Nanjing, China
• IMAST, Vancouver, British Columbia, Canada
• Harbor / University of California; Los Angeles
• Shafa Hospital, Tehran, Iran
• SRS World Wide Course, Tel Aviv, Israel
• Japanese Scoliosis Society, Kobe, Japan
• International Congress on Early Onset Scoliosis, Dublin Ireland
• BRNO University Hospital, BRNO, CZ Republic
• David H. Sutherland Visiting Professorship, San Diego, California
• 50th Anniversary International Phillip Zorab Symposium, London, England

Foundation Educators have lectured in 13 countries around the world, and logged hundreds of thousands of miles during the past academic year.
**MESSAGE FROM EXECUTIVE DIRECTOR**

Our Foundation’s role is to support all aspects of our research, education, and outreach. However, we cannot do this work successfully without continued funding. We deeply appreciate the support of our donors and sponsors and we want you to know that no contribution is too small. We would be honored to accept your donations and would be grateful for your continued support of SDSF. Thank you for your consideration.

Pat Kostial, RN, BSN  
Executive Director  
www.sandiegospinefoundation.org

---

**With Our Appreciation**

<table>
<thead>
<tr>
<th>2012 CORPORATE SPONSORS</th>
<th>2012 PRIVATE DONORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Double Diamond</strong></td>
<td>Champion</td>
</tr>
<tr>
<td>NuVasive</td>
<td></td>
</tr>
<tr>
<td><strong>Diamond</strong></td>
<td>Visionary</td>
</tr>
<tr>
<td>Pioneer Surgical</td>
<td>Benefactor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONTRIBUTOR</th>
<th>FRIEND OF THE FOUNDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stryker Spine</td>
<td>Jeremy F. Solano</td>
</tr>
<tr>
<td>DePuy Spine</td>
<td>Gregory M. Spink</td>
</tr>
<tr>
<td>SeaSpine</td>
<td>Robert B. Tubbs</td>
</tr>
<tr>
<td>Ellipse Technologies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACULTY DONORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behrooz A. Akbarnia, MD Patron</td>
</tr>
<tr>
<td>Robert K. Eastlack, MD Patron</td>
</tr>
<tr>
<td>Gregory M. Mundis, Jr., MD Patron</td>
</tr>
<tr>
<td>Donald Blaskiewicz, MD Patron</td>
</tr>
<tr>
<td>James D. Bruffey, MD Patron</td>
</tr>
<tr>
<td>Maneesh Bawa, MD Benefactor</td>
</tr>
<tr>
<td>Ramin Bagheri, MD Benefactor</td>
</tr>
</tbody>
</table>

The San Diego Spine Foundation would like to express its appreciation to Mr. Brian Greer, President of Golmage Media Services Inc. for his generous contribution of the development of both our 2012-2013 Annual Report and our website: www.sandiegospinefoundation.org.