

CAUSE NO. DC-13-04566-G

DAVID JOHNSON, INDIVIDUALLY	§	IN THE DISTRICT COURT
AND ON BEHALF OF THE ESTATE	§	
OF STEVEN JOHNSON, DECEASED,	§	
AND JESSICA JOHNSON AND	§	
JENNIFER JOHNSON	§	
	§	
	§	
Plaintiffs,	§	
	§	
V.	§	OF DALLAS COUNTY, TEXAS
	§	
MINIMALLY INVASIVE SPINE	§	
INSTITUTE (ITS COMMON NAME);	§	
MINIMALLY INVASIVE SPINE	§	
INSTITUTE A/K/A MISI ASC	§	
DALLAS, L.C.; MINIMALLY	§	
INVASIVE SPINE INSTITUTE	§	
A/K/A/MISI, P.A.; RICHARD RHIM,	§	
MD; AND RICHARD RHIM, M.D., P.A.	§	
	§	
Defendants.	§	134th JUDICIAL DISTRICT

PLAINTIFFS' ORIGINAL PETITION

TO THE HONORABLE COURT:

COMES NOW David Johnson, Individually and on behalf of the Estate of Steven Johnson, Deceased, and Jessica Johnson and Jennifer Johnson ("Plaintiffs"), and files this Original Petition complaining of Minimally Invasive Spine Institute (via its Common Name), Minimally Invasive Spine Institute a/k/a MISI ASC Dallas, L.C.; Minimally Invasive Spine Institute a/k/a MISI, P.A. (collectively "MISI" or "Defendants MISI"); Richard Rhim, M.D.; and Richard Rhim, M.D., P.A. ("Defendants RHIM"). Plaintiffs also file herein the following materials:

1. Motion for Scheduling Order along with a proposed Scheduling Order;
2. Chapter 74.351 Expert Report(s) and Curriculum Vitae;

3. Requests for Disclosure to all Defendants;
4. Requests for Production to all Defendants;
5. Interrogatories to All Defendants;
6. Requests for Admissions for All Defendants;
7. Motion to Approve Expert Reports and CVs;
8. Notice of Deposition of Defendants Rhim;
9. Notice of Deposition of Defendants MISI;
10. Notice of Deposition of Plaintiffs.

In support thereof, Plaintiffs respectfully show the Court:

I.

DISCOVERY CONTROL PLAN LEVEL

1.1. Plaintiff intends this case to be conducted under the Level 3 Discovery Plan provided for in Rule 190 of the *Texas Rules of Civil Procedure*. As such, Plaintiff respectfully requests that the Court enter a scheduling order governing discovery in this matter. Specifically, Plaintiffs move the Court to enter the proposed Scheduling Order attached as Exhibit A.

II.

JURISDICTION AND VENUE

2.1. This Court has jurisdiction and venue is proper in Dallas County, Texas because at least one of the Defendants has its principal office in Dallas County, Texas and because the events that form the basis for liability occurred in Dallas County, Texas. This case involves an amount in controversy that is within the jurisdictional limits of this Court. In accordance with Rule 47 of the *Texas Rules of Civil Procedure*, Plaintiffs seek monetary relief over \$1,000,000.

III.
PARTIES

3.1. Plaintiff David Johnson is the surviving father of Steven Johnson, Deceased. He brings this action, Individually, and on behalf of the Estate of Steven Johnson, Deceased.

Plaintiff Jessica Johnson is a daughter of Steven Johnson, Deceased. Plaintiff Jennifer Johnson is a daughter of Steven Johnson, Deceased. Together, Plaintiffs comprise all wrongful death beneficiaries of decedent Steven Johnson. The parties are hereby notified that there exists a family settlement agreement and thus no probate of the Estate of Steven Johnson is necessary.

3.2. Richard Rhim, M.D. (hereinafter referred to as “Dr. Rhim”) is an individual and can be served with process by CMRRR at Hackensack University Medical Center, 30 Prospect Avenue, 3rd Floor, Hackensack NJ 07601.

3.3. Minimally Invasive Spine Institute (its Common Name), Minimally Invasive Spine Institute a/k/a MISI ASC Dallas, L.C.; Minimally Invasive Spine Institute a/k/a MISI, P.A. and Minimally Invasive Spine Institute a/k/a MISI ASC Dallas, L.C. are all located at 10400 N. Central Expressway, Dallas, TX 75231. They can be served through their Administrator via CMRRR at that address.

IV.

**STATUTORY COMPLIANCE REGARDING CHAPTER 74 EXPERT REPORTS AND
MOTION TO DEEM REPORTS ADEQUATE**

4.1. Plaintiffs have complied with the statutory requirements of *Texas Civil Practices & Remedies Code §74.351*. In addition, the initial Chapter 74 expert reports and CVs are attached as Exhibit B. Plaintiffs move the court for an order finding that the report(s) and CVs meet the minimum requirements of Chapter 74.

V.

FACTS

5.1. On the morning of September 8, 2011, Steven Johnson presented to Minimally Invasive Spine Institute (“MISI”) to have an elective surgery performed on his neck. Dr. Rhim performed a fusion of cervical vertebrae with installation of fixation hardware. Shortly after the surgery was completed, MISI sent Johnson home. Shortly after Johnson arrived home he stopped breathing and was pronounced dead at a local hospital. The cause of death was an accumulation of blood in the tissues around Johnson’s windpipe, which squeezed the windpipe shut, suffocating him to death. This event was a foreseeable complication from such a surgery. MISI should not be doing major neck surgeries like this on an outpatient basis – because patients are sent home before some of the life-threatening but treatable complications can be seen. Had Johnson been kept longer following the surgery, or preferably overnight, this complication would have been recognized timely and treated successfully. Instead Johnson died needlessly.

VI.

PRINCIPAL/AGENCY

6.1. At all times material hereto, Dr. Richard Rhim was acting, not only in his individual capacity, but also as an agent, representative, and/or employee of MISI and acting within the scope of such agency/employment. Under the doctrines of agency and *respondeat superior*, Dr. Rhim and MISI are jointly and severally liable for the acts and omissions of Dr. Rhim. Similarly, and at all times material hereto, MISI was negligent by and through its administrators and its nursing personnel and is liable for those acts or omissions under the doctrines of agency and agency and *respondeat superior*.

VII.

NEGLIGENCE & GROSS NEGLIGENCE

7.1. Defendants were negligent and fell below the applicable standards of care in their treatment of Mr. Johnson. As a direct and proximate cause of the negligence and gross negligence of Defendants, Mr. Johnson died needlessly.

7.2 Defendant Rhim was negligent in discharging Mr. Johnson when he did.

7.3 Defendants MISI were negligent [both directly, by and through their employees or agents, and by and through the conduct of its managing member(s) and member(s)] in allowing or requiring patients undergoing major surgeries to be sent home prior to the time when severe complications such as in this case would become evident. This practice exposes all of MISI's patients, and particularly those such as decedent, to a high risk of injury or death.

VIII.

WRONGFUL DEATH AND SURVIVAL CLAIMS

8.1. At the time of the decedent's wrongful death, the decedent was survived by his father, David Johnson, and his two children, Jessica and Jennifer. Collectively, they bring this action pursuant to the Texas Wrongful Death and Survival Act. They also seek exemplary damages in order to do everything in their power to prevent this from happening to another family in the future.

8.2 Defendants' conduct, as set forth above, proximately caused injury to decedent and Plaintiffs for which damages are sought:

DAMAGES – PLAINTIFF AND ALL WRONGFUL DEATH BENEFICIARIES

- a. The loss of the care, maintenance, support, services, advice, counsel, and reasonable contributions of a pecuniary value, excluding loss of inheritance, that Plaintiff and the wrongful death beneficiaries, in reasonable probability, would have received from Steven Johnson had he had lived;

- b. The loss of the positive benefits flowing from the love, comfort, companionship, and society that Plaintiff and the wrongful death beneficiaries, in reasonable probability, would have received from Steven Johnson had he lived;
- c. The emotional pain, torment, and suffering experienced by Plaintiff and the wrongful death beneficiaries because of the death of Steven Johnson; and
- d. The loss of present value of the assets that the deceased, in reasonable probability, would have added to the estate and left at natural death to Plaintiff and the wrongful death beneficiaries.

DAMAGES - FOR THE ESTATE OF STEVEN JOHNSON, DECEASED

- a. That sum of money which would have fairly and reasonably compensated Steven Johnson for the conscious physical pain and mental anguish that he suffered before his death as a result of the negligence of Defendants;
- b. Expenses for funeral and/or cremation of Steven Johnson; and
- c. Reasonable and necessary medical expenses caused by Defendants' negligence and gross negligence.

IX.

REQUEST FOR DISCLOSURE

Plaintiffs request each Defendant provide complete disclosure responses as required by Texas Rule of Civil Procedure 194.2 (a) through (l).

X.

REQUEST FOR PRODUCTION

Plaintiffs request each Defendant provide the following documents, material, or data within 50-days of service:

- 1. All medical records related to the decedent;
- 2. All medical billing records related to the decedent;
- 3. If any Defendant had in place a Medicare Provider Agreement on the date of the surgery in question, please produce a copy;
- 4. All video or photographic images of decedent or any Plaintiff taken at any time;
- 5. All sound recordings of decedent or Plaintiff taken at any time;

6. All letters of complaint received by any Defendant during the last 5 years;
7. All written or electronic communications between Defendants or any of MISI's staff related to decedent or this lawsuit which were sent or received prior to receipt of any Chapter 74 notice letter related to this lawsuit;
8. All audit trails for any electronic medical records or electronic health information;
9. All written or electronic communications with the Dallas County Medical Examiner's Office or any law enforcement agency related to decedent;
10. A copy of all legal petitions or legal complaints related to any lawsuit filed against any Defendant within the last ten years;
11. The Table of Contents for all policy and procedure manuals at MISI;
12. The personnel file for each MISI staff member involved with any post-operative assessment or discharge of decedent following the surgery in question;
13. All incident reports or occurrence reports related to decedent;
14. All written or electronic telephone or voicemail messages related to decedent;
15. All documents showing the reimbursement rates for outpatient spinal surgeries;
16. All documents showing the reimbursement rates for in-patient spinal surgeries where the patient is kept overnight following the surgery;
17. All of MISI's year-end financial statements for the last 5 fiscal years; and
18. All loan or line of credit applications submitted by MISI to any financial institution during the last 5 years.
19. If a physician-owned distributorship was involved in or related to any medical device used on Steven Johnson, please produce all documents, contracts, or agreements that

identify the physician-owners and the financial arrangements related to the medical device(s).

XI.

INTERROGATORIES

Each Defendant is requested to answer the following questions within 50-days of service:

INTERROGATORY NO 1: Please identify all persons answering these Interrogatories.

INTERROGATORY NO 2: Please identify all people (including but not limited to nurses, physicians, nurses' aides, sales representatives, and technicians) who were present during the surgery in question.

INTERROGATORY NO 3: Please identify the administrator of Defendant MISI at the time of the occurrence in question. Also identify this person's immediate predecessor and successor.

INTERROGATORY NO 4: Set forth any and all supplemental training, advanced education, continuing education, seminars or other training/education employed at Defendant MISI from 2009 to 2011, the purpose of which was to communicate information with regard to discharge of patients following spine surgery.

INTERROGATORY NO 5: Please identify all people (including but not limited to nurses, physicians, nurses' aides and technicians) who were responsible for post-operative assessment of decedent or discharge assessment following the surgery in question.

INTERROGATORY NO 6: Please identify everyone responsible for the decision to discharge Steven Johnson following the surgery in question.

INTERROGATORY NO 7: Identify the person who had the ultimate responsibility for making sure Steven Johnson was not discharged prematurely.

INTERROGATORY NO 8: If you, your employees, agents, and/or representatives believe that the death of Steven Johnson resulted from the negligence of another person or entity (whether or not such other person or entity is a party to this lawsuit), please identify the person and/or entity and state:

- (a) Each act and/or omission which you believe or contend constituted negligence resulting in the injuries to Plaintiffs and/or the damages sustained by Plaintiffs; and

- (b) the identity of each person having knowledge of any information concerning each such negligent act or omission on the part of each such person and/or entity.

INTERROGATORY NO 9: Please state specifically and in detail Defendant Richard Rhim, M.D.'s privileges at Defendant MISI on the date in question. If it is more convenient, you may simply attach his privileges sheet to your answers to these questions.

INTERROGATORY NO 10: If Defendant has ever been a defendant in a malpractice suit other than the present one please completely identify each suit, including nature of the suit, date filed, style and cause number of each suit, court, and disposition of the suit.

INTERROGATORY NO 11: Please identify any physician or hospital employee who has participated in any review, evaluation and/or investigation of the care rendered to Lois Renee Brasher during her December 2010 admission. This is not meant to include consulting experts but, rather, persons participating in reviews occurring as part of ordinary procedure.

INTERROGATORY NO 12: If Defendant MISI had any policy, procedure, rule and/or regulation regarding treatment of patients undergoing spinal surgery in effect at the time of the occurrence made the basis of this suit, please set forth verbatim each such policy, procedure, rule and/or regulation; or, in the alternative, attach a copy of each such policy, procedure, rule and/or regulation.

INTERROGATORY NO 13: Do you contend that you have not been correctly named or served in or by Plaintiffs' Original Petition? If so, state the basis for your contention, your correct legal name, and the correct manner in which you can be designated as a party defendant and served with process in this action under the allegations as set forth in Plaintiffs' Original Petition.

INTERROGATORY NO 14: Have you, or your attorneys or anyone on your behalf taken or obtained a written or recorded statement of any individual purporting to have knowledge of any of the allegations contained in Plaintiffs' Original Petition? If so, for each statement, state the identity of the individual whose statement was taken, the identity of the individual taking the statement, the date of the statement, the form of the statement, and the verbatim content of the statement. In the alternative, you may attach a copy of each statement to your responses to these interrogatories.

INTERROGATORY NO 15: Was a physician-owned distributorship involved in or related to any medical device used on Steven Johnson? If so, identify the entities, manufacturers, and physicians involved as well as the financial arrangements of the POD.

INTERROGATORY NO 16: Was a representative of any medical device manufacturer or distributor [or any non-healthcare-licensed person] present in the operating room during Steven Johnson's surgery? If so, identify by name, address, phone number, and email address each such person.

XII.

REQUESTS FOR ADMISSIONS

Each Defendant is requested to admit or deny each of the following:

1. You are correctly identified in this petition.
2. On September 8, 2011, you had a duty to Steven Johnson to provide him with safe healthcare treatment.
3. On September 8, 2011, you had a duty to Steven Johnson to monitor him for life-threatening complications resulting from his surgery.
4. On September 8, 2011, you were aware that life-threatening bleeding complications might arise in Steven Johnson within 12-hours following his surgery.
5. On September 8, 2011, you were aware that a Jackson Pratt drain is not always adequate to prevent death from a bleeding complication following neck surgery like Steven Johnson's neck surgery.
6. Steven Johnson died from a bleeding complication from the September 8, 2011 surgery.
7. Had Steven Johnson remained in the post-operative recovery area at MISI for at least 6 hours following the September 8, 2011 surgery, his complications would most likely have been recognized and addressed by the physicians and staff at MISI.
8. Admit you had the ultimate responsibility to make the correct discharge decision regarding Steven Johnson.

XIII.

MOTION TO APPROVE EXPERT REPORTS AND CVs

Plaintiffs say that the attached expert reports and CVs meet the requirements of Tex.Civ.Prac. & Rem.Code Chapter 74. Plaintiffs hereby move the Court for a ruling that they so comply.

XIV.

NOTICE DUCES TECUM OF DEPOSITION OF DEFENDANT RICHARD RHIM

All parties are hereby notified that Plaintiffs will take the sworn videotaped deposition of Richard Rhim, MD beginning at 9:00 a.m. on June 17, 2013. Should said Defendant object to the deposition taking place on that date then upon request Plaintiffs will agree to move the deposition to a date certain within 5 calendar days of this date. Defendant Rhim, MD is requested to bring with him to the deposition a copy of all documents and materials requested under paragraph X above. The deposition will be taken before Marion Ward, a certified court reporter 214-363-7471, and will continue from day to day until completed. The deposition location is Girards Law Firm, 10000 N. Central Expy, Suite 750, Dallas TX 75231.

XV.

**NOTICE DUCES TECUM OF DEPOSITION OF
DEFENDANT MISI (Common Name)**

All parties are hereby notified that Plaintiffs will take the sworn videotaped deposition of the designated representative of Defendant Minimally Invasive Spine Institute (via its Common Name) beginning at 9:00 a.m. on June 18, 2013. Should said Defendant object to the deposition taking place on that date then upon request Plaintiffs will agree to move the deposition to a date certain within 5 calendar days in either direction. Said Defendant is requested to bring to the

deposition a copy of all documents and materials requested under paragraph X above. The issues for questioning are as follows: 1) all post-surgery discharge policies, procedures, and protocols that were in place at said Defendant on the day that decedent was sent home following the surgery in question, and 2) all claims, defenses, counter- or cross-claims applicable to this suit, and 3) all documents, data, and other materials requested in paragraph X above. The deposition will be taken before Marion Ward, a certified court reporter 214-363-7471, and will continue from day to day until completed. The deposition location is Girards Law Firm, 10000 N. Central Expy, Suite 750, Dallas TX 75231.

XVI.

NOTICE OF DEPOSITION OF PLAINTIFFS

All parties are hereby notified that Plaintiffs will take the sworn deposition of each Plaintiff beginning at 9:00 a.m. on June 19, 2013. Should the depositions not be completed on that day then they will continue from day to day until completed. The deposition will be taken before Marion Ward, a certified court reporter 214-363-7471, and will continue from day to day until completed. The deposition location is Girards Law Firm, 10000 N. Central Expy, Suite 750, Dallas TX 75231.

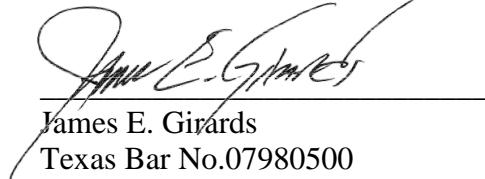
FOR THESE REASONS, Plaintiffs respectfully request each of the following:

1. Each Defendant be cited to appear and answer herein,
2. The attached Proposed Scheduling Order be entered by the Court,
3. The attached Expert Reports and CVs be deemed adequate and in compliance with the requirements of Tex.Civ.Prac. & Rem.Code Chapter 74,
4. That should any defendant fail to fully answer or respond to each discovery request made in this document that the Court Orders full and complete responses, and

That upon a final hearing of the cause, judgment be entered for the Plaintiffs against Defendants for damages in an amount within the jurisdictional limits of the Court; together with pre-judgment interest (from the date of injury through the date of judgment) at the maximum rate allowed by law; post-judgment interest at the legal rate, costs of court; and for such further relief to which Plaintiffs are justly entitled.

Respectfully Submitted,

THE GIRARDS LAW FIRM

A handwritten signature in black ink, appearing to read "James E. Girards", is written over a horizontal line.

James E. Girards
Texas Bar No.07980500
10,000 N. Central Expressway, Suite 750
Dallas, Texas 75231
214/346-9529 telephone
214/346-9532 facsimile

ATTORNEYS FOR PLAINTIFFS

[illegible]

COURT NO. _____

V.

Defendants.

DALLAS COUNTY, TEXAS

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witness is available for deposition. Any rebuttal expert must be designated within 30 days of receipt of the designation that is the target of the rebuttal. Plaintiffs shall designate their retained experts within 120 days of filing of the Original Petition and provide 3 dates that each expert is available for deposition.

3. All retained experts are to be deposed by the 170th day from the date of service of Plaintiffs Original Petition. Each Defendant is to provide to Plaintiffs a copy of each expert report from each of Defendant's retained expert witnesses at least 48 hours prior to the deposition(s) of the Plaintiffs' experts.

4. Discovery closes on the 190th day following the date of service of Plaintiffs' Original Petition upon the last Defendant. If Plaintiff can show that any Defendant avoided service of process then the discovery cut-off will be the 190th day following service of Plaintiffs' Original Petition on the first Defendant served.

5. If any party chooses to challenge the qualifications or opinions of any opposing expert witness, that party shall file an objection within 30 days of receipt of that expert's report and CV.

6. All parties are ordered to participate in a mediation of the case on or before the discovery cut-off date. The parties shall agree upon a mediator. Should the parties be unable to agree upon a mediator the Court will appoint one on request.

7. The deadline for filing trial pleadings is 30-days before the trial date.

8. The deadline for filing dispositive motions is the discovery cut-off date.

9. The case is hereby set for jury trial on the _____ day of _____, 2013.

All dates hereinabove may be modified or altered by written agreement of counsel. Reset or continuance of final setting will not alter any deadlines established in this Order, unless

specifically provided by Order after motion showing good cause. However, the parties by agreement may amend deadlines established by this Order, except the Jury Trial Date.

SIGNED this the ____ day of _____, 2013.

JUDGE PRESIDING

EXHIBIT B

EXPERT OPINION OF GREGORY P. GRAZIANO, M.D.

This report is written at the request of The Girards Law Firm and is written in order to comply with *Texas Civil Practices & Remedies Code* § 74.351. I have been informed that subsection (k) of the statute provides that an expert opinion prepared under this law is not admissible in evidence by any party; shall not be used in a deposition, trial, or other proceeding; and shall not be referred to by any Defendant during the course of any proceeding in this case. All opinions expressed herein are based upon reasonable medical probability.

Materials Reviewed

I have reviewed the records showing the medical care given to Steven Johnson by Richard Rhim, M.D. ("Dr. Rhim") at the Minimally Invasive Spine Institute ("MIST") in Dallas, Texas. I have also reviewed the autopsy records from the Dallas County Medical Examiner's Office.

Qualifications

I am a board-certified orthopaedic surgeon licensed to practice medicine in the state of Michigan. I am currently an Associate Professor with Tenure with the Department of Orthopaedic Surgery at the University of Michigan, where I serve as the Chief of the Spine Division.

I graduated from the University of Wisconsin at Parkside with a Bachelor of Science degree in 1979. I graduated from the Medical College of Washington in Milwaukee, Wisconsin in 1983. Thereafter, I completed a one year internship in general surgery at Indiana University Medical Center in Indianapolis, Indiana. From 1984 to 1988, I completed my Orthopaedic residency training at Indiana University Medical Center. And finally, from 1988 to 1989, I completed my Spine fellowship training at State University of New York in Buffalo, New York. In July, 1989, I joined the University of Michigan Orthopaedic Surgery Department. In 2001, I was appointed Division Chief of the Spine Service for the Department of Orthopaedic Surgery. I am also a Consultant to the Veterans Administration Hospital in Ann Arbor, Michigan.

I am the Associate Editor of The Spine Journal, and I actively serve on boards for the Mid-America Orthopaedic Association, American Board of Orthopaedic Surgery, and American Orthopaedic Association. I have authored more than 46 peer-reviewed journals and publications in prestigious basic science and orthopaedic journals, including *Spine*, *Journal of Spinal Disorders*, *Journal of Bone and Joint Surgery*, *Journal of Pediatric Orthopaedics*, *Journal of Orthopaedic Trauma*, *Orthopaedics*, and *Journal of American Academy of Orthopaedic Surgeons*. I have

authored or co-authored numerous book chapters dealing with spinal surgery. I have been an invited lecturer regarding spinal cord surgery at regional and national scientific meetings.

Because of my expertise in the field of spinal cord surgery, I have conducted extensive research to include serving as principal investigator on numerous clinical trials in this area of medicine, on the data and safety monitoring committee of clinical trials and the steering committee of clinical trials. These trials all relate to antithrombotic therapy and heart disease. I have consulted with numerous pharmacology and biotechnology companies on the development and potential platelet-related effects of various compounds in development.

In addition to my scientific background, I am an active clinician and perform spinal surgery as a regular part of my practice. I have personally performed more than 4,000 spinal surgeries during my career, including surgeries on patients exhibiting the signs, symptoms, and physical characteristics of Steven Johnson. Moreover, I have trained more than 120 residents in the performance of spinal surgery on such patients.

Throughout my career, I have routinely cared for patients presenting with radiculopathy secondary to cervical spinal stenosis, such as Steven Johnson. I have personally performed spinal surgery on such patients, and I have taught physicians to perform such surgeries. I have extensive experience in caring for and evaluating such patients before and after surgery. I am directly involved in establishing when, and under what circumstances, it is appropriate to discharge patients who have undergone spinal surgery. I am currently, and have been at all times relevant hereto, engaged in full time medical practice in Michigan. I am familiar with the standards of care for physicians caring for patients exhibiting the signs and symptoms of Steven Johnson, both in an office practice and in a hospital setting. My curriculum vitae is attached hereto and further outlines my education, training and experience.

All opinions expressed in this report are based on reasonable medical probability.

Texas Legal Definitions

I understand that with respect to a physician in Texas, "negligence" means the failure to use ordinary care; that is, doing that which a physician of ordinary prudence would not have done under the same or similar circumstances, or failing to do that which a physician of ordinary prudence would have done under the same or similar circumstances.

I understand that with respect to a physician in Texas, "ordinary care" means that degree of care that would be used by a physician of ordinary prudence under the same or similar circumstances.

I understand that with respect to a surgery center in Texas, "negligence" means the failure to use ordinary care; that is, doing that which a surgery center of ordinary prudence would not have done under the same or similar circumstances, or failing to do that which a surgery center of ordinary prudence would have done under the same or similar circumstances.

I understand that with respect to a physician in Texas, "ordinary care" means that degree of care that would be used by a surgery center of ordinary prudence under the same or similar circumstances.

I understand that in Texas, "proximate cause" means a cause that was a substantial factor in bringing about an event, and without which cause such event would not have occurred. In order to be a proximate cause, the act or omission complained of must be such that a healthcare provider using ordinary care would have foreseen that the event, or some similar event, might reasonably result therefrom. I understand that there may be more than one proximate cause of an event.

Patient History

On the early morning of September 8, 2011, Steven Johnson presented to Minimally Invasive Spine Institute ("MISI") to have an elective surgery performed on his neck. The Surgery Scheduling documentation indicates that the surgery was planned as an outpatient procedure, or day surgery. Dr. Rhim performed the anterior cervical discectomy, with fusion of C4-5 and C5-6, and installation of fixation hardware. The surgery was started at 8:12 A.M. and Mr. Johnson was transferred from the OR to the PACU at 10:55 A.M. Within minutes of completing the surgery, Dr. Rhim signed the MISI discharge summary to send Johnson home. Steven Johnson was discharged home, with a drain in the left side of his neck at 2:10 P.M. Shortly after his arrival home, he stopped breathing and was thereafter pronounced dead.

On September 9, 2011, an autopsy was performed by the Dallas County medical examiner's office. The external examination and exploration of Mr. Johnson's neck revealed the following pertinent information:

"A drain exits the left side of the neck and contains 25 mL of bright red watery fluid. Exploration of the neck reveals dense hemorrhage in the fascial planes of the strap musculature of the left and right sides of the neck. In particular, the pocket deep in the neck musculature in which the previously-described drain terminates contains 20 mL of clotted blood. There is dense perithyroid soft tissue hemorrhage. Dense soft tissue hemorrhage surrounds the proximal esophagus. 80 mL of clotted blood is in the retropharyngeal space."

The cause of Steven Johnson's death was determined to be asphyxia due to neck compression by retropharyngeal hematoma following cervical spinal surgery. Simply put, Steven Johnson had blood accumulate around his windpipe, which squeezed the windpipe shut.

Standards of Care

The relevant standards of care for a physician performing spine surgery are such that that the physician must never discharge the patient from the facility within the first 24 hours following the surgery. It is standard of care to maintain such patients at the facility for a period of 24 to 48 hours following such a surgery in order to monitor for bleeding and respiratory

complications. And finally, the minimal standards of care require that the physician never discharge a patient home following spine surgery with a neck drain in place.

The relevant standards of care for a surgery center are such that the surgery center must never offer spinal surgery in an outpatient setting. It is the standard of care to have discharge criteria standards that assures that patients are never discharged from the facility within the first 24 hours following the surgery. The minimal standards of care also require that the surgery center have discharge criteria that assures that patients are never discharged home from the facility with a neck drain in place.

Violations of the Standards of Care

My review of the medical records related to Steven Johnson's treatment leads me to conclude that, based on reasonable medical probability, Dr. Rhim fell below the applicable standards of care in his treatment of Mr. Johnson. Specifically, Dr. Rhim fell below the standards of care by:

1. Performing Steven Johnson's spine surgery in an outpatient setting at the MISI facility;
2. Discharging Steven Johnson from the MISI facility within the first 24 hours following his spine surgery; and
3. Discharging Steven Johnson home from the MISI facility with a neck drain in place.

Under the definitions listed above, I must conclude that Dr. Rhim was negligent in his treatment and care of Mr. Johnson.

My review of the medical records related to Steven Johnson's treatment leads me to conclude that, based on reasonable medical probability, MISI fell below the applicable standards of care in its treatment of Mr. Johnson. Specifically, MISI fell below the standards of care by:

1. Permitting Dr. Rhim to perform Steven Johnson's spine surgery as an outpatient at the MISI facility;
2. Failing to have discharge criteria that assured that Steven Johnson was not discharged from the MISI facility within the first 24 hours following his surgery; and
3. Failing to have discharge criteria that assured that Steven Johnson was not discharged from the MISI facility with a neck drain in place.

Under the definitions listed above, I must conclude that MISI was negligent in its treatment and care of Mr. Johnson.

Appropriate Patient Care

The applicable standards of care required that Dr. Rhim not perform Steven Johnson's cervical spine surgery as an outpatient (day surgery) at the MISI facility. Appropriate patient

care required that MISI not permit Dr. Rhim to perform this surgery as an outpatient. Instead, MISI and Dr. Rhim should have required that Mr. Johnson be admitted to a hospital for a period of at least 24-48 hours in order to have the cervical spine surgery. It is absolutely crucial that such patients are maintained in a hospital setting for a period of at least 24 to 48 hours following such a surgery in order to monitor for bleeding and respiratory complications.

Dr Rhim should have never discharged Steven Johnson from the MISI facility within the first 24 hours following his cervical spine surgery. Under no circumstances should a patient who has undergone cervical spine surgery be discharged home less than 3.5 hours following surgery. Moreover, Dr. Rhim should never have discharged Steven Johnson home from the MISI facility with the neck drain in place. Appropriate patient care required that MISI have discharge criteria mandating that patients having cervical spine surgery such as Steven Johnson never be discharged: 1) within the first 24 hours following surgery, or 2) with a neck drain in place.

It is well established that 6% to 10% of patients will experience serious, potentially fatal, respiratory problems following this type of cervical spine surgery. For this reason alone, patients such as Steven Johnson must be maintained in the hospital following surgery. However, the risk to these post surgical patients who have neck drains in place is even greater. The purpose of the neck drain is to allow a route for internal bleeding from the surgical site to escape the body. However, these drains not infrequently become clotted. If a drain clots off, the blood has no manner to escape the body, it accumulates within the tissues of the neck resulting in swelling. When this blood accumulation/swelling compresses the windpipe, the patient can no longer breathe, and medical attention is needed immediately to re-establish the patient's airway.

For each of the above reasons, it is my expert medical opinion, rendered to a reasonable degree of medical probability that Dr. Rhim and MISI's deviations from the standard of care proximately caused the death of Steven Johnson.

Causation & Damages

To perform Steven Johnson's cervical spine surgery, Dr. Rhim was required to cut through the skin and soft tissues of the neck, physically remove disc material (bone) from the spine, and screw hardware into the spine. This surgery will always result in bleeding. Dr. Rhim performed the surgery, and placed the neck drain to allow the bleeding from Mr. Johnson's neck. He then discharged Mr. Johnson home from the MISI facility a few hours after the surgery. MISI failed to have adequate discharge criteria to prevent the discharge. Once home, Mr. Johnson's neck drain clotted off, and blood began to collect within the soft tissues of his neck. This collection of blood and swelling closed off his windpipe, resulting in his death.

It was foreseeable to Dr. Rhim and MISI that Steven Johnson would suffer bleeding and respiratory problems following such a surgery. Johnson should not have been sent home so soon after the surgery for this reason. Had Defendants kept him at the facility an appropriate amount of time and monitored him they would have recognized the complication timely, addressed it, and Johnson would not have died needlessly. Had he still been in a hospital facility, medical personnel could have supported his breathing, made certain the neck drain was functioning properly, and drained the hematoma that shut off his windpipe. More likely than not, the above actions would

have saved Steven Johnson's life. Unfortunately, Dr. Rhim and MISI's failures to act within the applicable standards of care resulted in the large neck hematoma, which went untreated until it shut off the windpipe, and directly and proximately caused Mr. Johnson's untimely death.

Therefore, it is my expert medical opinion, rendered to a reasonable degree of medical probability that Dr. Rhim and MISI's deviations from the standard of care amounted to negligence, each of which was a proximate cause of Steven Johnson's death.

I reserve the right to amend this report as more information becomes available.

Sincerely,



Gregory P. Graziano, MD

GREGORY P. GRAZIANO, MD

Associate Professor with Tenure
Chief, Spine Division
University of Michigan Health System
Department of Orthopaedic Surgery
1500 East Medical Center Drive
Ann Arbor, MI 48109-5328

EDUCATION AND TRAINING

8/1976-5/1979	University of Wisconsin at Parkside, Parkside, Wisconsin, B.S.
8/1979-5/1983	Medical College of Wisconsin, Milwaukee, Wisconsin, M.D.
7/1983-6/1984	Indiana University Medical Center, General Surgery Intern, Indianapolis, Indiana
7/1984-6/1988	Indiana University Medical Center, Orthopaedic Resident, Indianapolis, Indiana
7/1988-6/1989	State University of New York, Spine Fellow, Buffalo, New York

CERTIFICATION AND LICENSURE

Board Certification:	American Board of Orthopaedic Surgery, Part I, 1988, Part II, 1991
Re-Certification:	American Board of Orthopaedic Surgery, June 2000 Re-certified through 2012
Medical Licensure:	Michigan (#054744) – expiration 1/31/2014

ACADEMIC, ADMINISTRATIVE, AND CLINICAL APPOINTMENTS

Academic Appointments:

7/1989-9/1991	Instructor, Department of Surgery, Section of Orthopaedic Surgery, University of Michigan
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9/1991-9/1995	Assistant Professor, Department of Surgery, Section of Orthopaedic Surgery, University of Michigan
9/1995-Present	Associate Professor with Tenure, Department of Orthopaedic Surgery, University of Michigan

Administrative Appointment:

1/2001-Present	Division Chief, Spine Service, Department of Orthopaedic Surgery, University of Michigan
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Clinical Appointment:

9/1989-Present	Consultant, Veterans Administration Hospital
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RESEARCH INTERESTS

My research interests include multiple myeloma patients with vertebral fractures that lead to kyphoplasty procedures, cervical fractures that require halo placement, and development of a Spine Registry.

GRANTS

1995	Department of Education "The University of Michigan Model Spinal Cord Injury Care System" 09/01/95-08/31/00
1995	Sofamor Danek "Comparison of Jackson Intra-Sacral and Galveston Techniques Sacral Fixation" 03/01/95-02/28/96 (\$30,211 direct cost)
1997	Sofamor Danek "Outcomes Assessment of Low Back Pain Using The Status (SM) Outcomes Assessment System" 05/01/97-04/30/01 (\$7,703 TDC)

1997	Sofamor Danek “A Clinical Investigation of the Tapered Interbody Fusion Device (TIF) for Anterior Lumbar Interbody Fusion in Patients with Symptomatic Degenerative Disc Disease” 05/01/97-04/30/01 (\$44,720 TDC)
2003	Medtronic Sofamor Danek Educational Grant \$5,000.00 for Educational Spine Lectureship on November 21, 2003
2004	Medtronic Sofamor Danek Educational Grant \$6,000.00 For Educational Spine Lectureship on November 22, 2004
2004	Synthes Educational Grant \$1,500.00 for NASS for resident
2004	Medtronic Sofamor Danek “Biomechanical Study of Lumbar Pedicle Screws in a Corpectomy Model Assessing Significance of Screw Height” \$25,000.00
2005	Medtronic Sofamor Danek Educational Grant \$7,000.00 For Educational Spine Lectureship on August 22, 2005
2005	Medtronic Sofamor Danek Educational Grant \$5,000.00 for Educational books for Orthopaedic Residents
2005	Synthes Grant \$5,000.00 for Cadaver Lab
2005	Synthes Grant \$1,000.00 for Orthopaedic Library
2005	Medtronic Sofamor Danek Educational Grant \$10,000.00 for Orthopaedic Library
2005	An Observational Study of Patients with Plasmacytoma
2005	The Efficacy of Single-Dose Epidural Duramorph (Morphine Sulfate) in Lumbar Spine Fusion Surgery
2006	The CAFÉ Study – Cancer Patient Fracture Evaluation <i>Principal Investigator</i> , January, 2006-January, 2007
2006	Tissue Procurement Protocol for Patients with Multiple Myeloma and Other Plasma Cell Disorders, <i>Core Staff</i> , January, 2006 – January, 2007, \$44,820.00

2006	Fluoroscopically Guided Transforaminal Epidural Steroid Injections versus Oral Steroids in the Treatment of Cervical Radiculopathy, <i>Core Staff</i> , March, 2006 – March, 2007
2006	Medtronic Sofamor Danek Educational Grant \$6,500.00 for Educational Spine Lectureship on September 22, 2006
2006	Halo Treatment of Cervical Fractures, <i>Principal Investigator</i> , Approval Period: 6/30/06 – 6/29/09 (retrospective study)
2006	Effect of Infection on Spinal Fusion, <i>Principal Investigator</i> , Approval Period: 7/20/06 – 4/25/07 (retrospective study)
2006	DISCOVER: Treatment of Cervical Degenerative Disc Disease. Approval Period: 9/21/2006 – 6/17/2010
2007	Characteristic Findings on CT After Spinal Fusion Predictive of Pseudoarthrosis: A Retrospective Study. Approval through 4/26/07
2007	Characterization and Outcomes for Patients with Vertebral Fractures Related to Multiple Myeloma Treated with Kyphoplasty, <i>Principal Investigator</i> , Approval Period: 11/2/06 – 7/14/2010 (retrospective study)
2007	Spine Program Registry, <i>Principal Investigator</i> , \$20,000.00 Current IRB Approval Period: 02/28/2007 – 10/20/2009
2007	Medtronic Sofamor Danek Educational Grant \$1,400.00 for U of M Spine Grand Rounds
2008	The Use of Poly-Methyl Methacrylate Augmentation (PMMA) Of Osteopenic Bone for Fracture Repair, <i>Principal Investigator</i> , Current IRB Approval Period: 5/10/2007 - 1/30/2010 (retrospective study)
2008	Vascular Injury Associated with Traumatic Cervical Injury, <i>Principal Investigator</i> . Approval Period: 3/12/2008 – 2/25/2010
2008	Medtronic Sofamor Danek Educational Grant \$900.00 for U of M Spine Grand Rounds

2008	Spinal Cord Level Eggshell Osteotomy for Fixed Sagittal Imbalance: Correction and Complications, <i>Principal Investigator</i> , Approval Period: 6/5/08 – 4/15/2010
2008	Surgical vs Non-Surgical Treatment of Thoracolumbar Burst Fractures: A Retrospective Review. Approval Period: 11/4/2008 – 11/31/2009
2009	Medtronic Sofamor Danek Educational Grant \$3,000.00 for U of M Residency Teaching Program, February 16, 2009
2009	Educational Grant \$1,500.00 from Orthopaedic Research and Education Foundation for Journal Club Sponsorship
2010	UMCC 2005.139: Tissue Procurement Protocol for Patients with Multiple Myeloma and Other Plasma Cell Disorders. Approval Period: 4/2/2009 – 4/1/2010
2010	A Radiographic and Clinical Study Evaluating a Novel Allogenic Cancellous Bone Matrix. Approval Period: 1/14/10 – 1/13/2011
2010	Educational Grant \$1,000.00 from Orthopaedic Research and Education Foundation for Journal Club Sponsorship
2010	Educational Grant \$7,500.00 from Orthofix for University of Michigan Spine Lectureship on November 15, 2010
2011	Project Award \$6,000.00 from Michigan Institute for Clinical & Health Research. Project entitled, “Predictors of Skull Pin Complications in Halo Orthoses”

HONORS AND AWARDS

1990	Hibbs Award Nomination
1994	Richmond Cerebral Palsy Center Award Nomination
1996	Outstanding Poster Presentation, North American Spine Society Quantitative and Qualitative Analysis of Substance P as it May Relate to the Pathogenesis of Degenerative Disc Disease. Award \$1,000.00
2002	Outstanding Alumni Award Recipient, University of Wisconsin-Parkside

2005	Smith & Nephew Top Twenty Award for Resident Research Competition – Abstract – Pseudoarthrosis After Single-Level Laparoscopic Anterior Lumbar Interbody Fusion Using Threaded Interbody Dowels
2008	The Medical College of Wisconsin and Marquette Medical Alumni Association Award Recipient for the Contribution to Medicine and The Medical College of Wisconsin
2009	Spokesman for the University of Michigan Department of General Surgery – Radio Commercial for Colon Cancer Early Detection
2012	Ann Arbor Public Schools – Award of Appreciation for participation In the Health Sciences Technology Mentoring Program

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

1989-2004	Simmons Surgical Society, Member
1989-Present	American Spinal Injury Association, Member
1989-Present	University of Michigan Orthopaedic Society, Member
1990-Present	Blue Water Scoliosis Society, Member
1992-Present	Medical Alumni Association, University of Buffalo
1993-Present	American Academy of Orthopaedic Surgeons
1993-Present	Mid-America Orthopaedic Association, Member
1993-Present	Cervical Spine Research Society
1993-Present	American College of Surgeons
1993-Present	The Michigan Orthopaedic Society, Associate Member
1994-Present	North American Spine Society, Member
1998-Present	Charter Diplomate of American Board of Spine Surgery, Member
2009-Present	American Orthopaedic Association (AOA), Member
2009-Present	Bone & Joint Injury Prevention & Rehabilitation Center, Member

EDITORIAL POSITIONS, BOARDS AND PEER-REVIEW SERVICE

Editorial Review

1996-Present	Reviewer, Spine
1997-Present	Reviewer, The American Journal of Orthopedics
1998-Present	Editorial Board Reviewer, Journal of Spinal Disorders
2001-Present	Reviewer, Journal of the American Academy of Orthopaedic Surgeons
2001-Present	Associate Editor, The Spine Journal

Contributions

- | | |
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| 1998 | Contributor to American Academy of Orthopaedic Surgeons Spine Self Test |
| 2006 | National Guideline Clearinghouse Usage Report, Co-author of "Acute Low Back Pain". On-line access www.guideline.gov |

TEACHING

National

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| 1989 | Faculty Member of a Workmen's Compensation Course, "Salvage Surgery of the Lumbar Spine in Compensation Patients", State University of New York, Buffalo. |
| 1989 | Faculty, Symposium on Spinal Deformity and Trauma, "Salvage Surgery of the Lumbar Spine in Compensation Patients and Neuropathic Muscular Atrophy in Patient's with Ankylosing Spondylitis Spinal Flexion Deformity", State University of New York, Buffalo. |
| 1993 | Salvage Surgery of the Worker with Failed Operative Treatment - Indications, Timing, and Potential Return to Work. American Back Society, Buffalo, NY. |
| 1993 | Indications for Surgery and Alternatives for Surgical Treatment of Low Back Disability. American Back Society, Buffalo, NY. |
| 1993 | Simmons Plating System for the Lumbar Spine - Hands-on Surgical Bio skills Laboratory. Bench Instructor. American Back Society, Buffalo, NY. |
| 1993 | Buffalo General Hospital Orthopaedic Spine Services - Approach to the Management of the Industrial Spine, Including Diagnosis, Treatment, and Rehabilitation of the Injured Worker. Faculty Instructor. American Back Society, Buffalo, NY. |

- 1994 Faculty member of Advances in Intra sacral Fixation and Related Spinal Instrumentation Techniques for GICD-USA Courses. Talks consisted of "Techniques for Increased Proximal Segmental Fixation" and "Clinical Application of Intra sacral Fixation, Lateral Connector Strategies and In Situ Contouring Techniques in Spondylolisthesis".
- 1996 Instructional Course Panel Member of Recent Advances in Degenerative Disc Disease of the Lumbar Spine. Mid-America Orthopaedic Association, San Antonio, TX. Talk consisted of "Indications for Lumbar Arthrodesis".
- 1997 Faculty Member of "Ninth Annual Ski With The Spine Center, A Contemporary Update on Disorders of the Spine". Whistler, British Columbia, Canada. Talk consisted of "Minimally Invasive Surgery of The Spine" and coordinated discussion groups.
- 1997 Lab Instructor of "Ninth Annual Ski With The Spine Center, A Contemporary Update on Disorders of the Spine." Whistler, British Columbia, Canada. Instructor of lab on minimally invasive surgery of the spine.
- 1997 Instructional Course Panel Member of Spine Fusion and Instrumentation. Mid-America Orthopaedic Association, Hilton Head, SC. Talk consisted of "Instrumentation for Scoliosis".
- 1998 Moderator of Spine Session. Mid-America Orthopaedic Association, Acapulco, Mexico.
- 1998 Faculty Member of "Making Sense of Spinal Instrumentation". Memphis, TN. Talks consisted of "Deformity and Degenerative Disorders" and "Minimally Invasive Technologies".
- 1999 Faculty Member of "Fundamental Principles and Techniques In Spinal Surgery". Memphis, TN. Talks consisted of "Lumbosacral Fixation Challenges" and "Posterior Lumbar Decompression for Stenosis and Degenerative Spondylolisthesis".
- 2000 Moderator of Spine Session. Mid-America Orthopaedic Association, Scottsdale, Arizona.

- 2002 Faculty Member of “Fundamental Principles and Techniques In Spinal Surgery”. Memphis, TN. Talks consisted of “Posterior Lumbar Decompression for Stenosis & Degenerative Spondylolisthesis” and “Thoracolumbar Hook and Rod Fixation Techniques”.
- 2003 Moderator of Spinal Session, Mid-America Orthopaedic Association, Hilton Head, South Carolina.
- 2003 Faculty Member of “Fundamental Principles and Techniques In Spinal Surgery”. Memphis, TN. Talks consisted of “Sacral Fixation Techniques” and “Thoracolumbar Hook and Rod Fixation Techniques”. Lab Demonstrator for Posterior Hook and Rod Fixation.
- 2004 Faculty Member of “Fundamental Principles and Techniques in Spinal Surgery”. Memphis, TN. Talk consisted of “ALIF – Anatomy, Approach and Technique”. Lab Demonstrator for Pedicle Screw, Lumbosacral Fixation Techniques, Posterior Lumbar Interbody Surgery Techniques PLIF-Midline Technique, Open Anterior Interbody Surgery Techniques Anterior Impacted, Posterior Hook & Rod Fixation and Cervical Techniques.
- 2004 Instructional Course Lecturer, Medtronic Nursing Course. Lectures consisted of, “Spinal Anatomy”, “Diagnosis of Spinal Disorders: The Role of Radiology” and “Thoracolumbar Degenerative Conditions”.
- 2005 Faculty lab Member of “The Latest Minimally Invasive Techniques”. St. Louis, Missouri.
- 2006 Instructional Course Lecturer, Medtronic Nursing Course. Lecture consists of, “Key Concepts in Spine Surgery”.
- 2007 Faculty Member of “Fundamental Principles and Techniques in Spinal Surgery”. San Diego, CA.
- 2010 Faculty Member of “Making Sense of Spine Surgery Course”. Las Vegas, NV.
- 2010 Acute Low Back Pain (2010 Update). Co-Author. Audience: primary care clinicians and other health care providers who treat adults with this condition. Internet Self-Study CME Activity. (Available through the UM CME web site: cme.med.umich.edu).

2012 Faculty Member of “NASS Eighth Annual Evidence and Technology Program.” Park City, UT. Lectures consisted of, “The Superior End Vertebral Segment”, “Biomechanical Effects of Fusions”, and “Posterior Surgical Management”.

University of Michigan

1989 Faculty Member of an Emergency Medicine Orthopaedic Symposia, Adult Spinal Trauma.

1989 Medical Grand Rounds, "Surgical Management of Spinal Metastasis".

1989 Surgical Grand Rounds, "Orthopaedic Manifestations of Ankylosing Spondylitis".

1989 Orthopaedic Nurses, "Anterior Spinal Surgery".

1990 Surgical Grand Rounds, "Spinal Deformity in Anorexia Nervosa".

1990 Orthopaedic Grand Rounds, "Differential Diagnosis of LBP".

1990 Surgical Anatomy, 4th year medical students, "Overview of Low Back Pain".

1990 Operating Room Nurses, "Spinal Fixation Systems".

1991 Orthopaedic Grand Rounds, "Cervical Spine Orthotics".

1991 Orthopaedic Grand Rounds, "Spinal Anatomy".

1991 Surgical Grand Rounds, "Adult Scoliosis".

1995 Medical Student Lecture, "Surgical Approaches to the Spine".

1995 Orthopaedic Grand Rounds, "Some Thoughts on Spinal Cord Injury Rehabilitation".

1997 Orthopaedic Grand Rounds, “Indications and Techniques for Lumbar Fusion”.

1998 Neurosurgery Grand Rounds, “Lumbar Arthrodesis”.

2003 Orthopaedic Grand Rounds, “Cervical Orthosis”.

- 2003 Staff Moderator for Neurosurgery Resident Rounds.
- 2003 Acute Low Back Pain Update (Update). Co-author. Audience: primary care clinicians and other health care providers who treat adults with this condition. (Available through the UM CME Website: cme.med.umich.edu)
- 2003 Orthopaedic Grand Rounds, “Indications for Spinal Fusion”.
- 2004 Neurosurgery Grand Rounds, “Anterior Lumbar Interbody Fusion”.
- 2004 Orthopaedic Rounds, “Anterior Lumbar Interbody Fusion”.
- 2005 Orthopaedic Spine Conference, “Medical Legal Issues in Spinal Care”.
- 2008 Resident Teaching, Monthly conference presentations:
 1. “Spinal Stenosis”
 2. “Cervical Spondylosis”
- 2009 Resident Teaching, February 16, 2009 – Lecture, “Standard Surgical Approaches to the Spine”.
- 2012 Orthopaedic Grand Rounds, “Patient Care Committee: Quality Improvement and Peer Review Process”

Mentoring

- 1998-Present Mentoring to 12th grade Health Science Students interested in pursuing Orthopaedics.
- 2008-Present Mentor in Job Shadowing College Students in the practice of Orthopaedic Surgery.

COMMITTEE, ORGANIZATIONAL, AND VOLUNTEER SERVICE

Institutional

- 1990 Interdepartmental Acute Spinal and Injury Executive Committee, Member, University of Michigan

- | | |
|--------------|---|
| 1990 | Collaborative Practice Committee; Orthopaedic and Nursing, Member, University of Michigan |
| 1993-2011 | Director, University of Michigan Orthopaedic Spine Lectureship |
| 1999-2000 | Multi-Disciplinary Bone Metastasis Clinic, Panel Member, University of Michigan Comprehensive Cancer Center |
| 1999-Present | Minimally Invasive Steering Committee, Co-Director, University of Michigan |
| 2000-2012 | Director, Department of Orthopaedics Journal Club, University of Michigan |
| 2010-2012 | Patient Care Committee, Department of Orthopaedic Surgery, University of Michigan |
| 2013-Present | Clinical Radiation Safety Committee Meeting, University of Michigan |

National

Mid-America Orthopaedic Association

- | | |
|-----------|-----------------------------|
| 1999-2000 | By-Laws Committee |
| 2000-2001 | By-Laws Committee |
| 2001-2002 | By-Laws Committee |
| 2002-2009 | Chairman, By-Laws Committee |
| 2011-2012 | Treasurer |
| 2012 | Chairman, Finance Committee |
| 2012 | Member, Board of Directors |

North American Spine Society

- | | |
|-----------|------------------------------------|
| 2000-2001 | Advisory Editorial Board Member |
| 2001-2002 | Advisory Editorial Board Member |
| 2005-2007 | Membership Review Committee Member |

American Board of Orthopaedic Surgery

- | | |
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| 2005 | Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2005 |
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2006	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2006
2007	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2007
2008	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2008
2009	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2009
2010	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2010
2011	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2011
2012	Examiner – American Board of Orthopaedic Surgery Oral Examinations, July, 2012

American Academy of Orthopaedic Surgery Board of Councilors

2009-12	MAOA Representative
2009-13	State Legislative Committee
2011-13	Medical Liability Committee, Board of Councilors

American Orthopaedic Association

2011-14	Finance Committee, Appointee at Large
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CONSULTING POSITIONS

2001-2003	Consultant, Spinal Concepts
2003–Present	Consultant, Medtronic Sofamor Danek (non-paid)
2004-2007	Consultant, Aastrom Biosciences, Inc.

VISITING PROFESSORSHIPS, SEMINARS, AND EXTRAMURAL INVITED PRESENTATIONS

Regional

- | | |
|------|---|
| 1987 | A One Stage Transpedicular Unilateral Anterior and Posterior Fusion for Congenital Scoliosis, 1987 Garceau-Wray Lectures, November, 1987, Indianapolis, IN. |
| 1988 | A One Stage Transpedicular Unilateral Anterior and Posterior Fusion for Congenital Scoliosis, Indiana State Orthopaedic Society, 1988, Lafayette, IN. |
| 1988 | Neuropathic Atrophy of Skeletal Muscle in Patients with Ankylosing Spondylitis. Carl E. Badgley Lectureship, September 15, 1988, Ann Arbor, MI. |
| 1989 | Orthopaedic Grand Rounds, "Surgical Management of Spinal Metastasis" and "Salvage Surgery of the Lumbar Spine", St. Vincents Hospital, Toledo, Ohio. |
| 1990 | Medical Grand Rounds, "Flexion Deformity of the Spine in Ankylosing Spondylitis", Flint Osteopathic Hospital, Flint, MI. |
| 1990 | Medical Grand Rounds, "Surgical Management of Spinal Metastasis", Kenosha Memorial Hospital, Kenosha, WI. |
| 1990 | The Success of Salvage Surgery in Workmen's Compensation Patients with Failed Previous Lumbar Spine Surgery, Michigan Orthopaedic Society, June 22, 1990. |
| 1990 | Lower Extremity Trauma, Current Concepts, Lab Instructors, University of Michigan, Radisson Hotel, October 18-19, 1990, Ypsilanti, MI. |
| 1990 | Salvage Surgery of the Lumbar Spine. 15th Annual Garceau-Wray Lectures, November 1 and 2, 1990, Indianapolis, IN. |
| 1991 | Thoracolumbar Fractures - Current Practices and Salvage Surgery. Michigan State University, September 21, 1991, Lansing, MI. |
| 1991 | Ambulatory Halo-Cast Distraction for Cervical Deformities. Carl E. Badgley Lectureship, October 18, 1991, Ann Arbor, MI. |

- 1991 Medical Grand Rounds, "Adult Scoliosis", Flint Osteopathic Hospital, Flint, MI.
- 1991 National Association of Orthopaedic Nurses, Greater Metropolitan Chapter, "Adult Scoliosis".
- 1992 Medical Grand Rounds, "Spondylolisthesis and Spondylolysis", Flower Memorial Hospital, Sylvania, OH.
- 1992 Medical Grand Rounds, "Spinal Trauma", Flower Memorial Hospital, Sylvania, OH.
- 1992 Ambulatory Halo-Ilizarov Distraction for Correction of Cervical Deformities. Garceau-Wray Lectures, November 12-13, 1992, Indianapolis, IN.
- 1993 A Comparative Study of Fixation Techniques for Type II Odontoid Fractures, Michigan Orthopaedic Society, June 17-19, 1993, Traverse City, MI.
- 1993 Calcium Phosphate Cement vs. PMMA for the Augmentation of Transpedicular Screws, Carl E. Badgeley Lectureship, October 22, 1993, Ann Arbor, MI.
- 1993 Medical Grand Rounds, "Lumbar Disc Herniation", Flower Memorial Hospital, Sylvania, OH.
- 1994 Michigan State Medical Society Annual Scientific Meeting, "The Place of Spinal Fusion and Instrumentation in the Treatment of Intractable Back Pain", Dearborn Inn, Dearborn, MI.
- 1996 Orthopedic Grand Rounds, "Indications for Lumbar Arthrodesis and Techniques of Spinal Fusion", St. Vincent Medical Center, Toledo, OH.
- 1998 National Association of Orthopaedic Nurses, Greater Metropolitan Chapter, "Laparoscopic Anterior Spinal Fusion".
- 1999 New Advances in Spine Surgical Techniques, Back Pain and Disability: Practical Solutions for Primary Care, May 14-15, 1999, Ann Arbor, MI.
- 2000 Surgery in the Elderly: Low Back Pain in Primary Care, June 2-3, 2000, Ann Arbor, MI.

- 2001 Video Preoperative Education for Spinal Fusion, April 9, 2001, Toledo, OH.
- 2005 Thoracic and Lumbar Spine Injuries, Trauma Care Seminar, February 5, 2005, Ann Arbor, MI.
- 2007 Orthopaedic Grand Rounds, “Osteotomy for Ankylosing Spondylitis”, University of Cincinnati, Cincinnati, OH.
- 2008 National Association of Orthopaedic Nurses, Greater Metropolitan Chapter, “Biologics for Spinal Fusion”.
- 2008 University of Michigan Department of Physical Medicine & Rehabilitation and Bone & Joint Injury Prevention & Rehabilitation Center Forum – “My Aching Back”. Lecture titled, “Back Pain, Surgery or No Surgery?”. May 6, 2009. Four Points Sheraton, Ann Arbor, Michigan.
- 2009 4th Annual Robert N. Hensinger Pediatric Lectureship, “Thoracic Osteotomies”.
- 2010 Halo Application – Adult and Pediatric Principles and Protocols. Eastern Michigan University Orthotics & Prosthetics Clinical Symposium: Comprehensive Halo Management of Cervical Spine Injury. Eastern Michigan University, August 28, 2010.

National

- 1986 Treatment of Complicated Femoral Non-Unions, 19th Annual American Orthopaedic Association Residents' Conference, Santa Monica, CA, May, 1986.
- 1986 Osteotomy for Cubitus Varus, American Academy of Pediatrics, Washington, D.C., November, 1986.
- 1987 Osteotomy for Cubitus Varus, 5th Annual Mid-America Orthopaedic Association, San Diego, CA, March, 1987.
- 1987 Osteotomy for Cubitus Varus, 20th Annual American Orthopaedic Association Residents' Conference, Salt Lake City, UT, March, 1987.
- 1987 A One Stage Transpedicular Unilateral Anterior and Posterior Fusion for Congenital Scoliosis, Scoliosis Research Society, Vancouver, BC, September, 1987.

- 1987 A One Stage Transpedicular Unilateral Anterior and Posterior Fusion for Congenital Scoliosis, American Academy of Pediatrics, New Orleans, LA, October, 1987.

- 1988 Transcatheter Arterial Embolization of Aneurysmal Bone Cyst of the Lumbar Spine, Scoliosis Research Society, Baltimore, MD, October, 1988.

- 1989 Skeletal Muscle in Patients with Ankylosing Spondylitis Spinal Flexion Deformity: Clinical-Pathologic Study, Simmons Surgical Society, Beaver Creek, CO, March, 1989.

- 1989 Transcatheter Arterial Embolization of Aneurysmal Bone Cyst of the Lumbar Spine, Mid-America Orthopaedic Association, Bermuda, April, 1989.

- 1990 The Success of Salvage Surgery in Workmen's Compensation Patients with Failed Previous Lumbar Spine Surgery. Presented at the American Academy of Orthopaedic Surgeons, February 1990, and the Mid-America Orthopaedic Association, Point Clear, AL, 1990.

- 1990 Neuropathic Atrophy of Skeletal Muscle in Patients with Ankylosing Spondylitis. Scoliosis Research Society, Hawaii, September, 1990. Nominated for the Hibbs Award.

- 1991 Neuropathic Atrophy of Skeletal Muscle in Patients with Ankylosing Spondylitis. Ninth Annual Mid-America Orthopaedic Association, Palm Springs, CA, April 24-28, 1991.

- 1991 Salvage Surgery of the Lumbar Spine. North American Spine Society Meeting, August 1, 1991.

- 1991 Spine Fractures Treated with Screw and Hook Instrumentation. 1991 8th International Congress on Cotrel-Dubousset Instrumentation, Minneapolis, MN, September 22-23, 1991.

- 1991 A Comparative Study of Fixation Techniques for Type II Fractures of the Odontoid Process. Cervical Spine Research Society, Philadelphia, PA, December 4-7, 1991.

- 1992 Ambulatory Halo-Cast Distraction for Cervical Deformities. American Academy of Orthopaedic Surgeons, Washington, DC, February 20-25, 1992.

- 1992 Ambulatory Halo-Cast Distraction for Cervical Deformities. The Michigan Orthopaedic Society, Mackinaw Island, MI, June 19-21, 1992.
- 1993 Secondary Tumors of the Osseous Spine in Children. American Academy of Orthopaedic Surgeons, San Francisco, CA, February 18-23, 1993.
- 1993 A Comparative Study of Fixation Techniques for Type II Odontoid Fractures. Mid-America Orthopaedic Association, Hilton Head, SC, April 28-May 2, 1993.
- 1993 Calcium Phosphate Ceramic vs. PMMA for the Augmentation of Transpedicular Screws. Scoliosis Research Society, Dublin, Ireland, September 19-23, 1993.
- 1994 Calcium Phosphate Cement vs. PMMA for the Augmentation of Transpedicular Screws. (Panel Discussion) American Academy of Orthopaedic Surgeons, New Orleans, LA, February 24-March 1, 1994.
- 1994 Result of Fixation of Thoracic and Lumbar Burst Fractures with the Olerud Short Segment Pedicle Screw Fixator, American Spinal Injury Association, Philadelphia, PA, April 25-27, 1994.
- 1994 Pedicle Instrumentation in Adolescents. Is It Safe? Mid-America Orthopaedic Association, Southampton, Bermuda, April 27-May 1, 1994.
- 1996 Restoration of Transpedicular Fixation with a Pediculolaminar Construct. Mid-America Orthopaedic Association, San Antonio, TX, April 24-28, 1996.
- 1998 Correction of Severe Cervical Spinal Deformity in Rheumatoid Arthritis. Mid-America Orthopaedic Association, Acapulco, Mexico, April 22-26, 1998.
- 2004 The Adult Spine Client: Conservative vs Operative Management. 2004 NCMIC Defense Counsel Seminar, Las Vegas, Nevada, October 8, 2004.
- 2006 Pseudoarthrosis after Single-Level Laparoscopic, Anterior Lumbar Interbody Fusion Using Threaded Endo Dowels. Mid-America Orthopaedic Association, San Antonio, TX, April 19-23, 2006.
- 2008 Presentation on Axis Table for 2008 MizuhOsi Worldwide Sales Meeting, Scottsdale, Arizona, February 2008.

- 2008 The Use of Polymethyl Methacrylate (PMMA) Augmentation of Osteopenic Bone for Fracture Repair. Mid-America Orthopaedic Association, Orlando, FL, April 16-20, 2008.

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Co-Authored Presentations

- 1987 A New Osteotomy for Cubitus Varus. Pediatric Orthopaedic Society, 1987. Presented by G. DeRosa, co-authored by G. Graziano.

- 1989 The Dewar Fusion in Traumatic Injuries to the Cervical Spine. Cervical Spine Research Society, 1989. Presented by W. Capicotto, co-authored by E. Simmons and G. Graziano.

- 1991 Airway Compromise Secondary to Retropharyngeal Hematoma in Cervical Spine Injury. Mid-America Orthopaedic Association, 1991. Presented by J. Kuhn, co-authored by G. Graziano.

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- 1991 Metastatic Vertebral Disease in Children. University of Michigan Fischer Memorial Pediatric Orthopaedic Lectures, June, 1991. Presented by A. Freiberg, co-authored by G. Graziano, R. Loder and R. Hensinger.

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- 1991 Neuropathic Atrophy of Skeletal Muscle in Patients with Ankylosing Spondylitis. Combined Meeting of Japanese, American and Canadian Orthopaedic Research Societies, 1991. Presented by E. Simmons, co-authored by G. Graziano and R. Heffner.
- 1992 Substance-P Innervation of the Lumbar Facet Joints. Orthopaedic Research Society Meeting, February, 1992. Presented by D. Beaman, co-authored by R. Glover, G. Graziano and E. Wojtys.
- 1992 Osteoid Osteoma and Osteoblastoma. American Academy of Orthopaedic Surgeons, February, 1992. Presented by D. Raskas, co-authored by G. Graziano, J. Herzenberg, K. Heidelberg and R. Hensinger.
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- 1993 Calcium Phosphate Ceramic vs. PMMA for the Augmentation of Transpedicular Screws, North American Spine Society Meeting, San Diego, CA, October 14-16, 1993. Presented by D. Moore, co-authored by G. Graziano, R. Maitra and L. Farjo.
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- 1998 360 Degree Dowel Graft Fusion for High Grade Spondylolisthesis: An Early Comparison of Laparoscopic and Open Techniques. Mid-America Orthopaedic Association, Acapulco, Mexico, April 22-26, 1998. Presented by Julie Henry, co-authored by Gregory Graziano and Paul Taheri.
- 1998 Quantitative and Qualitative Analysis of Substance P As It May Relate to the Pathogenesis of Degenerative Disc Disease. Mid-America Orthopaedic Association, Acapulco, Mexico, April 22-26, 1998. Presented by Sean Adelman, co-authored by Gregory Graziano, Douglas Beaman, Roy Glover, and Mary Lou Greenfield.
- 1999 Augmentation of Lumbar Interbody Fusion Using Localized Delivery of an Osteotrophic Gene. International Meeting on Advanced Spine Technique, Vancouver, British Columbia, July 8-10, 1999. Presented by Pravin Patil, co-authored by G. Graziano, J. Bonadio, and S.A. Goldstein.
- 2000 Assessment of the Laparoscopic Approach for Anterior Lumbar Spinal Fusion. Central Surgical Association, Chicago, IL, March 3, 2000. Presented by R. Cowles, co-authored by G. Graziano, J. Sweeney, and P. Taheri.
- 2003 Mid-Procedure Halo Application to Address: Severe Cervical Flexion Deformity Secondary to Ankylosing Spondylitis. American Academy of Orthotists & Prosthetists, March, 2003. Presented by N. Parent, co-authored by G. Graziano.
- 2003 Biomechanical Study of Lumbar Pedicle Screws in a Corpectomy Model Assessing Significance of Screw Height. Mid-America Orthopaedic Association, Hilton Head, SC, April 25, 2003. Presented by M. Mikles, co-authored by G. Graziano, F. Asghar, E. Frankenburg, and D. Scott.
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- 2008 In Vitro Biomechanical Comparison of an Anterior Three-Hole Screw Plate and Paired Threaded and Single Unthreaded Anterior Cages for Anterior Lumbar Interbody Fusion. Orthopaedic Research Society, March 2-5, 2008. Presented by Daley, ELH, co-authored by Thiele, R, Poulter, G, Goldstein, S and Graziano, G.
- 2008 Burst Fractures of the Spine in Children. Pediatric Orthopaedic Society of North America, Albuquerque, NM, May, 2008. Presented by Vanderhave, K, co-authored by Caird, M, Stauff, M, Graziano, G, Farley, F and Segal, L.
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- 2009 Evaluating the Use of Digital Angiography in Diagnosing Vertebral Artery Dissection. Congress of Neurological Surgeons, New Orleans, Louisiana. October 24-29, 2009. Presented by A. Wang, co-authored by G. Graziano, D. Khoi, J. Thawani, and S. Sullivan.
- 2010 Facet Violation With The Placement of Percutaneous Pedicle Screws. Lumbar Spine Research Society Meeting, Chicago, Illinois. April 8-9, 2010. Presented by R. Patel, co-authored by G. Graziano.
- 2010 Use and Utility of Digital Angiography in Diagnosing Blunt Cervical Arterial Injury: A Cost Analysis. Mid-America Orthopaedic Association Meeting, Austin, Texas. April 21-25, 2010. Presented by M. Charters, co-authored by G. Graziano, K. Than, J. Thawani, A. Wang, and S. Sullivan.
- 2011 Vascular Injury Following Pediatric Cervical Spine Trauma. American Academy of Orthopaedic Surgeons, San Diego, CA, March, 2011. Presented by Vanderhave, K, co-authored by Tolhurst, S, Caird, M, Graziano, G, Garton, H, Maher, C and Farley, F.
- 2011 Incisional Vacuum-Assisted Closure Devices in Obese Spine Patients. Michigan Orthopaedic Society Annual Scientific Meeting, June 26, 2011, Mackinac Island, Michigan. Presented by J. Seybold, co-authored by G. Graziano and R. Patel.
- 2011 Vascular Injury Following Pediatric Cervical Spine Trauma. IMAST, Copenhagen, July, 2011. Presented by Vanderhave, K, co-authored by Tolhurst, S, Caird, M, Graziano, G, Garton, H, Maher, C and Farley, F.
- 2012 Core Muscle Size As A Predictor of Kyphoplasty Outcomes. Mid-America Orthopaedic Association Meeting, Bonita Springs, FL. April 18-22, 2012. Presented by G. Hecht, co-authored by S. Patel, G. Graziano, S. Holcombe, S. Wang and J. Goulet.

Posters & Exhibits

- 1991 The Effect of Posterior Surgical Approaches on Spine Mechanical Properties, Poster Exhibit at the Annual Meeting of the Orthopaedic Research Society, 1991.
- 1991 Halo-Distracton Techniques for Cervical Spine Deformity, Poster Exhibit at the Scoliosis Research Society, 1991.
- 1992 Metastatic Vertebral Disease in Children, Poster Exhibit at the Ninth Combined Meeting of the Orthopaedic Associations of the English-Speaking World, June 21-26, 1992.
- 1992 Autogenous Fibular Strut Grafts in Pyogenic Thoracolumbar Infections, Poster Exhibit at the Ninth Combined Meeting of the Orthopaedic Associations of the English-Speaking World, June 21-26, 1992.
- 1992 The 'Dewar' Posterior Cervical Fusion: Description and Comparative Results, Poster Exhibit at the Ninth Combined Meeting of the Orthopaedic Associations of the English-Speaking World, June 21-26, 1992.
- 1992 Treatment of Thoracolumbar Fractures: A Comparison Between Olerud Posterior Segmental Fixator and Cotrel-Dubousset Instrumentation, Poster Exhibit at the North American Spine Society Meeting, July 9-11, 1992.
- 1992 Salvage Reconstruction in Pyogenic Thoracolumbar Infections, Poster Exhibit at the North American Spine Society Meeting, July 9-11, 1992.
- 1992 Treatment of Adult Congenital Lordosis with a Single Anterior Closing Wedge Osteotomy, Poster Exhibit at the Scoliosis Research Society Meeting, September 23-26, 1992.
- 1992 A Comparison Study of Treatment of Thoracolumbar Fractures using the ACE Posterior Segmental Fixator or Cotrel-Dubousset Instrumentation, Poster Exhibit at the Orthopaedic Trauma Association Meeting, October 1-3, 1992.
- 1993 Salvage Reconstruction in Pyogenic Thoracolumbar Infections, Poster Exhibit at the American Academy of Orthopaedic Surgeons, February 18-23, 1993.
- 1993 Substance-P Innervation of Lumbar Facet Joints, Poster Exhibit at the American Academy of Orthopaedic Surgeons, February 18-23, 1993.

- 1993 Shoulder Function Following Thoracotomy for Spinal Disorder, Poster Exhibit at The Michigan Orthopaedic Society, June 17-19, 1993.

- 1993 Acute Traumatic Spondylolisthesis - Increased Risk for Progression and Neurological Compromise, Poster Exhibit at the Scoliosis Research Society, September 19-23, 1993.

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- 1993 Shoulder Function Following Thoracotomy for Spinal Disorder, Poster Exhibit at North American Spine Society, October 13-15, 1993.

- 1994 Acute Traumatic Spondylolisthesis: Increased Risk for Progression and Neurological Compromise, Poster Exhibit at American Academy of Orthopaedic Surgeons, February 24-March 1, 1994.

- 1994 Calcium Phosphate Cement Versus PMMA for the Augmentation of Transpedicular Screws, Poster Exhibit at the American Academy of Orthopaedic Surgeons, February 24-March 1, 1994.

- 1994 Results of Fixation of Thoracic and Lumbar Burst Fractures with Olerud Short Segment Pedicle Screw Fixator, Poster Exhibit at the American Academy of Orthopaedic Surgeons, February 24-March 1, 1994.

- 1994 Pedicle Instrumentation in Adolescents. Is it Safe?, Poster Exhibit at the Scoliosis Research Society, September 21-24, 1994.

- 1994 The Effects of a Supra laminar Hook on Pedicle Screw Fixation, Poster Exhibit at the Scoliosis Research Society, September 21-24, 1994.

- 1994 Complications of Thoracoabdominal Spine Surgery Performed by an Orthopedic Surgeon, Poster Exhibit at the Scoliosis Research Society, September 21-24, 1994.

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- 1995 Pedicle Instrumentation in Adolescents. Is it Safe?, Poster Exhibit at the American Academy of Orthopaedic Surgeons, February 16-20, 1995.

- 1996 Restoration of Transpedicular Fixation with a Pediculolaminar Construct, Poster Exhibit at the Mid-America Orthopaedic Association, April 24-28, 1996.

- 1996 Preliminary Results of Fixation of Thoracic and Lumbar Burst Fractures with Multiple Level Pedicle Screw Instrumentation, Poster Exhibit at the Mid-America Orthopaedic Association, April 24-28, 1996.

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- 1996 The Use of Synthetic Oxygen Carriers in Spinal Surgery, Poster Exhibit at the North American Spine Society Meeting, October 23-26, 1996.

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- 1997 Correction of Severe Cervical Spinal Deformity in Rheumatoid Arthritis, Poster Exhibit at the Scoliosis Research Society Meeting, September 24-27, 1997.

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- 2000 The Association Between Athletic Training Time and the Sagittal Curvature of the Immature Spine, Poster Exhibit at the Orthopaedic Research Society Meeting, March 12-15, 2000.

- 2001 Video Preoperative Education for Spinal Fusion, Poster Exhibit at Evolution of Outcomes Research – Nursing Research Symposium, February 23, 2001.

- 2001 Video Preoperative Education for Spinal Fusion, Poster Exhibit at the Midwest Nursing Research Society Meeting, March 2-5, 2001.

- 2001 Video Preoperative Education for Spinal Fusion, Poster Exhibit at Fourth Annual Nursing Research Conference, April 9, 2001.

- 2001 Video Preoperative Education for Spinal Fusion, Poster Exhibit at the Sigma Theta Tau National Honors Nursing Symposium, November 23, 2001.

- 2009 Pedicle Subtraction Osteotomy at the Spinal Cord Level for Fixed Sagittal Imbalance, Poster Exhibit at the American Academy of Orthopaedic Surgeons Meeting, February 25-28, 2009.

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- 2011 Complications Associated with Ceramic vs Titanium Halo Pins: A Retrospective Review. Poster Exhibit at the James Rae Day, University of Michigan Health System, May 6, 2011.

- 2011 Pedicle Subtraction Osteotomy at the Spinal Cord Level for Fixed Sagittal Imbalance. Poster Exhibit at the Michigan Orthopaedic Society Meeting, June 24-26, 2011.

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