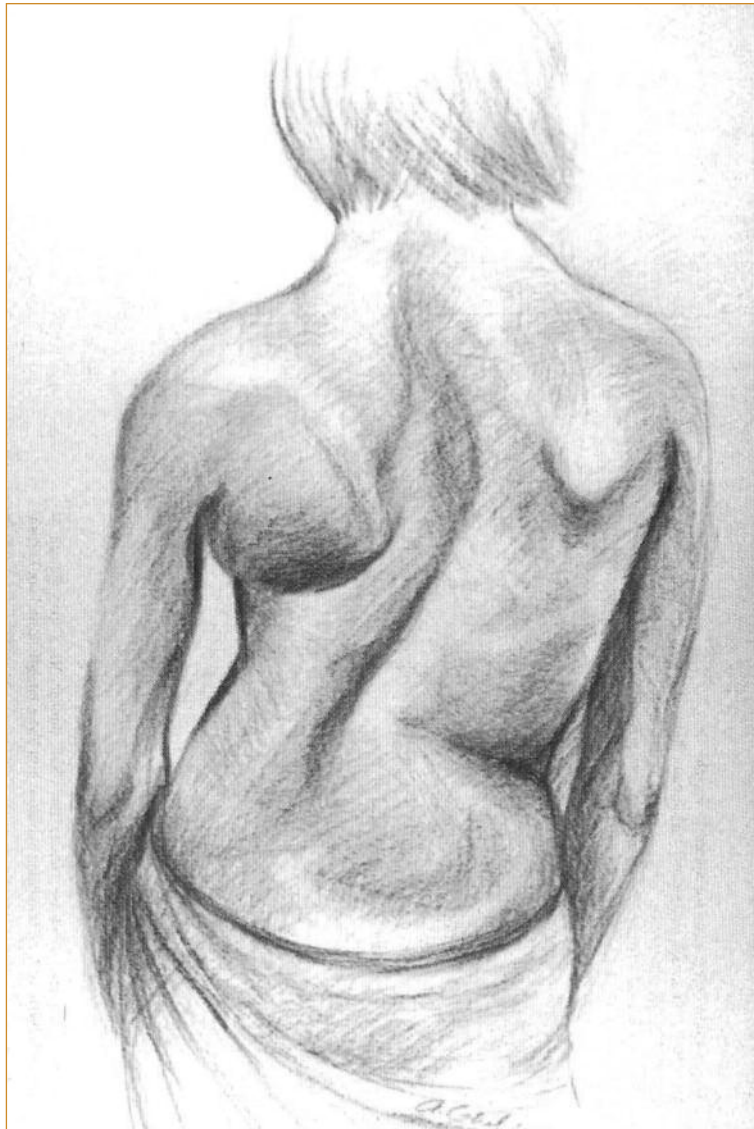




San Diego   
**Spine Foundation**  
Established in 2006



**2015 Annual Report**  
Academic Year  
August 2014 – July 2015

FOSTERING EXCELLENCE IN SPINAL EDUCATION AND RESEARCH

## NOTE FROM THE PRESIDENT AND FOUNDER



*Dear Friends and Family of the San Diego Spine Foundation,*

*Last year, while writing my message for our Foundation's annual report, my thought was, "It can't get much better than this academic year." I was wrong. Together with our board members, faculty, and staff, the Foundation's accomplishments are nothing less than exceptional. This, in combination with my personal experiences, makes this past year my personal best. For that reason, I dedicate this message to my staff, family and friends, without whom we could not have accomplished even a fraction of the efforts achieved.*

*October 2014 marked the end of my active clinical practice at the San Diego Center for Spinal Disorders (SDCSD), a practice that enjoyed 25 years of excellence in spine care. The Center has transitioned to Scripps Clinic to join other longtime members of the faculty, Robert Eastlack and James D. Bruffey. Along with my associates, Gregory M. Mundis, Jr. and Ramin Bagheri, they have worked very hard toward this transition and their combined practice at their new location at Scripps Clinic in La Jolla. The team hopes to take what was created at SDCSD clinically and academically, as a foundation, to the next level as a center of excellence for spine care and research. I fully support them as they work toward this goal. I now can redirect my focus fully to my academic work and to the success of the foundations I have been honored to create and nurture.*

*Along with the above changes came the decision to move the San Diego Spine Foundation to its own location. We are very pleased to announce that we have relocated to 6190 Cornerstone Court, Suite 212, San Diego CA 92121. This has been a positive experience for our staff and me, providing an environment conducive to productivity and efficiency. If you are ever in the Sorrento Valley area, please give us a call! We would love to show you our new office. The Foundation is now working closely with Scripps research organization, SCORE to promote spine research.*

*This year, David W. Polly, MD, the 2015-16 President of SRS was our 2015 Visiting Professor for the Annual Visiting Professorship and Gala. Thanks to the efforts of Dr. Polly, Program Chairman Gregory M. Mundis, Jr., and an outstanding faculty, this meeting continues to grow and provide an exceptional local educational opportunity for Southern California area spine care specialists and health care providers. This year was our first to offer CMEs through Scripps. Our Gala fundraiser had a record attendance and a record number of donations to support the Endowment Fund. At the Gala, Dr. Polly encouraged those attending to look around and witness the wealth of camaraderie in the room, and urged them not to take it for granted, as it is truly special. The SDSF is most grateful to all who came and participated at our VP event and Gala. It was really a day to remember. We are looking forward to the 2016 event on Friday, July 29, 2016 with Christopher Bono, MD, 2015-16 President of North American Spine Society (NASS) as our Visiting Professor.*

*Most of our faculty and staff are members and are actively involved with the Scoliosis Research Society (SRS), the most renowned spine society in the world and one that I have been very fortunate to be associated with for the past 40 years and have served as president. The Society just celebrated its 50<sup>th</sup> anniversary in Minneapolis, Minnesota, the city where the society had its first meeting and where, I completed my spine fellowship training 40 years ago. SRS staff, members of the SRS Historical Committee and 50<sup>th</sup> Anniversary Task Force worked extremely hard this year to pull off what many are reporting to be the best annual meeting to date. So much of the history of spine deformity surgery is tied to the early achievements of our pioneers in spine surgery, many of whom became founding members of the SRS 50 years ago. This was the most rewarding experience for me and I hope you will consider visiting the SRS website to see the archives, which will feature the Museum timeline created for this meeting and have a glimpse of the events at this meeting.*

*The last, but certainly not the least, new project that SDSF has been challenged to develop is a collaborative effort to add Outreach to our mission statement. This effort has started with a Global Spine Outreach (headed by Anthony Rinella, MD) GSO/SDSF-sponsored trip to Mexico by Dr. Mundis and past fellow Edward Nomoto earlier this year and I plan to accompany them this year for the second trip. We are also working with GSO to help add research tracking by creating a special database to support this effort to provide excellent spine care to underserved areas of the world. (Please refer to our article on Outreach on page 4 for more information.)*

*The success of our Foundation is not due to any one person. We have been able to achieve what we have, thanks to collaborative efforts among our sponsors, donors, and volunteers, including our Board of Directors, Fellowship Co-Directors, Faculty, Brian Greer our web designer, and our research, clinical, and fellowship staff. I want to thank each and every person who has helped, especially our Executive Director Pat Kostial, for their help allowing us to pursue and expand our mission to improve the quality of our patients' lives. It remains an honor to serve as Founder and President of the San Diego Spine Foundation.*

**Behrooz A. Akbarnia, MD**

A handwritten signature in black ink that reads "Behrooz A. Akbarnia". The signature is written in a cursive style with a small star above the final letter of the last name.

## San Diego Spine Foundation Board of Directors



**Behrooz A. Akbarnia, MD**  
*President, Board of Directors  
Director Emeritus and  
Faculty Member,  
Spine Fellowship Program*



**Patricia N. Kostial, RN, BSN**  
*Treasurer; Board of Directors  
Executive Director  
Administrator,  
Spine Fellowship Program*



**Sarah E. Aghassi, Esq.**  
*Member, Board of Directors*



**Gregory M. Mundis, Jr., MD**  
*Member, Board of Directors  
Co-Director and  
Faculty Member,  
Spine Fellowship Program*



**Robert K. Eastlack, MD**  
*Member, Board of Directors  
Co-Director and  
Faculty Member,  
Spine Fellowship Program*



**Jeff Pawelek, BS**  
*Member, Board of Directors  
Research Director*

## Additional Members of the Faculty



**Ramin Bagheri, MD**  
*Faculty, San Diego Spine Fellowship  
Scripps Clinic,  
La Jolla, CA*



**Maneesh Bawa, MD**  
*Faculty, San Diego Spine Fellowship  
San Diego Orthopaedic Associates Medical Group,  
San Diego, CA.*



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



**Donald Blaskiewicz, MD**  
*Faculty, San Diego Spine Fellowship  
Neurosurgical Medical Clinic,  
San Diego, CA.*

## San Diego Combined Spine Fellowship Program 2014-2015 Co-Directors' Report

The 2014-15 academic year has been a unique and challenging one for our Fellowship Program. With faculty relocations to Scripps Clinic came the opportunity to look closely at our program and provide quality improvements where needed. We listened to the comments of past applicants and fellows and as a result, we have tailored our program to provide our fellows with improved ancillary assistance while being true to our curriculum, providing a wide variety of orthopedic and neurosurgical spine cases for our clinical fellows to choose from as well as fundamental academic work and research. Our faculty remains stable, cohesive, and committed to the Fellowship Program mission.

We are also very pleased and proud of our expanding role with international observers and fellows, who come to San Diego from around the globe with the intention of exchanging ideas and solutions to improve all our patient's care. We find that we learn as much or more from our visitors as they do from us.

As a result, we are moving into 2016 with high hopes of continuing this evolution of medical education for our fellows and visitors. We are very proud of our past fellows and we welcome our new fellows with open arms. Fellowship training is just that, a fellowship that establishes life long connections, camaraderie and mentorship. It is our hope that all our fellows will join our foundation's new mission to hear the call of global outreach as an important next step in our program. (see *Outreach article, page 4*)

**Robert K. Eastlack, MD**

**Gregory M. Mundis, Jr., MD**



# OUTREACH

Our 2014-2015 academic cycle has had many wonderful highlights, challenges and new opportunities. The San Diego Spine Foundation's mission is to provide excellence in spine related research and education. As we approach our 10-year anniversary, our leadership felt compelled to enhance that mission to include outreach to areas in need around the world. During this consideration, our paths crossed with Global Spine Outreach run by Anthony S. Rinella, MD, who has devoted greater than 15 years of his life by providing life saving spine care around the globe. As a result, both GSO and SDSF plan a collaboration beginning in 2015 with the intention of a long-term working relationship of clinical and academic based work at designated GSO/ Scoliosis Research Society sites.



From Left: GSO President - Anthony S. Rinella, MD, SDSF Past Fellow - Edward Nomoto, MD, SDSF Board Member and Fellowship Co-Director - Gregory M. Mundis, Jr., MD, CMO of Christus Muguerza Hospital in Chihuahua Mexico - Pedro Leal, MD, GSO Volunteers - Bridget Mortell, MS, CNIM and Katie Rooks, MD

Board member and Fellowship Program Co-Director Gregory M. Mundis, Jr, MD is no stranger to missionary trips having been raised by missionary parents. Like many, his pursuit of medicine included the goal of serving others whenever possible. He had already participated in numerous trips abroad, largely in Africa, when he embarked on the first GSO trip to Chihuahua Mexico in early 2015. Past fellow, Edward Nomoto joined Greg on this trip (see Dr. Nomoto's story on facing page), which was a life changing experience for all involved. Our

foundation's president, Dr. Akbarnia, plans to join Dr. Mundis on the next GSO trip to Mexico in December 2015.



Outreach trips require the efforts of many to successfully provide quality care to children and adults with spinal challenges in under-privileged regions of the world. GSO has already mastered the clinical expertise in managing such trips. It is the hope of SDSF to enhance this by assisting in research opportunities including a database to effectively track all patients treated to improve both their care and future patient's care.

The creation of a database, the staff to build it, manage and input data is not free of cost. As the SDSF expands its mission to include outreach, it must also expand its funding to support it. Our 2015 Gala and fundraiser provided the kick-off for this funding, but much more is needed to create the tools and staffing needed to support this project for the next 10 years and beyond.

We hope that you'll visit the GSO website at <http://globalspineoutreach.org> to learn more about this incredible organization. We also urge you to support SDSF's Endowment Fund which will help to fund the needed research tools to improve the care of these patients who are being helped by such devoted and generous surgeons, nurses and healthcare personnel.

To donate to our Endowment Fund, please see page 23 for donation opportunities and envelope insert.



# THE EXPERIENCE

## A Past Fellows Experience

BY PAST FELLOW, EDWARD NOMOTO, MD



My experience with the Global Spine Outreach program (GSO) is probably the best experience I have had as a physician. Not only was it an opportunity to help others in need but it helped develop my surgical judgment and skills as well.

Outreach has always been one of the reasons that I pursued the field of medicine and as a surgeon, we have a skill and gift to help those that do not have access to care.

I cannot begin to describe the feeling you get from the gratitude of the patients and their families. We help patients all the time, but this is special because these patients do not have access to complex deformity surgery.

Through the outreach program, I felt like I participated in a mini fellowship in pediatric deformity as I have not been exposed to much of it after fellowship. There was a wide range of pathology consisting of congenital, neuromuscular and idiopathic scoliosis. We operated on children ranging



from ages 3 to 21 years. This is an opportunity that can only be attained in this type of setting I believe.

Lastly, the camaraderie and mentorship that you develop and re-enforce was amazing. It was great to work with Greg Mundis again as a colleague (sort of...) three years later. And I met a new mentor in both surgery and outreach, Tony Rinella. The team of dedicated personnel for this program was amazing and consisted of nurses, neurophysiologists, and volunteers. Furthermore, this served as an opportunity to develop my teaching skills for residents and fellows domestically, as we helped train the local Mexican surgeons.

Honestly, I consider this a life changing experience that I reflect upon often. This is not for everyone, but if you believe that we have a global duty as physicians, I highly recommend the experience.

### Edward Nomoto, MD

Orthopedic Spine Surgeon

Cedars-Sinai Spine Center

And

Past Clinical Fellow (2011-2012)

San Diego Spine Fellowship





My name is Marina. I'm 22 years old, but despite my young age, my life experiences are many. During my lifetime, I've had many roles: daughter, student, friend, teacher, counselor, patient and dancer. If you had to pick one, you may think "patient", but truthfully told "dancer" is the role of my life.

I was born with a disorder that can effect the bones in my body. It led me to have a cleft palate repair before the age of 1, long before I can even remember. I also had to have tubes in my ears as a child, as this problem can also effect the ear anatomy. It later caused my scoliosis, but more on that later.



A profound event in my young life occurred when I was diagnosed with a Wilm's Tumor at the age of 3 years. Again, I can barely remember everything that was required of my parents and me at the time, but I know it was hard on them too. I first had surgery to remove my cancerous kidney. Following this came 15 months of chemotherapy. I remember always going to the doctor for some reason or another. The best thing was that I was cured at the end of it.... A new start! It was about a year later that I started taking dance. It was great fun and I was good at it. I found great joy in my dancing as I grew older.

When I was 8 years old, my parents were told I had scoliosis related to my disorder. More trips back to doctors and I was placed in a special body brace that helps to control the curve. For about 75% of most kids, the brace is all they'll ever need to treat their scoliosis. For me, I faithfully wore the brace for 2 ½ years, but despite this, my curve got worse. During my early teens, I was very self conscious about wearing this bulky back brace. I would wear huge oversize jackets everyday to try and hide the brace. Looking back, I wish I could have accepted the brace more and not felt so ashamed. At least I continued to dance during my treatment and it helped me cope with the pain, the brace and the countless trips to the doctor.

Then, when I was 13 years old, I started experiencing problems with my bowels. At first the symptoms came on slowly, but then suddenly, I was in excruciating pain and I was taken to the hospital. The pain was unbearable, but until they could figure out what was wrong with me, I couldn't have pain medication. Finally, 2 days later they discovered the problem, scarring from my Wilm's tumor surgery had wrapped around my bowel and completely blocked it off, also referred to as a complete bowel obstruction. I was again headed to surgery to remove the scar tissue and had a bonus hernia repair and appendectomy.

## MARINA'S STORY

During my recovery, we were getting to know Dr. Akbarnia and his spine team in San Diego. He told my parents and I that my curve was 88° and it would continue to get worse even after I had finished growing. Only surgery could stop the progression this curve had on my spine. Having just returned to dance after my last surgery, I was told I'd have to stop again for my spine recovery. Also, Dr. Akbarnia originally thought that the majority of my spine would need to be fused along with spinal rods to correct the curve. Being so fond of dance, the thought of losing most of my low back flexibility was a very scary thing. We discussed the options with Dr. Akbarnia, who agreed to treat just the upper curve and then we would all "wait and see" if the lower curve would get worse.

Three months after my emergency surgery for my bowel obstruction, I was being wheeled to the operating room again. Its hard to express the feeling you have each time you go into the operating room and then staying in the hospital. My spinal rods and fusion were attached to my spine from T4 to L3, greatly correcting my curve. My recovery from my spine surgery was tough; I'm not going to lie. But gradually I felt better. I actually chose to repeat the 8<sup>th</sup> grade, allowing me to fully recover and allow myself to return to unrestricted dancing when I began high school.

Dr. Akbarnia was very pleased that my spine was stable and the lower curve wasn't getting worse. The correction of my scoliosis was great and my spine was nearly straight, but despite stopping at L3, I still lost a small amount of my low back movement. Dr. Akbarnia thought it would be safe to begin my ballet bar leg work 6 months after surgery. I did this for another 6 months and finally at my one-year surgery anniversary, I was told I could completely return to my dance activities!!





My happiness quickly turned to frustration as I found I couldn't just jump back into the dance classes and activities I so easily performed before surgery. I had to reassess everything, but I was determined to succeed. I started slowly with tap and then added one element at a time. It seemed to take forever, but finally I realized I was back to the level I had been before surgery. Yes, I had limitations, but I modified and found ways to work around obstacles in my way. I was back, I was happy and I knew I wanted dance to be in my life.

I finally entered a time in my life that seeing doctors was no longer part of who I was. I graduated from high school, but decided to take a semester off of school as I was unsure what I wanted to do. Dance had always been apart of my life, but I didn't know if I would be able to make a career out of it, and if I did, would I be successful?

Then, I started feeling strange. Dizziness, fainting started and some even thought I was having seizures. It was all very gradual right up to the day my heart nearly stopped.... 5 times in 36 hours. "Oh no, not again" was my thought. The doctors discovered I had an arrhythmia and I had yet another procedure to have a pacemaker inserted to help regulate my heart's rhythm. I could wrap my head around this, in dance, rhythm is important. My heart needed my pacemaker almost immediately, shocking it back into normal rhythm within 24 hours after having it put there. But, I've been lucky not to need it again since.

Coping with the aftermath of my pacemaker surgery and the related trauma was probably one of the hardest things I've had to deal with. The six weeks it took to recover from the surgery really left me at a loss for who I was. I had graduated from high school, I was not dancing anymore, and I was recovering from surgery. In those six weeks I learned why I felt so lost... I wasn't dancing! I learned that dance wasn't just something I did all my life, it was apart of me as a person. Also, going through such a traumatic surgery, I realized life is

too short to not do what you love to do. I realized I might not make a ton of money being a dancer or dance teacher, but I would love every second of it, and that is what's important. So with those thoughts in my head I began my journey to peruse a dance education degree from Grand Canyon University. I began teaching at dance studios, and I was a part of two professional dance companies for two years.

One thing I've learned after each crisis with my health that lead to 20 surgeries and 500 doctors appointments: "It's okay to not be okay". Life isn't sunshine and butterflies everyday. Life isn't about being perfect. It's about living, living your life the best way you know how, and knowing that you have the ability to make the sun come out again. I could let my health problems define me, but I didn't.

### ***"live today, how you want to be remembered tomorrow"***

Rather, movement defines me and I best express myself through my dance and it makes me a better person. I hope that my story will inspire others who read it, that no matter what life throws at you, you can overcome it. I hope my dance will inspire my students and those who observe my choreography as well. I have so much to share!!

So, my philosophy is "live today, how you want to be remembered tomorrow".

Marina E.  
2015

*The San Diego Spine Foundation would like to thank Marina for sharing her story and we hope in some way it will inspire and help others struggling with spinal disorders or other health problems to overcome their challenges.*



# EDUCATIONAL OPPORTUNITIES & EVENTS

## Spine Conferences

Weekly Fellow's Conferences are a longstanding part of our Fellowship Program Curriculum. Fellows present talks on specific topics as well as presenting cases each week for discussion with faculty and visiting surgeons.



Faculty, past and current fellows work together on their ongoing research immediately following weekly Fellow's conferences.

## Journal Club Meetings

Also part of the Fellowship Curriculum, monthly Journal Club meetings provide fellows, faculty, academic staff and visiting surgeons an opportunity to review relevant spine related peer-reviewed journal articles and discuss their merits and applications to improve the quality of patient care.



One of many industry supported Journal Club meetings held throughout the year.



Spine conferences regularly welcome international visitors as well as local San Diego area spine surgeons.



SDSF and faculty also host JC meetings periodically. Now holding meetings in SDSF's new office location on Cornerstone Ct.

## SDSF International Visiting Surgeons



International surgeon visitors Wenjun Chen, MD of Nanjing, China and Kiyoshi Miyazaki, MD of Nara City, Japan attend the Annual SCORE Fellow's Research Symposium in July 2015 along with Clinical Fellows Edmund H. Choi, MD, and Ardalan A. Nourian, MD, Research Fellow Pooria Hosseini, MD, MSc. and Fellowship Co-Director, Robert K. Eastlack, MD



Toshinori Sakai, MD, PhD of Tokushima Japan, and Robert K. Eastlack spend time in discussion following a case at Scripps Green



## 2015 Visiting Professor's Annual Meeting

Friday, July 24, 2015

Our 2015 Visiting Professorship Annual Meeting was a great success, and was the first to provide CMEs to interested participants. This year's program featured segments by past fellows Edward Nomoto, MD and Matthew Goldstein, MD, presenting their "Pearls of Wisdom" to current fellows regarding life after fellowship. David W. Polly, Jr., MD, the current Scoliosis Research Society President, was our esteemed guest speaker.



David W. Polly, Jr, MD, presenting his Keynote talk titled: Pelvic Derotation To Correct Sagittal Plane Deformity



Past Fellow, Matthew Goldstein, MD presents his talk titled: Independent Challenges In New Practice – East Coast Experience

## San Diego Spine Foundation Visiting Professor Fundraiser Gala

The 2015 Visiting Professorship Gala and Fundraiser had a record attendance at the Hilton Torrey Pines on July 24th. We'd like to thank all those who attended and/or supported SDSF's Endowment Fund, which will now also provide funding for our new Outreach projects.



Gregory M. Mundis, Jr., MD, David W. Polly, Jr., MD, Behrooz A. Akbarnia, MD and Robert K. Eastlack, MD at VP Gala.



Thanks to Lauren and Robert Hasson for their support!



Fellows and Faculty at VP Event: Bottom, left to right: Wenjun Chen, MD, Donald Blaskiewicz, MD, Maneesh Bawa, MD, Gregory M. Mundis, Jr., MD, Pooria Hosseini, MD, MSc, Rajv Saigal, MD, PhD. Top row, left to right: Marcelo Loquette, MD, Kiyoshi Miyazaki, MD, Edmund H. Choi, MD, Ardalan A. Nourian, MD, Ramin Bagheri, MD, Behrooz A. Akbarnia, MD, Robert K. Eastlack, MD, Michael Flippin, MD and Matthew Goldstein, MD



Dr. Scott and Carrie Musicant with Dr.'s Behrooz and Nasrin Akbarnia

# FELLOWSHIP

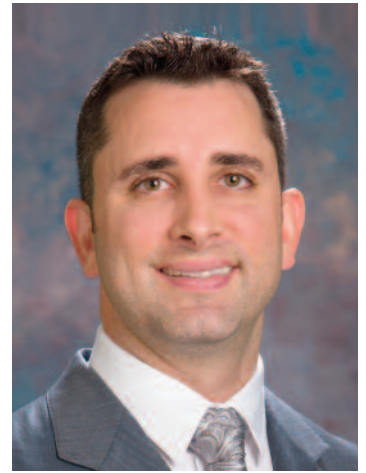
## Graduating Clinical Fellows 2014-2015



Edmund H. Choi, MD  
Kingsbrook Jewish Medical Center  
Brooklyn, NY



Ardalan A. Nourian, MD  
State University of New York  
Brooklyn, NY



Jay D. Turner, MD, PhD  
Barrow Neurological Institute  
Division of Neurosurgery  
Phoenix, AZ

## Current Clinical Fellows 2015-2016



Rajiv Saigal, MD  
University of California  
San Francisco, CA



Ravi Srinivas, MD  
Atlanta Medical Center  
Atlanta, GA

## Future Clinical Fellows 2016-2017



Amrit Khalsa, MD  
Hahnemann University Hospital  
Drexel University College of Medicine,  
Philadelphia, PA



Justin B. Ledesma, MD  
Stanford University,  
Stanford, CA



# RESEARCH



**Jeff Pawelek, BS**  
Research Director



**Stacie Nguyen, MPH**  
Manager: Clinical &  
Fellowship Research



**Pooria Hosseini, MD, MSc.**  
Research Fellow



**Bo Robertson**  
Research Assistant

## Publications and Presentations for the 2014-2015 Academic Year

### Book Chapters

**Fernandez JS, Kabirian N, Akbarnia BA:** *Early Onset Scoliosis: Treatment with Dual Growing Rods, In Complex Spine Cases*, Gupta, MC, Vaccaro, AR and Gupta, S, Editors. Jaypee Brothers Medical Publishers, 2015

**Stanton P, Kabirian N, Akbarnia BA:** *Sagittal Imbalance Due to Focal Kyphotic Deformity in An Adult: In Complex Spine Cases*. Gupta, MC, Vaccaro, AR and Gupta, S, Editors. Jaypee Brothers Medical Publishers, 2015

### Peer-Reviewed Publications: Adult

Fu KG, Bess S, Shaffrey CI, Smith JS, Lafage V, Schwab FJ, Burton DC, **Akbarnia BA**, Ames CP, Boachie-Adjei O, Deviren V, Hart RA, Hostin R, Klineberg E, Gupta M, Kebaish K, **Mundis GM**, Mummaneni PV, ISSG: *Adult Spinal Deformity Patients Treated Operatively Report Greater Baseline Pain and Disability Than Patients Treated Nonoperatively: However, Deformities Differ Between Age Groups*. Spine, August 1, 2014, Volume 39, Issue 17, Pp 401-1407

Smith JS, Lafage V, Shaffrey CI, Schwab F, Hostin RA, Boachie-Adjei O, Scheer JK, **Akbarnia BA**, Klineberg E, Gupta M, Deviren V, Hart RA, Burton DC, Bess S, Ames CP: *117 Outcomes of Operative and Nonoperative Treatment for Adult Spinal Deformity: A Prospective, Multicenter Matched and Unmatched Cohort Assessment with Minimum 2-Year Follow-Up*: Neurosurgery, August 2014; 61 Suppl 1: 197-8

Smith JS, Singh M, Klineberg E, Shaffrey CI, Lafage V, Schwab FJ, Protosaltis T, Ibrahim D, Scheer JK, **Mundis GM**, Gupta MC, Hostin R, Deviren V, Kebaish K, Hart R, Burton DC, Bess S, Ames CP, ISSG: *Surgical Treatment of Pathological Loss of Lumbar Lordosis (Flatback) In Patients with Normal Sagittal Vertical Axis Achieves Similar Clinical Improvement as Surgical Treatment Of Elevated Sagittal Vertical Axis*: Clinical Article. J Neurosurg Spine. 2014 Aug;21(2):160-70

Lafage V, Blondel B, Smith JS, Boachie-Adjei O, Hostin RA, Burton D, **Mundis GM**, Klineberg EO, Ames CI, **Akbarnia BA**, Bess S, Schwab F, ISSG: *Preoperative Planning for Pedicle Subtraction Osteotomy: Does Pelvic Tilt Matter?* Spine Deformity Journal, Vol. 2, Issue 5, Pp. 358-366, September 2014

**Schroerlucke SR, Steklov N, Mundis GM, Marino JF, Akbarnia BA, Eastlack RK,** *How Does a Novel Monoplanar Pedicle Screw Perform Biomechanically Relative to Monoaxial and Polyaxial Designs?* Clin Orthop Relat Res, 472(9):2826-32, September 2014

**Eastlack RK, Garfin SR, Brown CR, Meyer SS:** *Osteocel® Plus Cellular Allograft in Anterior Cervical Discectomy and Fusion (ACDF): Evaluation of Clinical and Radiographic Outcomes from A Prospective Multi-Center Study*. Spine (Phila Pa 1976), 39(22): E1331-E1337, October 2014

Protosaltis T, Schwab F, Bronsard N, Smith JS, Klineberg E, **Mundis GM**, Ryan DJ, Hostin R, Hart R, Burton D, Ames C, Shaffrey C, Bess S, Errico T, Lafage V; ISSG. *Thet1 Pelvic Angle, A Novel Radiographic Measure of Global Sagittal Deformity, Accounts for Both Spinal Inclination and Pelvic Tilt and Correlates With Health-Related Quality Of Life*. J Bone Joint Surg Am. 2014 Oct 1;96(19):1631-40

Fu KG, Bess RS, Lafage V, Ames CP, **Akbarnia BA**, Boachie-Adjei O, Burton DC, Deviren V, Hart RA, Gupta MC, Klineberg EO, Errico TH, **Mundis GM**, Hostin RA, O'Brien MF, Kebaish KM, Schwab FJ, Shaffrey CI, Smith JS, ISSG: *Operative Treatment of Adult Spinal Deformity (ASD) Improves Disease State and Physical Function Regardless of Age and Deformity Type, While Nonoperative Treatment Has No Impact: A Two-Year Prospective Analysis*. The Spine Journal Vol. 14, Issue 11, Suppl., Page S3. November 2014

Fu KG, Park P, **Mundis GM**, Anand N, La Marca F, Uribe JS, Yang MY, Kanter AD, Okonkwo DO, Fessler RG, Deviren V, **Nguyen S**, Liabaud B, **Akbarnia BA**, Shaffrey CI, ISSG: *Do MIS Deformity Interventions Result in Similar Reductions of Disability when Compared with Traditional Open Spinal Deformity Correction at One- and Two-Years? A Propensity Matched Cohort Analysis*. The Spine Journal - November 1, 2014 Volume 14, Issue 11, Supplement, Pps S152-S153

**Mundis GM, Akbarnia BA, Kanter AS, Okonkwo DO, Park P, Uribe JS, Deviren V, Anand N, Wang MY, La Marca F, Fessler RG, Nguyen S, Liabaud B, Diebo B, Eastlack RK,** ISSG: *Adult Spinal Deformity Treated with Minimally Invasive Techniques: Two-Year Multicenter Clinical and Radiographic Outcomes Study Comparing Circumferential MIS and Hybrid Surgery*. The Spine Journal - November 1, 2014, Volume 14, Issue 11, Supplement, Pps S79-S80

Smith JS, Shaffrey E, Klineberg E, Shaffrey CI, Lafage V, Schwab FJ, Protosaltis T, Scheer JK, **Mundis GM**, Fu KM, Gupta MC, Hostin R, Deviren V, Kebaish K, Hart R, Burton DC, Line B, Bess S, Ames CP; ISSG. *Prospective Multicenter Assessment of Risk Factors for Rod Fracture Following Surgery for Adult Spinal Deformity*. J Neurosurg Spine. 2014 Dec;21(6):994-1003

Scheer JK, Lafage V, Smith JS, Deviren V, Hostin R, McCarthy IM, **Mundis GM**, Burton DC, Klineberg E, Gupta M, Kebaish K, Shaffrey CI, Bess S, Schwab F, Ames CP; ISSG: *Maintenance of Radiographic Correction at 2 Years Following Lumbar Pedicle Subtraction Osteotomy Is Superior with Upper Thoracic Compared with Thoracolumbar Junction Upper Instrumented Vertebra*. Eur Spine J. 2015 Jan;24 Suppl 1: S121-30

Park P, Wang MY, Lafage V, **Nguyen S**, Ziewacz J, Okonkwo DO, Uribe JS, **Eastlack RK**, Anand N, Haque R, Fessler RG, Kanter AS, Deviren V, La Marca F, Smith JS, Shaffrey CI, **Mundis GM**, Mummaneni PV: *Comparison of Two Minimally Invasive Surgery Strategies to Treat Adult Spinal Deformity*. J Neurosurg Spine, January 2015

Sciubba DM, Scheer JK, Yurter A, Smith JS, Lafage V, Klineberg E, Gupta M, **Eastlack R**, **Mundis GM**, Protosaltis TS, **Blaskiewicz D**, Kim HJ, Koski T, Kebaish K, Shaffrey CI, Bess S, Hart RA, Schwab F, Ames CP, ISSG: *Patients with Spinal Deformity Over the Age of 75: A Retrospective Analysis of Operative Versus Non-Operative Management*. Eur Spine J. February 2015

Scheer JK, Smith JS, Clark AJ, Lafage V, Kim HJ, Rolston JD, **Eastlack R**, Hart RA, Protosaltis TS, Kelly MP, Kebaish K, Gupta M, Klineberg E, Hostin R, Shaffrey CI, Schwab F, Ames CP; ISSG: *Comprehensive Study of Back and Leg Pain Improvements After Adult Spinal Deformity Surgery: Analysis of 421 Patients with 2-Year Follow-Up and of The Impact of the Surgery On Treatment Satisfaction*. J Neurosurg Spine, February 2015

Scheer JK, **Mundis GM**, Klineberg E, Hart RA, Deviren V, Burton DC, Protosaltis TS, Gupta M, Rolston JD, Bess S, Shaffrey CI, Schwab F, Lafage V, Smith JS, Ames CP; ISSG. *Recovery Following Adult Spinal Deformity Surgery: The Effect of Complications and Reoperation in 149 Patients with 2-Year Follow-Up*. Eur Spine J. 2015 Feb 6

Uribe JS, Harris JE, Beckman JM, Turner AWL, **Mundis GM**, **Akbarnia, BA**: *Finite Element Analysis of Lordosis Restoration with Anterior Longitudinal Ligament Release and Lateral Hyperlordotic Cage Placement*. Eur Spine J, March 2015

Oh T, Scheer JK, **Eastlack R**, Smith JS, Lafage V, Protosaltis TS, Klineberg E, Passias PG, Deviren V, Hostin R, Gupta M, Bess S, Schwab F, Shaffrey CI, Ames CP, ISSG: *Cervical Compensatory Alignment Changes Following Correction of Adult Thoracic Deformity: A Multicenter Experience in 57 Patients with A 2-Year Follow-Up*, J Neurosurg: Spine, March 2015



Gregory M. Mundis, Jr., MD presenting at 2015 AAOS Annual Meeting

Passias PG, Soroceanu A, Smith J, Boniello A, Yang S, Scheer JK, Schwab F, Shaffrey C, Kim HJ, Protosaltis T, **Mundis GM**, Gupta M, Klineberg E, Lafage V, Ames C; ISSG: *Postoperative Cervical Deformity in 215 Thoracolumbar Patients with Adult Spinal Deformity: Prevalence, Risk Factors, And Impact On Patient-Reported Outcome and Satisfaction At 2-Year Follow-Up*. Spine (Phila PA 1976). 2014 Jul 1;39(15):1203-10

**Turner J**, **Akbarnia BA**, **Eastlack RK**, **Bagheri R**, **Nguyen S**, Pimenta L, Marco, R, Deviren V, Uribe J, **Mundis, GM**: *Radiographic Outcomes of Anterior Column Realignment for Adult Sagittal Plan Deformity: A Multicenter Analysis*. Eur Spine J, March 2015

Ferrero E, Vira S, Ames CP, Kebaish K, Obeid I, O'Brien MF, Gupta MC, Boachie-Adjei O, Smith JS, **Mundis GM**, Challier V, Protosaltis TS, Schwab FJ, Lafage V; ISSG: *Analysis of an Unexplored Group of Sagittal Deformity Patients: Low Pelvic Tilt Despite Positive Sagittal Malalignment*. Eur Spine J. 2015 May 31

Soroceanu A, Burton DC, Diebo BG, Smith JS, Hostin R, Shaffrey CI, Boachie-Adjei O, **Mundis GM**, Ames C, Errico TJ, Bess S, Gupta MC, Hart RA, Schwab FJ, Lafage V, ISSG: *Impact of Obesity On Complications, Infection, And Patient-Reported Outcomes in Adult Spinal Deformity Surgery*. J Neurosurg Spine. 2015 Jul 31:1-9

Ryan DJ, Protosaltis TS, Ames CP, Hostin R, Klineberg E, **Mundis GM**, Obeid I, Kebaish K, Smith JS, Boachie-Adjei O, Burton DC, Hart RA, Gupta M, Schwab FJ, Lafage V; ISSG. *T1 Pelvic Angle (TPA) Effectively Evaluates Sagittal Deformity and Assesses Radiographical Surgical Outcomes Longitudinally*. Spine (Phila PA 1976). 2014 Jul 1;39(15):1203-10

## Peer-Reviewed Publications: Pediatric

**Kabirian N**, **Akbarnia BA**, **Pawelek, JB**, Alam M, **Mundis GM**, Acacio R, Thompson GH, Marks DS, Gardner A, Sponseller PD, Skaggs DL, GSSG: *Deep Surgical Site Infection Following 2344 Growing-Rod Procedures for Early-Onset Scoliosis*: J Bone Joint Surg Am. 2014; 96 (15): E128 (1-8); August 2014

Williams BA, Matsumoto H, McCalla DJ, **Akbarnia BA**, Blakemore LC, Betz RR, Flynn JM, Johnston CE, McCarthy RE, Roye DP, Skaggs DL, Smith JT, Snyder BD, Sponseller PD, Sturm PE, Thompson GH, Yazici M, Vitale MG: *Development and Initial Validation of the Classification of Early Onset Scoliosis (C-EOS)*; J Bone Joint Surg Am. 2014; 96 (16): 1359-1367, August 20, 2014

Shah S, Karatas AF, Dhawale AA, Dede O, **Mundis GM**, Holmes L, Yorgova P, Neiss G, Johnston CE, Emans JB, Thompson GH, **Pawelek JP**, **Akbarnia BA**, GSSG: *The Effect of Serial Growing Rod Lengthening On the Sagittal Profile and Pelvic Parameters in Early-Onset Scoliosis*. Spine Volume 39, Number 22, Pp E1311-E1317. October 2014

Maher A, **Kabirian, N**, **Akbarnia, BA**, **Flippin, M**, Tomlinson, T, **Kostial, P**, **Bagheri, R**: *Effects of Posterior Distraction Forces On Anterior Column Intradiscal Pressure in The Dual Growing Rod Technique*. Journal of Orthopaedic Science, DOI: 10.1007/S00776-014-0646-8. October 2014

**Akbarnia BA**, Yaszay B, Yazici M, **Kabirian N**, Blakemore LC, Strauss KR, Glaser D: *Biomechanical Evaluation of 4 Different Foundation Constructs Commonly Used in Growing Spine Surgery: Are Rib Anchors Comparable to Spine Anchors?* Spine Deformity Journal 2 (2014) Pp 437-443. November 2014



Paloski MD, Sponseller PD, **Akbarnia BA**, Thompson GH, Skaggs DL, **Pawelek JB**, Nguyen PT, Odum SM, GSSG: Is There an Optimal Time to Distract Growing Rods? Spine Deformity Journal 2 (2014) Pp 467-470. November 2014

Myung KS, Skaggs DL, Johnston CE, **Akbarnia BA**, GSSG: The Use of Pedicle Screws in Children 10 Years of Age and Younger with Growing Rods. Spine Deformity Journal 2 (2014) Pp 471-474. November 2014

**Arandi NR**, **Pawelek JB**, **Kabirian N**, Thompson GH, Emans JB, Flynn JM, Dormans JP, **Akbarnia BA**, GSSG: Do Thoracolumbar/Lumbar Curves Respond Differently to Growing Rod Surgery Compared with Thoracic Curves? Spine Deformity Journal 2 (2014) Pp 475-480. November 2014

Yamaguchi DT, Skaggs DL, Mansour S, Myung KS, Yazici M, Johnston CE, Thompson GH, Sponseller PD, **Akbarnia BA**, Vitale MG, GSSG: Are Rib Spine Anchors Protective Against Breakage of Growing Rods? Spine Deformity Journal 2 (2014) Pp 489-492. November 2014

**Akbarnia BA**, **Pawelek JB**, Cheung KMC, Demirkiran G, Elsebaie H, Emans JB, Johnston CE, **Mundis GM**, Noordeen H, Skaggs DL, Sponseller PD, Thompson GH, Yazay B, Yazici M, GSSG: Traditional Growing Rods Versus Magnetically Controlled Growing Rods for The Surgical Treatment of Early-Onset Scoliosis: A Case-Matched 2-Year Study. Spine Deformity Journal 2 (2014) Pp 493-497. November 2014

El-Hawary R, **Akbarnia BA**: Early Onset Scoliosis – Time for Consensus: Letter to The Editor. Spine Deformity Journal. Volume 3, Issue 2, Pp 105-106. March 2015

Barrett KK, Lee C, Myung K, Johnston C, Shah SA, **Akbarnia BA**, Skaggs DL: The Effect of Growing Rod Treatment On Hemoglobin and Hematocrit Levels in Early-Onset Scoliosis. Journal of Pediatric Orthopaedics, April 2015

Schwend RM, Schmidt JA, Reigrut JL, Blakemore LC, **Akbarnia BA**: Patterns of Rib Growth in The Human Child. Spine Deformity Journal, Volume 3 (2015) Pp 297-302. July 2015

## Poster Exhibits – Adult

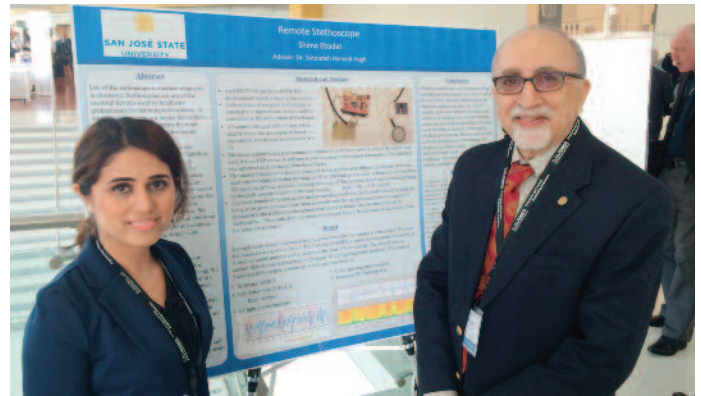
Funao H, Naef FA, Lafage v, Schwab FJ, **Mundis GM**, McCarthy I, Hart RA, Hostin R, Smith JS, Bess S, Ames CP, Kebaish K: Time Course Changes of Health Related Quality of Life after Three- Column Osteotomies in Adult Spinal Deformity.



Sciubba DM, Scheer JK, Smith JS, Klineberg E, Gupta MC, **Mundis GM**, Protosaltis TS, Lafage V, Kim HJ, Koski T, Kebaish K, Shaffrey CI, Bess S, Hart RA, Schwab FJ, Ames CP, ISSG: Elderly Patients Over 75 Years Undergoing Reconstructive Spinal Deformity Surgery Have Significantly Improved Health-Related Quality of Life Measures versus Those Managed Non-Operatively Despite High Surgical Complication Rate.



Klineberg EO, Gupta MC, **Nguyen S**, Lafage V, Ames CP, Burton DC, Hart RA, Deviren V, **Akbarnia BA**, **Mundis GM**, Shaffrey CI, Smith JS, Protosaltis, TS, Fu JG, Kebaish KM, Cunningham ME, Kelly MP, Schwab FJ, Errico TJ, Hostin Ra, Kim HJ, ISSG: Posterior Surgical Correction with or Without Interbody in Matched Curves Provides Similar Correction in Adult Spinal Deformity.



Behrooz A. Akbarnia, MD visiting a poster session at San Jose State University

Soroceanu A., Burton DC, Smith JS, Deviren V, Shaffrey CI, Boachie-Adjei O, **Akbarnia BA**, Ames CP, Errico TJ, Bess RS, Hostin RA, Hart RA, Schwab FJ, Lafage, ISSG: Incidence of Radiographic and Implant-Related Complications in Adult Spinal Deformity Surgery: Patient Risk Factors and Impact On HRQOL.



Fu KG, Park P, **Mundis GM**, Anand N, La Marca F, Uribe JS, Wang MY, Kanter AS, Okonkwo DO, Ressler RG, Deviren V, **Nguyen S**, Liabaud B, **Akbarnia BA**, Shaffrey CI, ISSG: Do MIS Deformity Interventions Result in Similar Reductions of Disability When Compared with Traditional Open Spinal Deformity Correction at One and Two-Years? A Propensity Matched Cohort Analysis.



Liu S, Smith JS, Hostin RA, **Mundis GM**, Ames CP, Bess RS, Hart RA, Schwab FJ, Lafage V: Non-operative Benefit in Spinal Deformity: Predictors for Reaching a Minimal Clinically Important Difference.



## Poster Exhibits - Pediatric

Cheung KM, Kwan K, Ferguson J, Nnadi C, Alanay A, Yazici M, Demirkiran GH, **Akbarnia BA**: Proximal Junctional Kyphosis Associated with Magnetically Controlled Growing Rod Surgery for Early Onset Scoliosis.



**Akbarnia BA**, **Pawelek JB**, Cheung K, Demirkiran G, Elsebaie H, Emans J, Johnston CE, Mundis GM, Noordeen H, Shaw M, Skaggs DL, Sponseller PD, Thompson GH, Yazay G, Yazici M, GSSG: Traditional Growing Rods Versus Magnetically Controlled Growing Rods in Early Onset Scoliosis: A Case-Matched Two Year Study.



Paloski M, Sponseller PD, **Akbarnia BA**, Thompson GH, Skaggs DL, **Pawelek J**, Nguyen PT, Odum SM, GSSG: Is There an Optimal Time to Distract Dual Growing Rods?



England K, Ledonio CGT, Polly DW, **Akbarnia BA**, Hoggard E: Pediatric Thoracic Volume Modeling for Early Onset Scoliosis: A Validation Study.



Brooks JT; Jain A, Perez-Grueso FS, Skaggs DL, Thompson GH, **Akbarnia BA**, Sponseller PD, GSSG: Pelvic Anchor Outcomes in Growing Rod Constructs: An Analysis of Patients with A Minimum of 4 Years of Post-Operative Follow-Up.



Hosseini P, Pawelek J, Nguyen S, Thompson GH, Shah SA, Flynn JM, Dormans JP, Akbarnia BA, GSSG: *Is There a Relationship Between Lengthening Intervals and Rod Fracture in Traditional Growing Rod Surgery for The Treatment of Early Onset Scoliosis?*

 SNA

## Podium Presentations – Adult

Smith JS, Lafage V, Shaffrey CI, Schwab FJ, Hostin R, Boachie-Adei O, Akbarnia BA, Klineberg E, Gupta MC, Deviren V, Hart RA, Burton DC, Bess S, Ames CP, ISSG: *Outcomes of Operative and Nonoperative Treatment for Adult Spinal Deformity (ASD): A Prospective, Multicenter Matched and Unmatched Cohort Assessment with Minimum Two Year Follow Up.*

 SRS 2014

Soroceanu A, Burton D, Tanzi E, Smith J, Hostin R, Shaffrey C, Boachie-Adjei O, Akbarnia BA, Ames C, Errico T, Bess RS, Deviren V, Hart RA, Schwab F, Lafage V, ISSG: *Incidence of Radiographic and Implant-Related Complications in Adult Spinal Deformity Surgery, Patient Risk Factors and Impact On HRQOL.*

 SRS 2014

 ISASS

McCarthy I, Robinson c, O'Brien MF, Gupta MC, Ames CP, Lafage V, Hart RA, Bess R, Shaffrey CI, Mundis GM, Schwab FJ, Kebaish K, Smith JS, Hostin R, ISSG: *Long-Term Cost-Effectiveness of Adult Spinal Deformity Surgery (ASD).*

 SRS 2014

Soroceanu A, Passias PG, Boniello AJ, Scheer JK, Schwab FJ, Shaffrey CI, Kim HJ, Protosaltis TS, Mundis GM, Gupta MC, Klineberg E, Lafage V, Smith JS, Ames CP, ISSG: *Risk of Development of New Onset Post-Operative Cervical Deformity (CD) in Thoracolumbar Adult Spinal Deformity (ASD) and Effect on Clinical Outcomes at Two-Year Follow Up.*

 SRS 2014

Ames CP, Passias PG, Soroceanu A, Boniello AJ, Scheer JK, Schwab FJ, Shaffrey CI, Kim HJ, Protosaltis TS, Mundis GM, Gupta MC, Klineberg E, Lafage V, Smith JS, ISSG: *The Presence of Pre-Operative Cervical Deformity in Adult Spinal Deformity Patients is a Strong Predictor of Inferior Outcomes and Failure to Reach MCID at Two-Year Follow Up: Analysis of 235 Patients.*

 SRS 2014

Bess S, Line B, Lafage V, Ames CP, Boachie-Adjei, Burton DC, Hart RA, Gupta MC, Klineberg E, Mundis GM, Hostin R, Schwab FJ, Shaffrey CI, Smith JS, ISSG: *Intermediate Dosing of Recombinant Human Bone Morphogenetic Protein-2 (rhBMP-2) Improves Fusion Rates with No Increase in Major Complications but does not Improve Health Related Quality of Life for Adult Spinal Deformity (ASD) at Minimum Two Years: A Prospective, Multicenter Analysis.*

 SRS 2014  INASS

Zebala LP, Naef FA, Funao H, Lafage V, Klineberg E, Kelly MP, Gupta MC, Kim HJ, Mundis GM, Bess S, Hart RA, Schwab FJ, Ames CP, Kebaish K, ISSG: *Revision Surgery in Adult Spinal Deformity Patients Achieves Similar Improvement in HRQOL Compared to Primary Surgery: Prospective, Multicenter Analysis.*

 SRS 2014

Sciubba DM, Scheer JK, Smith JS, Lafage V, Klineberg E, Gupta MC, Mundis GM, Protosaltis TS, Kim HJ, Koski T, Hamilton DK, Shaffrey CI, Bess S, Hart RA, Ames CP, ISSG: *Patients with Instrumented Fusions to the Ilium Report Greater Impairment of Perineal Care with Construct Extension to the Upper Thoracic versus Extension to the Thoracolumbar Junction with Two-Year Follow Up.*

 SRS 2014

Tohmeh AG, Isaacs RE, Dooley ZA, Turner AW, Mundis GM: *Decreasing Long Construct Pedicle Screw Reduction and Residual Forces using a Computer-Assisted Rod Bending System.*

 SRS 2014

Smith JS, Lafage V, Shaffrey C, Schwab FJ, Hostin RA, Boachie-Adjei O, Akbarnia BA, Klineberg EO, Gupta MC, Protosaltis TS, Scheer JK, Fu KG, Mundis GM, Kebaish KM, Line B, Kim HJ, Deviren V, Hart RA, Burton DC, Bess RS, Ames CP, ISSG: *Outcomes of Operative and Nonoperative Treatment for Adult Spinal Deformity (ASD): A Prospective, Multicenter Matched and Unmatched Cohort Assessment with Minimum Two-Year Follow-Up.*

 INASS

Bess RS, Lafage V, Ames CP, Akbarnia BA, Boachie-Adjei O, Burton DC, Deviren V, Hart RA, Gupta MC, Klineberg EO, Errico TJ, Mundis GM, Hostin RA, O'Brien MF, Kebaish KM, Schwab FJ, Shaffrey CI, Smith JS, ISSG: *Operative Treatment of Adult Spinal Deformity (ASD) Improves Disease State and Physical Function Regardless of Age and Deformity Type, While Nonoperative Treatment Has No Impact: A Two-Year Prospective Analysis.*

 INASS

Liu S, Liabaud B, Smith JS, Hostin RA, Shaffrey CI, Cunningham ME, Mundis GM, Ames CP, Burton DC, Bess RS, Akbarnia BA, Hart RA, Schwab FJ, Lafage V, ISSG: *Reaching Minimal Clinically Important Difference Through Nonoperative Treatment of Adult Spinal Deformity.*

 INASS

Mundis GM, Akbarnia BA, Kanter AS, Okonkwo DO, Park P, Uribe JS, Deviren V, Anand N, Wang MY, La Marca F, Fessler RG, Nguyen S, Liabaud B, Diebo BG, Eastlack RK, ISSG: *Adult Spinal Deformity Treated with Minimally Invasive Techniques: Two-Year Multicenter Clinical and Radiographic Outcomes Study Comparing Circumferential MIS and Hybrid Surgery.*

 INASS

Bess RS, Line B, Lafage V, Akbarnia BA, Ames CP, Boachie-Adjei O, Burton DC, Deviren V, Fu, KG, Hart RA, Hamilton J, Gates ML, Kebaish KM, Klineberg EO, Gupta MC, Mundis GM, Hostin RA, Schwab FJ, Shaffrey CI, Smith JS, ISSG: *Prospective Analysis of Location of Rhbmp-2 Use in Adult Spinal Deformity (ASD) Surgery Does Not Correlate with Site Specific Complications and Generates Greater Fusion Rates at Minimum Two-Year Follow-Up.*

 INASS

Bess RS, Line B, Lafage V, Akbarnia BA, Ames CP, Boachie-Adjei O, Burton DC, Deviren V, Kim HJ, Hart RA, Fu KG, Kebaish KM, Klineberg EO, Gupta MC, Mundis GM, Hostin RA, O'Brien MF, Schwab FJ, Shaffrey C, Smith JC, ISSG: *Peak Timing and Associated Risk Factors for Specific Complications Following Adult Spinal Deformity (ASD) Are Identifiable: A Guide for Surgeons and Patients.*

 INASS

Klineberg EO, Gupta MC, Nguyen S, Lafage V, Ames CP, Burton DC, Hart RA, Deviren V, Akbarnia BA, Mundis GM, Shaffrey CI, Smith JS, Protosaltis TS, Fu KG, Kebaish KM, Cunningham ME, Kelly MP, Schwab FJ, Errico TJ, Hostin RA, Kim HA, ISSG: *Anterior Posterior Versus Posterior Only Correction in Adult Spinal Deformity Matched Curves: Similar Correction with More Intraoperative, But Fewer Late Implant Complications.*

 INASS

Soroceanu A, Passias PG, Boniello AJ, Yang S, Kim HJ, Mundis GM, Klineberg EO, Smith JS, Ames C: *Risk of New Onset Postop Cervical Deformity in Thoracolumbar Adult Spinal Deformity and Clinical Outcomes at 2 Years.*

 AAOS



Challier V, Liabaud B, Ames C, Kebaish K, Obeid I, Hostin R, Klineberg E, Boachie-Adjei O, Smith J, **Akbarnia BA**, Liu S, Protosaltis T, Schwab F, Lafage V, ISSG: *Three-Column Osteotomies in Elderly Patients: Is It Worth It?*



**Mundis GM**, Deviren V, Uribe JS, Nunley P, Mummaneni PV, Anand N, **Eastlack RK**, Park P, Okonkwo DO, Wang MY, Bess S, Kanter AS, Fessler RG, **Nguyen S**, **Akbarnia BA**, ISSG: *Critical Analysis of Sagittal Plane Deformity Correction with Minimally Invasive Adult Spinal Deformity Surgery: A 2-Year Follow Up Study.*



**Turner JD**, **Nguyen S**, **Akbarnia BA**, Okonkwo DO, Kanter AS, Liabaud B, **Eastlack RK**, **Blaskiewicz D**, **Mundis GM**, ISSG: *Stand-Alone Multi-Level Lateral Lumbar Interbody Fusion for The Treatment of Adult Spinal Deformity.*



Theologis A, **Nguyen S**, **Mundis GM**, **Akbarnia BA**, **Eastlack RK**, Wang MY, Mummaneni PY, Uribe JS, Okonkwo DO, Anand N, Kanter AS, Park P, Fessler RG, Deviren V, ISSG: *Circumferential Fusion for Thoracolumbar Adult Deformity Surgery: Effect of Open Versus Percutaneous Pedicle Screw Fixation After MIS Lateral Interbody Fusion.*



Uribe JS, Mummaneni PV, Okonkwo DO, Nunley P, **Eastlack RK**, Park P, **Akbarnia BA**, Shaffrey CI, Deviren V, **Nguyen S**, Anand N, Kanter AS, Fessler RG, **Mundis GM**, ISSG: *Does MIS Surgery Allow for Shorter Constructs in The Surgical Treatment of ASD?*



Theologis A, **Mundis GM**, Okonkwo D, Mummaneni PV, Shaffrey CI, Fessler R, Bess S, Schwab FJ, Diebo B, Burton DC, Hart RA, Ames CP, Deviren V, ISSG: *Utility of Lateral Interbody Fusion of the Thoracolumbar Curve's Apex in Adult Deformity Surgery.*



**Hosseini, P**: *Is There a Role for an Ultrasonic Bone-Cutting Device in Adult Spine Deformity? A Safety and Reproducibility Study.*

## STEGO 12

Bess S, Line B, Klineberg EO, Ames CP, **Akbarnia BA**, Boachie-Adjei O, Burton DC, Gates MI, Hamilton DK, Hart RA, Hostin R, Lafage V, **Mundis GM**, Schwab FJ, Shaffrey CI, Smith JS, ISSG: *Propensity Score Matched Analysis of Adult Spinal Deformity (ASD) Patients Demonstrates That Interbody and/or Posterolateral Use of Recombinant Human Bone Morphogenetic Protein-2 (Rhbmp-2) Improves Fusion Rates Without Increasing Complications.*



Than KD, Park P, Fu, KMG, **Nguyen S**, Wang MY, Shaffrey CI, Bess S, **Akbarnia BA**, Deviren V, Uribe JS, Okonkwo DO, **Mundis GM**, Mummaneni PV, ISSG: *Clinical and Radiographic Parameters Associated with Best Versus Worst Clinical Outcomes in Minimally Invasive Deformity Surgery.*



Sarwahi V, Wendolowski ST, Wang D, Lo Y, Pawar A, Lebowhl NH, Thompson GH, **Akbarnia BA**: *Blood Loss, Transfusion, And Conservation Trends in Scoliosis Surgery Over the Past 10 Years: Meta-Analysis of SRS Meeting Abstracts by The Historical Committee.*



James D. Bruffey, MD at 2015 SDFS Annual Visiting Professorship Meeting

Kim HJ, Iyer S, Zebala LP, Kelly MP, Sciubba DM, Protosaltis TS, Gupta MC, Neuman BJ, **Mundis GM**, Ames CP, Smith JS, Hart RA, Burton DC, Klineberg EO: *Neurologic Complications in Adult Spinal Deformity Surgery: Incidence, Risk Factors and Outcomes in 558 Patients.*



Soroceanu A, Smith JS, Lafage V, Klineberg EO, Ailon T, Ames CP, Shaffrey CI, Gupta MC, **Mundis GM**, Kebaish K, Sciubba DM, Hart RA, Hostin R, Schwab FJ, ISSG: *Larger Global Sagittal Correction with Pedicle Subtraction Osteotomy is Associated with Increased PJK and Major Complications, but Better Correction and HRQL Scores.*



Buckland AJ, Vigdorichik J, Lafage R, **Mundis GM**, Gum JL, Kelly MP, Hart RA, Ames CP, Smith JS, Bess S, Errico TJ, Schwab FJ, Lafage V, ISSG, Protosaltis TS: *Acetabular Anteversion Changes in Spinal Deformity Correction: Implications for Hip and Spine Surgeries.*



Protosaltis TS, Lafage R, Lafage V, Sciubba DM, Hamilton DK, Smith JS, Passias PG, Soroceanu A, **Mundis GM**, Klineberg EO, Hart RA, Shaffrey CI, Schwab FJ, Ames CP, ISSG: *Novel Cervical Angular Measures Account for Both Upper Cervical Compensation and Sagittal Alignment.*



Smith JS, Klineberg EO, Protosaltis TS, Gupta MC, Burton DC, Deviren V, **Eastlack RK**, Gates LF, Passias PG, **Mundis GM**, Hamilton DK, Hart RA, Bess S, Ames CP, ISSG: *Assessment of Surgical Treatment Strategies for Moderate to Severe Adult Cervical Deformity Reveals Marked Variation in Approaches, Osteotomies and Fusion Levels.*



Lafage R, Lafage V, Protosaltis TS, Hart RA, Passias PG, Klineberg EO, Smith JS, Neuman BJ, Hamilton DK, Jain A, **Mundis GM**, Zebala KP, Shaffrey CI, Ames CP, ISSG: *Focal and Dynamic Cervical Alignment Pathology Correlates with Myelopathy Severity in Cervical Deformity Patients.*



Smith JS, Lafage V, Shaffrey CI, Protosaltis TS, Passias PG, Schwab FJ, O'Brien MF, Gupta MC, **Mundis GM**, Hart RA, Kim HJ, Klineberg EO, Riew D, Ames CP: *ISSG: Prospective Multicenter Assessment of Early Complication Rates Associated with Adult Cervical Deformity (ACD) Surgery in 78 Patients.*



Protopsaltis TS, Lafage R, Lafage V, Schwab FJ, Smith JS, Passias PG, Spiegel MA, Sciubba DM, **Mundis GM**, Kim HJ, Klineberg EO, Hart RA, Shaffrey CI, Ames CP, ISSG: *Towards a Cervical Deformity Outcome Instrument: Principal Component Analysis of 89 HRQL Questions in 476 Patients with Cervical Deformity.*



Klineberg EO, Passias PG, Jalai C, Worley N, Sciubba DM, Gupta MC, Soroceanu A, Zebala LP, **Mundis GM**, Kim HJ, Hamilton DK, Hart RA, Ames CP, ISSG: *Predicting Extended Length of Hospital Stay in an Adult Spinal Deformity Surgical Population.*



Scheer JK, Smith JS, Schwab JF, Lafage V, Shaffrey CI, Bess S, Daniels AH, Hart RA, Protopsaltis TS, **Mundis GM**, Ailon T, Burton DC, Klineberg EO, Ames CP, ISSG: *Development of a Preoperative Predictive Model for Intra- or Peri-Operative Major Complications with High Accuracy Validated with 558 ASD Patients.*



**Hosseini, P:** *Rescrubbing A New Technique to Decrease Surgical Site Infection.* Orthopedic Fellows Research Forum, Green Hospital, San Diego, USA, July 16, 2015



SCORE

**Choi EH:** *Implant Complications After Magnetic-Controlled Growing Rods for Early Onset Scoliosis: A Multicenter Retrospective Review. 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting.*



SCORE

**Nourian AA:** *Fusion Rates of Anterior Lumbar Interbody Fusion Via Retroperitoneal Approach Using BMP-2 Versus Allograft.*



SCORE

## Podium Presentations - Pediatric

Poe-Kochert C, Shannon C, **Pawelek J**, Thompson GH, Hardesty C, Marks DS, **Akbarnia BA**, McCarthy RE, Emans JB, GSSG: *Final Fusion After Growing Rod Treatment for Early Onset Scoliosis: Is It Really Final?*



Dr. Mundis presents at 2015 IMAST meeting in Kuala Lumpur, Malaysia

Cheung KMC, Kwan K, Ferguson J, Nnadi C, Alanay A, Yazici M, Demirkiran GH, **Akbarnia BA:** *Reoperation After Magnetically Controlled Growing Rod Implantation: A Review of 23 Patients with Minimum of Two-Year Follow Up.*



Yaszay B, **Kabirian N**, **Mundis GM**, **Pawelek J**, Bartley CE, **Akbarnia BA:** *EOS Imaging System Is Available for Early Onset Scoliosis and Can Reduce Ionizing Radiation Exposure.*



Goldstein M, **Kabirian N**, **Pawelek J**, **Arandi N**, **Mundis GM**, Yaszay B, Newton PO, **Akbarnia, BA:** *Quantifying Anesthesia Exposure in Growing Rod Treatment for Early Onset Scoliosis.*



**Pawelek J**, Yaszay B, **Nguyen S**, Newton PO, **Mundis GM**, **Akbarnia BA**, GSSG, HSG: *Case-Matched Comparison of Spinal Fusion Versus Growing Rods for Progressive Idiopathic Scoliosis in Skeletally Immature Patients.*



Schwend RM, Schmidt J, Blakemore LC, Regrut JL, **Akbarnia BA:** *Coupled Symmetry and Pattern of Rib Growth in The Growing Human.*

ICEOS

Schwend RM, Blakemore LC, Schmidt JA, **Akbarnia, BA:** *Growth Patterns of the Neurocentral Synchondrosis in Immature and Growing Vertebra.*

ICEOS

Cheung KMC, Cheung JPY, Kwan K, Ferguson J, Nnadi C, Alanay A, Yazici M, Demirkiran GH, Helenius IJ, **Akbarnia BA:** *Complications of Magnetically Controlled Growing Rod Surgery: Multicenter Study of 26 Patients with Medium-Term Follow-Up.*

ICEOS

Brooks JT, Jain A, Perez-Grueso FS, Skaggs DL, Thompson GH, **Akbarnia BA**, Sponseller PD, GSSG: *Pelvic Anchor Outcomes in Growing Rod Constructs: An Analysis of Patients with A Minimum of 4 Years of Postoperative Follow-Up.*

ICEOS

Matson DM, Ledonio C, Polly DW, England K, **Pawelek JB**, **Akbarnia BA:** *Thoracic Volume Modeling of Growing Spine Interventions in Early Onset Scoliosis.*

ICEOS ISASS IMAST

Jain A, Sponseller PD, Modhia U, Shah SA, Thompson GH, **Pawelek JB**, **Akbarnia, BA**, GSSG: *Can No Final Fusion Produce Results Equal to Final Fusion After Growing Rod Treatment?*

ICEOS

Ledonio CGT, Polly DW, **Akbarnia BA**, England K, **Pawelek J**, Matson D: *Quantitative Thoracic Volume Modeling of Growing Spine Interventions: Pilot Case Study.*

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Cheung KMC, Kwan K, Ferguson J, Nnadi C, Alanay A, Yazici M, Demirkiran, Helenius I, **Akbarnia BA:** *Re-Operation After Magnetically Controlled Growing Rod Implantation: A Review of 26 Patients with Minimum Two-Year Follow Up.*

POSNA EPoS

Repko M, Grevitt M, Aydinli U, Carl A, **Akbarnia BA**, Nnadi C, Seme S, Crandall DG: *Novel Posterior Apical Short-Segment Correction of Adolescent Idiopathic Scoliosis: A Prospective Multi-Center Study*





Jain A, Sponseller PD, Modhia U, Shah SA, Thompson GH, Emans JB, Pawelek J, Akbarnia BA, GSSG: Can A "Final Fusion" Procedure Be Avoided in EOS Patients Who Reach Skeletal Maturity After Growing Rod Treatment?

POSNA AAOS Poster

Pawelek J, Cheung KMC, Kwan K, Ferguson JA, Nnadi C, Alanay A, Yazici M, Demirkiran GH, Helenius I, Akbarnia, BA: *Proximal Junctional Kyphosis Associated with Magnetically Controlled Growing Rod Surgery.*

POSNA

Polly DW, Ackerman SJ, Schneider KBA, Pawelek JB, Akbarnia BA: *Cost Analysis of Magnetically-Controlled Growing Rods Compared with Traditional Growing Rods for Early Onset Scoliosis in The United States.*

IMAST

Keskinen H, Helenius IJ, Nnadi C, Noordeen HH, Yaszay B, Ferguson JA, Gregg T, Senkooyu A, Cheung KMC, Hosseini P, Pawelek JB, Mundis GM, Akbarnia BA: *Comparison of Primary Versus Conversion Surgery with MCGR Rods in Children with EOS.*

IMAST

Brooks J, Jain A, Perez-Grueso FS, Skaggs DL, Thompson GH, Akbarnia BA, Sponseller PD, GSSG: *Outcomes of Pelvic Fixation in Growing Rod Constructs: An Analysis of Patients with A Minimum of Four-Year Follow Up.*

IMAST

Choi E, Hosseini P, Mundis GM, Akbarnia BA, Berk HR, Helenius IJ, Ferguson JA, Gregg T, La Rosa G, Alanay A, Senkooyu A, Cheung KMC, Pawelek JB, Yaszay B: *Implant Complications After Magnetically-Controlled Growing Rods for Early Onset Scoliosis: A Multicenter Retrospective Review.*

IMAST

Cheung KMC, Kwan K, Samartzis D, Alanay AA, Ferguson JAI, Nnadi C, Helenius IJ, Yazici M, Demirkiran GH, Akbarnia BA: *Effects of Frequency of Distraction in Magnetically-Controlled Growing Rod Lengthening on Outcomes and Complications.*

IMAST

Jain A, Sponseller PD, Shah SA, Thompson GH, Pawelek JB, Akbarnia BA, GSSG: *Can "No Final Fusion" Produce Equal Results to Final Fusion After Growing Rod Treatment?*

IMAST

## Invited Speakers:



**Behrooz A. Akbarnia, MD**

Early Onset Scoliosis, What We Know as of 2014. Visiting Professor – Orthopedic Grand Rounds 2014, Nemours / Alfred I. Du Pont Hospital for Children, Wilmington, Delaware, August 13, 2014

Early Onset Scoliosis Management. 2014 Scoliosis Research Society Traveling Fellows Day at Rady Children's Hospital, San Diego, California, August 29, 2014

Lateral Approach in Adult Spine Deformity: Dokkyo University, Tokyo, Japan. November 7, 2014

XLIF in Adult Sagittal Deformity: XLIF Seminar, Tokyo, Japan, November 8, 2014



Robert K. Eastlack, MD at 2014 SRS Annual Meeting in Anchorage, Alaska

Lateral Approaches for Adult Spinal Deformity: Global Spine Outreach Annual Symposium, Decision Making and Treatment, Warsaw, Poland; November 22, 2014

Technology Has Improved the Care of Children with Early Onset Scoliosis. San Jose Biomedical Device Conference, San Jose State University, San Jose, California, March 31, 2015

Magnetic Growing Rod Systems for Early Onset Scoliosis (MCGR). Pediatric Spinal Deformity on the Cutting Edge V, Coral Gables, Florida, April 10-11, 2015

Clinical Importance of Global Alignment: In Global Spinal Alignment: It Matters Workshop. International Society for The Advancement of Spine Surgery. San Diego, California, April 15-17, 2015

Noninvasive Lengthening Methods for The Growing Spine – The Paradigm Shift Allows Us to Do More Growing Rods. Annual Meeting of the Pediatric Orthopaedic Society Of North America. Atlanta, Georgia, April 29 – May 2, 2015

Magnetic Growing Systems for Early Onset Scoliosis (MCGR). EOS Seminar, Nagoya, Japan. May 15, 2015

Early Onset Scoliosis (Eos): What Do We Know in 2015? EOS Seminar, Nagoya, Japan. May 15, 2015

History and Origin of Scoliosis Research Society and Evolution of Spine Deformity Care. Shinanomachi Spinal Deformity Symposium. Keio University, Tokyo, Japan. May 19, 2015

MIS Applications in Adult Spinal Deformity. Shinanomachi Spinal Deformity Symposium. Keio University, Tokyo, Japan. May 19, 2015

History and Evolution of Spine Deformity Care. SRS Traveling Fellowship Tour. General Hospital of Armed Police Forces, Beijing, China. May 22, 2015

Magnetic Growing Systems (MCGR) For Early Onset Scoliosis. SRS Traveling Fellowship Tour. General Hospital of Armed Police Forces, Beijing, China. May 22, 2015

History and Evolution of Spine Deformity Care. SRS Traveling Fellowship Tour. Peking Union Medical College Hospital, Beijing, China May 23, 2015

Magnetic Growing Systems (MCGR) For Early Onset Scoliosis. SRS Traveling Fellowship Tour. Peking Union Medical College Hospital, Beijing, China May 23, 2015

Historical Preview of SRS and Evolution of Spinal Deformity Care. Nanjing Drum Tower Hospital-SRS Spine Symposium On Spinal Deformity. Nanjing, China. May 26, 2015

Less Invasive Surgery for Adult Spinal Deformity: Does It Work? Nanjing Drum Tower Hospital-SRS Spine Symposium On Spinal Deformity. Nanjing, China. May 26, 2015

Early Onset Scoliosis (Eos): What Do We Know in 2015? 32<sup>nd</sup> Spring Congress, Korean Society of Spine Surgery. Pyeongchang, Korea. May 29, 2015

Magnetic Growing Systems For Early Onset Scoliosis (MCGR). University of Hong Kong Symposium with SRS Traveling Fellows. Hong Kong, China June 1, 2015

Less Invasive Surgery for Adult Spinal Deformity: Does It Work? Chinese University of Hong Kong Symposium with SRS Traveling Fellows. Hong Kong, China. June 2, 2015

EOS - What Do We Know in 2015? Spine Grand Rounds, Department of Orthopaedic Surgery, Cedar Sinai Medical Center, Los Angeles, California, June 10, 2015

Early Onset Scoliosis Management – What Do We Know in 2015? 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting

History and Origin of Scoliosis Research Society and Evolution of Spine Deformity Care 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



**Gregory M. Mundis, Jr., MD**

Innovative and Advanced Surgery of the Degenerative and Deformed Lumbar Spine Hands-On Cadaver Course. St. Louis University School of Medicine. St. Louis, Missouri, October 2-4-2014

Spine Grand Rounds. Washington University. St. Louis, Missouri, October 3, 2014

Anterior Column Realignment. 4th Annual UCSF Techniques in Complex Spine Surgery Course. Las Vegas, Nevada, November 7-8, 2014

Debate: Open v MIS Interbody Techniques. 4th Annual UCSF Techniques in Complex Spine Surgery Course. Las Vegas, Nevada, November 7-8, 2014

Unsolved Problems in Early Onset Scoliosis. 8th International Congress on Early Onset Scoliosis. Warsaw, Poland. November 20, 2014

Disruptive Thoughts in Global Alignment. Chicago, IL. December 12-13, 2014

Keynote Speaker. 5th Annual XLIF User Meeting for Australia and New Zealand. Melbourne, Australia March 22, 2015

Adult Lumbar Disc Herniation: Treatment, Complications, Outcomes and Evidence-Based Data for Patient and Health Professional Counseling. American Academy of Orthopaedic Surgeons 2015 Annual Meeting, Las Vegas, Nevada, March 24-28, 2015

Spine Deformity Panel. American Academy of Orthopaedic Surgeons 2015 Annual Meeting, Las Vegas, Nevada, March 24-28, 2015

Invited Lecturer - 15th Annual Brazilian Spine Society. Belo Horizonte, Brazil, April 18-20, 2015

Cervicothoracic Deformity. 12th Annual Symposium, State of Spine Surgery: A Think Tank. Los Cabos, Mexico, June 18-20, 2015

Use of a Preoperative Specific Customized Rod in Spinal Deformity. 12th Annual Symposium, State of Spine Surgery: A Think Tank. Los Cabos, Mexico, June 18-20, 2015

MIS What I've Learned. 12th Annual Symposium, State of Spine Surgery: A Think Tank. Los Cabos, Mexico, June 18-20, 2015

Bone Scalpel in The Treatment of Spinal Deformity. 12th Annual Symposium, State of Spine Surgery: A Think Tank. Los Cabos, Mexico, June 18-20, 2015

MIS Deformity Correction (Adult and Pediatric) – Case Presenter. 22nd Annual International Meeting On Advanced Spine Techniques. Kuala Lumpur, Malaysia, July 8-11, 2015

Are There Any Limits to Deformity Correction Through MIS Techniques? 22nd Annual International Meeting On Advanced Spine Techniques. Kuala Lumpur, Malaysia, July 8-11, 2015

MIS for Lumbar Spine - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting, July 24, 2015



**Donald Blaskiewicz, MD**

Tumors of the Spine: Evidence Update - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



**Maneesh Bawa, MD**

Thoracolumbar Burst Fracture Treated by MIS Vs. Open Surgery - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



**Ramin Bagheri, MD**

Thoracolumbar Burst Fracture Treated by MIS Vs. Open Surgery - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



**James D. Bruffey, MD**

Navigating the Physician Hospital Relationship - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



**Matthew Goldstein, MD**

Independent Challenges in New Practice – East Coast Experience - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



**Edward Nomoto, MD**

Independent Challenges in New Practice – West Coast Experience - 2015 San Diego Spine Foundation Visiting Professorship Annual Meeting



## Invited Lectures Sites 2014-2015



### 2014-2015 Table of Meeting Icons and Bibliography Acronyms



48<sup>th</sup> Annual Meeting of the Scoliosis Research Society, Anchorage, Alaska, Sept 10-13, 2014



American Academy of Pediatrics National Conference and Exhibition. San Diego, California, October 11-14, 2014



2014 Ed Quigley Clinical Research Symposium, San Diego, California, November 5, 2014



Annual Meeting of the North American Spine Society, San Francisco, California, November 12-15, 2014



8<sup>th</sup> International Congress on Early Onset Scoliosis and Growing Spine (ICEOS), Warsaw, Poland, November 20-21, 2014



American Academy of Orthopaedic Surgeons 2015 Annual Meeting, Las Vegas, Nevada, March 24-28, 2015



International Society for The Advancement of Spine Surgery. San Diego, California, April 15-17, 2015



34<sup>th</sup> Annual Meeting of European Pediatric Orthopaedic Society. Marseille, France. April 15-18, 2015



8<sup>th</sup> Annual SOLAS Research Meeting. San Diego, California, April 18, 2015



British Scoliosis Society. Sheffield, South Yorkshire, United Kingdom, April 22-23, 2015



Annual Meeting of the Pediatric Orthopaedic Society of North America. Atlanta, Georgia, April 29 – May 2, 2015



12<sup>th</sup> Annual Symposium, State of Spine Surgery: A Think Tank. Los Cabos, Mexico, June 18-20, 2015



22<sup>nd</sup> Annual International Meeting On Advanced Spine Techniques. Kuala Lumpur, Malaysia, July 8-11, 2015



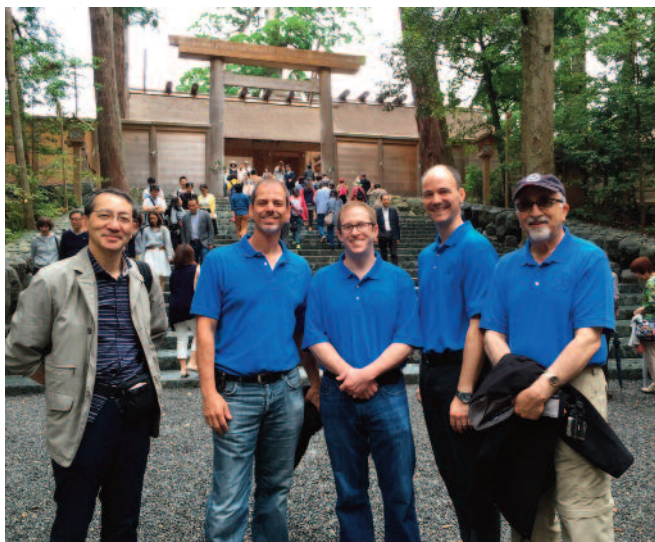
SCORE Orthopedic Fellows Research Forum, Scripps Green Hospital, San Diego, California, July 16, 2015



2015 San Diego Spine Foundation Visiting Professorship Annual Meeting, San Diego, California, July 24, 2015

## A Year to Remember

### Scoliosis Research Society's 2015 Traveling Fellowship Event



Noriaki Kawakami, MD with 2015 SRS Traveling Fellows: SRS Traveling Fellows: Burt Yaszay, MD, Patrick Cahill, MD, Stephan Parent MD, PhD and Behrooz A. Akbarnia, MD in Nagoya, Japan

This year, Dr. Akbarnia was honored to be selected as the Scoliosis Research Society's Senior member of its annual Traveling Fellowship Program. As the "Godfather", Dr. Akbarnia was tasked with creating the event including site and host selection. The final trip itinerary included 6 cities, 3 countries and spanned 26 days during which they gave and received lectures, observed surgeries and attended regional meetings as well as enjoying the local sights and culture.

Dr. Akbarnia and his junior traveling fellows (Patrick Cahill, MD of Childrens Hospital in Philadelphia in Philadelphia, Stephan Parent, MD, PhD of Hospital Sainte-Justine in Montreal and Burt Yaszay, MD of Rady Children's Hospital in San Diego) would like to acknowledge and thank their hosts for an extraordinary and memorable trip.

Nagoya, Japan - Noriaki Kawakami, MD  
 Tokyo, Japan - Morio Matsumoto, MD  
 Beijing, China - Jianxiong Shen, MD and Yonggang Zhang, MD  
 Nanjing China - Yong Qiu, MD  
 Seoul, South Korea - Se-Il Suk, MD  
 Hong Kong, China - Kenneth M.C. Cheung, MD and Jack C.Y. Cheng, MD

## SRS Lifetime Achievement Award

As mentioned in Dr. Akbarnia's Message on page 2, this has been an extraordinary year for both he and SDSF. Dr. Akbarnia humbly accepted the Scoliosis Research Society Lifetime Achievement Award at the SRS 50th Anniversary Annual Meeting this year, which is quite fitting, as location of the meeting in Minneapolis is where he completed his fellowship training 40 years ago.

In addition, Dr. Akbarnia, assisted by Pat Kostial of SDSF, Ashtin Neuschaefer of SRS, the SRS Historical Committee and many more, worked extremely hard to complete an exceptional Exhibition and video showcasing the history of both SRS and Spinal Deformity.

SDSF staff, board members, faculty and fellows are all extremely proud of Dr. Akbarnia for his lifelong contributions which have helped to improve the quality of life for all patients with spinal deformities.



Dr. Akbarnia accepts the 2015 SRS Lifetime Achievement Award. With Dr. Akbarnia are David W. Polly, Jr., MD, incoming SRS President, Kenneth M.C. Cheung, MD, incoming SRS President-Elect and John P. Dormans, MD, outgoing SRS President.





## MESSAGE FROM EXECUTIVE DIRECTOR



I'm so happy to present our 2014-15 Annual Report. As Dr. Akbarnia has mentioned, this has been our best year yet, but we can't sit back and rest, we have a lot of work to do!

I'm pleased to announce the newest member of our Board of Directors, Jeff Pawelek, BS. Jeff has been with us as our Research Director since 2009. He brings a wealth of knowledge to the table regarding research, data base development and study groups, which is increasingly important as we expand our mission to Outreach academics.

I also want to thank each and every donor listed on page 22 who has helped us this past year, increasing our Endowment Fund to support our research, education and outreach mission. As you consider year-end giving, we hope you'll consider donating to SDSF. **We need your help now more than ever.** Did you know you can shop on Amazon and donate to SDSF as well?

Visit [www.Amazon.Smile.com](http://www.Amazon.Smile.com) to select SDSF as your charity of choice, then save that site for all your future Amazon purchases! A percentage of each purchase will go to SDSF. Prime members continue to get the same great benefits on Amazon.Smile.

### Acknowledgments:

The SDSF would like to thank Brian Greer, President of GolImage Media Services for his ongoing contributions including the development of our 2013, 2014 and 2015 Annual Reports and for our website development and management: [www.sandiegospinefoundation.org](http://www.sandiegospinefoundation.org). Brian, you are one in a million!



Brian Greer



Jennifer Rushall with Gregory M. Mundis, Jr., MD, Behrooz A. Akbarnia, MD and 2015 Visiting Professor, David W. Polly, Jr., MD

To Jennifer Rushall, thank you for your donation of time and photography at our 2014 and 2015 Annual Visiting Professorship Meetings and Galas. We so enjoy having you as a part of our team!

Thanks to Justin Wang and his team at Total Tech Resource (TTR) for their generous donation of services, especially during our foundation's move this past year.

To Gil Puff Akbarnia, many thanks for your hard work and talent in updating SDSF's logo! We always enjoy the creation process with you!

Pat Kostial, RN, BSN  
Executive Director  
[www.sandiegospinefoundation.org](http://www.sandiegospinefoundation.org)

## SAVE THE DATE!

**2016 SAN DIEGO VISITING PROFESSORSHIP**  
WITH CHRISTOPHER M. BONO, MD  
FRIDAY, JULY 29, 2016  
SCRIPPS GREEN HOSPITAL AMPHITHEATER



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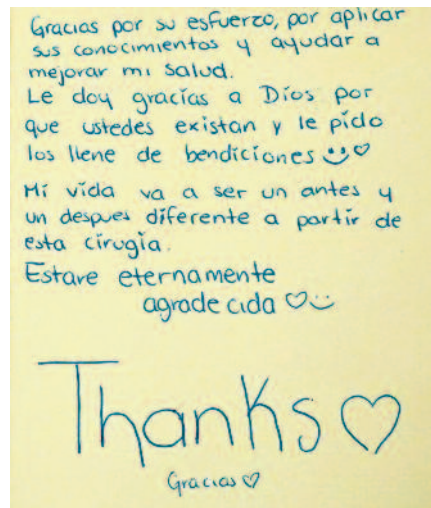
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Thank you note from 2015 Outreach Trip to Mexico

## 2014-15 Journal Club Hosts

Robert K. Eastlack, MD	Aug-14
Spineart / Implanet	Sep-14
Biomet	Nov-14
Titan Spine	Dec-14
Compass Spine	Jan-15
Gregory M. Mundis, Jr., MD	Feb-15
Aesculap	Mar-15
Ulrich Medical, USA	Apr-15
Compass Spine	May-15
Maneesh Bawa, MD	Jun-15

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Sarah Aghassi, Esq	Contributor

The San Diego Spine Foundation would like to express its appreciation to Mr. Brian Greer, President of GoImage Media Services Inc. for his generous contribution of the development of our 2013-2015 Annual Reports and our website:  
[www.sandiegospinefoundation.org](http://www.sandiegospinefoundation.org).



# SUPPORTING THE FOUNDATION

The San Diego Spine Foundation has established an Endowment Fund for those who wish to support the foundation's research, education and outreach efforts for years to come. SDSF also accepts general donations to cover ongoing operating expenses.

Donations throughout the academic year (August 1 through July 31) are cumulative and will be acknowledged on the foundation's annual report following each academic year.



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### About the Cover

The cover is provided as a courtesy of Anne Cotrel and the Cotrel Foundation. The drawing is part a set of sketches on spinal deviation made for the Centennial of the Institut Calot, in 2000.

This year's cover page drawing is an adaptation of Anne Cotrel's Red Chalk Drawing featured on our 2014 Annual Report. This technique was the one used for anatomical studies during the Renaissance (Leonardo da Vinci)

The softness and nuances inherent to this technique enabled to display the beauty and harmony of the bodies, way beyond the deformity caused by the disease.

#### Anne Cotrel:

Ecole Supérieure Des Arts Décoratifs - Paris. B.A. in Visual Art, Concordia University Montréal

Annie has lived and worked in Canada, Italy and German speaking Switzerland.

Her last personal exhibit took place at the Centre Culturel Zoroastre in Paris - April 2014





**San Diego  
Spine Foundation**  
Established in 2006

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