

## David Hyunho So, MD, FAAOS

Department of Orthopedics & Sports Medicine | Sparrow Health System  
3394 E. Jolly Road, Suite A, Lansing, MI 48910

### EDUCATION AND TRAINING

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1997 – 2001	University of Michigan Ann Arbor, Michigan	Bachelor of Science Industrial & Operations Engineering
2005 – 2009	Wayne State University School of Medicine Detroit, Michigan	Doctor of Medicine
2009 – 2014	Henry Ford Health System Detroit, Michigan	Residency Orthopaedic Surgery
2014 – 2015	University of Pennsylvania Philadelphia, Pennsylvania	Fellowship Adult Reconstruction

### ACADEMIC APPOINTMENTS

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2015 – 2021	Assistant Clinical Professor Department of Orthopaedic Surgery, University of California, Irvine
2021 – 6/2022	Associate Clinical Professor Department of Orthopaedic Surgery, University of California, Irvine
2018 – 6/2022	Associate Residency Program Director Department of Orthopaedic Surgery, University of California, Irvine

### PROFESSIONAL APPOINTMENTS

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10/2015 – 6/2022	Attending in Orthopaedic Surgery Department of Orthopaedic Surgery, University of California, Irvine
7/2018 – 6/2022	Chief, Division of Hip & Knee Replacement Surgery Department of Orthopaedic Surgery, University of California, Irvine
7/2022 – present	Attending in Orthopaedic Surgery Sparrow Health System, Lansing, MI

### LICENSES

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2014 – 2016	Commonwealth of Pennsylvania Medical Physician and Surgeon License: MD452423
2015 – 6/30/23	Medical Board of California Physicians' and Surgeon's License: A136697
2021 – 2/16/24	State of Michigan Board of Michigan Physician License: 4301504128

**CERTIFICATIONS**

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- 2014 American Board of Orthopaedic Surgeons Part I Examination
- 2015 – 9/30/23 California Radiography & Fluoroscopy Supervisor & Operator Permit  
RHD 00200171
- 2017 American Board of Orthopaedic Surgeons, Part II (expiration 12/31/27)
- 2017 Lean Six Sigma Yellow Belt Certification
- Collaborative Institutional Training Initiative Certification
- GCP for Clinical Trials with Drugs and Medical Devices, Record ID 39768111 through 2/2024
  - Biomedical Investigators, Record ID 40982538 through 5/2026
  - IRB Members – Biomedical, Record ID 40745560 through 2/2026

**PEER REVIEWED ARTICLES**

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1. Hardcastle JM, **So DH**, Lee GC. The Fate of Revision Total Knee Arthroplasty With Preoperative Abnormalities in Either Sedimentation Rate or C-Reactive Protein. *J Arthroplasty*. 2016 Dec; 31(12):2831-2834. Epub 2016 Jul 5. PMID: 27498389.
2. Taka TM, Lung BE, Stepanyan H, **So DH**, Yang S. Orthopedic Treatment of Pycnodysostosis: A Systematic Review. *Cureus*. 2022 Apr 19; 14(4):e24275. doi:10.7759/cureus.24275.
3. Lung BE, Le R, Callan K, McLellan M, Issagholian L, Yi J, McMaster WC, Yang S, **So DH**. Chlorhexidine gluconate lavage during total joint arthroplasty may improve wound healing compared to dilute betadine. *J Exp Orthop*. 2022 Jul 10;9(1):67. doi: 10.1186/s40634-022-005030-w.
4. Lung BE, Taka TM, Donnelly M, McLellan M, Callan K, Issagholian L, Lai W, **So DH**, McMaster W, Yang S. Prior Diagnosis of COVID has no Increased Complications in Total Joint Arthroplasty. *Cureus*. doi:10.7759/cureus.27974.
5. Lung BE, Karasavvidis T, Sharma AK, Amirhekmat A, Stepanyan H, McMaster W, Yang S, **So DH**. Cryoneurolysis Is a Safe, Effective Modality to Improve Rehabilitation after Total Knee Arthroplasty. *Life* 2022, 12(9), 1344; <https://doi.org/10.3390/life12091344>.

**BOOK CHAPTERS**

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1. Nelson CL, **So DH**: Femoral Component Removal. In *Advanced Reconstruction: Hip 2*. Lieberman JR, Berry DJ (eds). The American Academy of Orthopaedic Surgeons, Rosemont, IL, 543-551, 2017.

**MANUSCRIPTS IN PROGRESS**

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1. Lung BE, Kim M, Callan K, McLellan M, Wang ED, McMaster WC, Yang S, **So DH**. Preoperative Dehydration is an Under-Recognized Modifiable Risk Factor in Total Hip Arthroplasty. *In Review*.
2. Lung BE, Le R, McLellan M, Callan K, Donnelly M, Yi J, Birring P, McMaster W, Yang S, **So DH**. Repeat High-Dose Dexamethasone May Improve Recovery 48 Hours After Total Hip Arthroplasty. *In Review*.
3. Lung BE, Donnelly M, Callan K, McLellan M, Taka TM, McMaster WC, **So DH**, Yang S. Preoperative Demographics and Laboratory Markers May Predict Early Dislocation After Total Hip Arthroplasty. *In Review*.

4. Lung BE, Kim M, McLellan M, Callan K, Wang ED, McMaster WC, Yang S, **So DH**. Alkaline Phosphatase is an Independent Risk Factor for Periprosthetic Fractures in Total Joint Arthroplasty. *In Review*.
5. Lung BE, Callan K, McLellan M, Kim M, Yi J, McMaster WC, Yang S, **So DH**. The Impact of Dehydration on Short-Term Postoperative Complications in Total Knee Arthroplasty. *In Review*.
6. Lung BE, Donnelly M, McLellan M, Callan K, Amirhekmat A, McMaster WC, Yang S, **So DH**. Kinematic Alignment May Reduce Opioid Consumption and Length of Stay Compared to mechanically Aligned Total Knee Arthroplasty. *In Review*.
7. Lung BE, Donnelly M, Callan K, McLellan M, Amirhekmat A, McMaster WC, Yang S, **So DH**. Preoperative Malnutrition and Metabolic Markers May Help Predict Postoperative Fractures in Total Hip Arthroplasty. *In Review*.
8. Wang D, Chin G, Learned JL, **So DH**. Etiology and Management of Hip Labrum Tears in the Older Patient.
9. Lung BE, Karasavvidis T, Callan K, McLellan M, **So DH**, Yang, S. Modifiable Preoperative Risk Factors Predict Postoperative Complications in Revision Joint Arthroplasty with Antibiotic-Loaded Spacers.
10. Learned JR, **So DH**, Scolaro JA. Management of Failed Intertrochanteric Hip Fractures.
11. Lung BE, **So DH**. Computer Assisted Surgery in Total Hip Arthroplasty.
12. **So DH**. Advanced Technologies in Total Knee Arthroplasty.
13. Stepanyan H, **So DH**. Perioperative Pain Management for Total Knee Arthroplasty.

#### **NATIONAL AND INTERNATIONAL PRESENTATIONS**

1. **So DH**, Andah GA, Milby AH, Hardcastle JM, Lee GC. Factors Contributing to Failed Two-Stage Reimplantation Procedures of Infected TKA. The Musculoskeletal Infection Society Annual Meeting. Cleveland, OH, August 2015.
2. Hardcastle JM, **So DH**, Lee GC. The Fate of Revision TKA with Preoperative Abnormalities in Either Sedimentation Rate or C-Reactive Protein. The Musculoskeletal Infection Society Annual Meeting. Cleveland, OH, August 2015.
3. Sun C, Ma M, Cyriac JI, **So DH**, Rinehart JB. Single Adductor Canal Block for Total Knee Arthroplasty Patients with Periarticular Injections. Anesthesiology Annual Meeting. Boston, MA, October 2017.
4. Lung BE, Karasavvidis T, Amirhekmat A, Sharma AK, Stepanyan H, McMaster WC, Yang S, **So DH**. The Role of Cryoneurolysis in Reducing Inpatient Opioid Use in Total Knee Arthroplasty. Clinical Orthopaedic Society Annual Meeting. Nashville, TN, November 2021.
5. **So DH**. Respect the Joint Line: Addressing the 20%. American Association of Hip and Knee Surgeons Annual Meeting Industry Symposium. Dallas, TX, November 2021.
6. Karasavvidis T, Lung BE, Callan K, Morgan M, Stepanyan H, **So DH**, Yang S. Modifiable Preoperative Risk Factors Predict Postoperative Complications in Revision Joint Arthroplasty with Antibiotic-Loaded Spacers. 20<sup>th</sup> ESSKA Congress. Paris, France, April 2022.

7. McLellan MA, Callan K, Lung BE, Birring PS, Yi J, McMaster WC, Yang S, **So DH**. Repeat High-Dose Dexamethasone May Improve Recovery After Total Hip Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
8. McLellan MA, Lung BE, Callan K, Kim M, McMaster WC, Yang S, **So DH**. Alkaline Phosphatase: Risk Factor for Periprosthetic Fractures in Joint Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
9. Callan K, McLellan MA, Lung BE, Donnelly MR, Amirhekmat A, McMaster WC, Yang S, **So DH**. Kinematic Alignment May Improve Recovery in Total Knee Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
10. Callan K, McLellan MA, Lung BE, Donnelly MR, McMaster WC, Yang S, **So DH**. Anemia and Hypoalbuminemia Associated with Increased Dislocation After Joint Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
11. Lung BE, Callan K, McLellan MA, Issagholian L, Yi J, McMaster WC, Yang S, **So DH**. Chlorhexidine Gluconate Lavage During Total Joint Arthroplasty May Improve Wound Healing Compared to Dilute Betadine. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
12. Lung BE, Donnelly MR, McLellan MA, Callan K, McMaster WC, Yang S, **So DH**. Preoperative Malnutrition and Metabolic Markers May Help Predict Postoperative Periprosthetic Fractures in Total Hip Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
13. Lung BE, Donnelly MR, McLellan MA, Callan K, Issagholian L, Lai WC, McMaster WC, Yang S, **So DH**. A Prior Diagnosis of COVID Has No Increased Complications in Total Joint Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.
14. Lung BE, Stepanyan H, Callan K, McLellan M, Amirhekmat A, Yang S, **So DH**. Accuracy of Accelerator Based Navigation for Femoral and Tibial Cuts in Total Knee Arthroplasty. Clinical Orthopaedic Society 110<sup>th</sup> Annual Meeting. San Antonio, TX, September 2022. *Submitted*.

## **REGIONAL AND LOCAL PRESENTATIONS**

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1. **So DH**, Zaltz I. New Radiographic Parameters in Evaluating Slipped Capital Femoral Epiphysis, Harold Frost Lectureship, Henry Ford Health System. Detroit, MI, June 2013.
2. **So DH**. Periprosthetic Fractures: Does a Loose Implant Mean Revision? Essentials of Orthopaedic Trauma Care Symposium. Department of Orthopaedic Surgery, University of California, Irvine School of Medicine. Newport Beach, CA, May 2016.
3. **So DH**. Current Innovations in Total Knee Arthroplasty. Advances in the Management of Lower Extremity Injuries Symposium. Department of Orthopaedic Surgery, University of California, Irvine. Newport Beach, CA, June 2017
4. **So DH**. Advanced Technology in Total Hip Arthroplasty. Orthopaedic Trauma in the 21<sup>st</sup> Century Symposium. Department of Orthopaedic Surgery, University of California, Irvine. Huntington Beach, CA, June 2018.
5. **So DH**. Conversion Total Hip Arthroplasty. Contemporary Perspectives in Joint Replacement Symposium. Department of Orthopaedic Surgery, University of California, Irvine. Huntington Beach, CA, May 2019.

6. Lung BE, Amirhekmat A, Stepanyan H, Cubberly M, **So DH**. The Role of Cryoneurolysis in Reducing Opioid Use in Total Knee Arthroplasty. Western Orthopaedic Association Annual Meeting, August 2021.
7. Lung BE, McLellan M, Callan K, Birring P, Yi J, McMaster WC, Yang S, **So DH**. Repeat High-Dose Dexamethasone May Improve Recovery 48 Hours After Total Hip Arthroplasty. Western Orthopaedic Association Annual Meeting, August 2022. *Accepted*.
8. Lung BE, Karasavvidis T, Callan K, McLellan M, Amirhekmat A, **So DH**, Yang S. Modifiable Preoperative Risk Factors Predict Postoperative Complications in Revision Joint Arthroplasty with Antibiotic-Loaded Spacers. Western Orthopaedic Association Annual Meeting, August 2022. *Accepted*.
9. Taka TM, Lung BE, Stepanyan H, **So DH**, Yang S. Orthopedic Treatment of Pycnodysostosis: A Systematic Review. Western Orthopaedic Association Annual Meeting, August 2022. *Submitted*.
10. Lung BE, Stepanyan H, Callan K, McLellan M, Amirhekmat A, Yang S, **So DH**. Accuracy of Accelerator Based Navigation For Femoral and Tibial Cuts in Total Knee Arthroplasty. Western Orthopaedic Association Annual Meeting, August 2022. *Submitted*.
11. Karasavvidis T, Callan K, Fackler NP, Lung BE, Yang S, **So DH**, Johnston T, Lee YP, Wang D. Early Complication Rates After High Tibial Osteotomy Versus Unicompartmental Knee Arthroplasty for Knee Osteoarthritis: A Database Study of 13,473 Patients. Western Orthopaedic Association Annual Meeting, August 2022. *Submitted*.

## SCIENTIFIC POSTERS

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1. Lung BE, Kim M, McLellan M, Callan K, Wang ED, McMaster WC, Yang S, **So DH**. Alkaline Phosphatase Is an Independent Risk Factor for Periprosthetic Fractures in Total Joint Arthroplasty. 33<sup>rd</sup> Annual Holiday Hip & Knee Course. Hospital for Special Surgery. Virtual Meeting, December 2021.
2. Lung BE, Kim M, Callan K, McLellan M, Wang ED, McMaster WC, Yang S, **So DH**. Preoperative Dehydration is an Under-Recognized Modifiable Risk Factor in Total Hip Arthroplasty. 33<sup>rd</sup> Annual Holiday Hip & Knee Course. Hospital for Special Surgery. Virtual Meeting, December 2021.
3. Lung BE, Kim M, Callan K, McLellan M, Wang ED, McMaster WC, Yang S, **So DH**. Preoperative Dehydration is an Under-Recognized Modifiable Risk Factor in Total Hip Arthroplasty. Orthopaedic Research Society Annual Meeting, February 2022.
4. Lung BE, Kim M, McLellan M, Callan K, Wang ED, McMaster WC, Yang S, **So DH**. Alkaline Phosphatase is an Independent Risk Factor for Periprosthetic Fractures in Total Joint Arthroplasty. Orthopaedic Research Society Annual Meeting, February 2022.

## LECTURES

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1. Acetabulum & Femoral Head Fractures. Department of Orthopaedic Surgery Grand Rounds, Henry Ford Health System. Detroit, MI, September 2012.
2. Pelvis Fractures. Department of Orthopaedic Surgery Grand Rounds, Henry Ford Health System. Detroit, MI, January 2013.
3. Pilon Fractures. Department of Orthopaedic Surgery Grand Rounds, Henry Ford Health System. Detroit, MI, March 2014.

4. Megaprotheses. Department of Orthopaedic Surgery Grand Rounds, Henry Ford Health System. Detroit, MI, April 2014.
5. Bearing Surfaces. Department of Orthopaedic Surgery Adult Reconstruction Conference, University of Pennsylvania, Philadelphia. PA, August 2014.
6. Gap Balancing vs. Measured Resection. Department of Orthopaedic Surgery Adult Reconstruction Conference, University of Pennsylvania. Philadelphia, PA, October 2014.
7. Bone Loss in Revision Total Knee Arthroplasty. Department of Orthopaedic Surgery Adult Reconstruction Conference, University of Pennsylvania. Philadelphia, PA, January 2015.
8. Total Knee Arthroplasty in the Young Patient. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, January 2015.
9. Acetabular Bone Loss in Revision Total Hip Arthroplasty. Department of Orthopaedic Surgery Adult Reconstruction Conference, University of Pennsylvania. Philadelphia, PA, March 2015.
10. Managing Intraoperative Complications in Primary Total Hip Arthroplasty. Department of Orthopaedic Surgery Adult Reconstruction Conference, University of Pennsylvania. Philadelphia, PA, June 2015.
11. Stability/Instability of Total Hip Arthroplasty. Department of Orthopaedic Surgery Adult Reconstruction Conference, University of Pennsylvania. Philadelphia, PA, July 2015.
12. OITE Review: Hip & Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, October 2015.
13. Total Knee Arthroplasty: Surgical Approaches. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, March 2016.
14. Intern Bootcamp: Hip & Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, July 2016.
15. Preoperative Templating for Total Hip Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, August 2016.
16. Hip and Knee Arthritis. Tustin Branch Library Community Lecture. Tustin, CA, October 2016.
17. OITE Review: Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, October 2016.
18. Primary Total Hip and Knee Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, January 2017.
19. Hip and Knee Arthritis: Evaluation and Treatment. Scripps Mercy Hospital Grand Rounds. San Diego, CA, August 2017.
20. Hip and Knee Arthritis: Reduce the Pain. West Anaheim Medical Center Grand Rounds. Anaheim, CA, November 2017.
21. Bone Loss in Revision Total Hip Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, January 2018.
22. Hip and Knee Arthritis: Reduce the Pain. Osher Lifelong Learning Institute. Irvine, CA, April 2018.
23. Hip and Knee Arthritis: Evaluation and Treatment. Placentia Linda Hospital Grand Rounds. Placentia, CA, June 2018.

24. Intern Bootcamp: Hip & Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, July 2018.
25. Cruciate-Retaining Versus Posterior-Stabilized Total Knee Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, August 2018.
26. Hip and Knee Arthritis Management. La Palma Intercommunity Hospital General Staff Meeting Lecture. La Palma, CA, November 2018.
27. Periprosthetic Hip Fracture. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, December 2018.
28. Introduction to Total Knee Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, July 2019.
29. Introduction to Total Hip Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, July 2019.
30. OITE Review: Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, September 2019.
31. Periprosthetic Hip Fracture. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, March 2020.
32. Intern Bootcamp: Hip & Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, June 2020.
33. Primary Total Hip Arthroplasty. Department of Orthopaedic Surgery Grand Rounds, University of California, Irvine. Orange, CA, October, 2020.
34. Intern Bootcamp: Hip & Knee Arthroplasty. Department of Orthopaedic Surgery, University of California, Irvine. Orange, CA, June, 2021.
35. Preoperative Templating for Total Hip Arthroplasty. Department of Orthopaedic Surgery Hip & Knee Arthroplasty Conference, University of California, Irvine. Orange, CA, July 2021.

#### **EDUCATIONAL COURSES INSTRUCTED**

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1/25/2018	UC Irvine Orthopaedic Surgery Total Hip & Knee Arthroplasty Lab – Orange, CA
3/7/2019	UC Irvine Orthopaedic Surgery Primary & Revision Total Knee Lab – Orange, CA
7/18/2019	UC Irvine Orthopaedic Surgery Total Knee Arthroplasty Lab – Orange, CA
7/25/2019	UC Irvine Orthopaedic Surgery Total Hip Arthroplasty Lab – Orange, CA
10/15/2020	UC Irvine Orthopaedic Surgery Total Hip Arthroplasty Lab – Orange, CA
10/22/2020	UC Irvine Orthopaedic Surgery Total Knee Arthroplasty Lab – Orange, CA
8/28/2021	OrthAlign SoCal Regional Lab – Irvine, CA
10/8/2021	UC Irvine Orthopaedic Surgery Total Hip & Knee Arthroplasty Lab – Orange, CA
2/10/2022	UC Irvine Orthopaedic Surgery Revision Total Hip Arthroplasty Lab – Orange, CA

#### **MENTORING**

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##### Medical Students:

- Hansel Ihn – UC Irvine, Class of 2017
- Connor Byrne – UC Irvine, Class of 2019
- Spencer Albertson – UC Irvine, Class of 2019
- Andrea Rowland – The University of Toledo, Class of 2020
- Arya Amirhekmat – UC Irvine, Class of 2022

## Orthopaedic Surgery Residents:

- Hayk Stepanyan – UC Irvine, Class of 2022
- Jeffrey Choi – UC Irvine, Class of 2023
- Brandon Lung – UC Irvine, Class of 2024
- Abhinav Sharma – UC Irvine, Class of 2026

**GRANTS**

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1. University of California, Irvine M-POWER Committee Grant  
M-POWER Committee grant (\$900) to create and furnish a dedicated space for the UC Irvine Department of Orthopaedic Surgery to promote physical and mental awareness.

**COMMITTEE MEMBERSHIPS**

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2016 – 2019	University of California, Irvine Medical Center Apparent Cause Analysis Committee
2017 – current	Orthopaedic Research and Education Foundation Resident Research Project Grant Reviewer
2017 – current	University of California, Irvine Medical Center Value Analysis Committee
2018 – current	University of California, Irvine Medical Center Operating Room Committee
2020 – current	University of California, Irvine Medical Center Department of Orthopaedic Surgery Safety Officer

**EDITORIAL POSITIONS**

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2017 – current	Reviewer: The Journal of Arthroplasty
2020 – current	Reviewer: The Journal of Knee Surgery

**PROFESSIONAL SOCIETIES**

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2009 – present	American Academy of Orthopaedic Surgeons, Fellow Member
2016 – present	American Association of Hip and Knee Surgeons, Fellow Member
2016 – present	California Medical Association
2016 – present	Orange County Medical Association
2019 – present	California Orthopaedic Association

**HONORS AND AWARDS**

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2009	<b>Distinguished Service Award</b> – Wayne State University School of Medicine
2016	<b>Nurse Exemplar Friend of Nursing Award Nominee</b> University of California, Irvine Medical Center



2016, 18-19	<b>Healthcare Hero</b> - University of California, Irvine Medical Center
2018 – 2022	<b>Super Doctors Southern California</b>
2021, 2022	<b>Orange County Medical Association Physician of Excellence</b>

### **CONTINUING EDUCATION**

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2014	Zimmer Hip Fellows Course
2014	AAHKS Annual Meeting
2014	ICJR Transatlantic Orthopaedic Congress – New York, NY
2015	ICJR Revision Hip & Knee Course – Philadelphia, PA
2015	DJO Surgical Fellow's Course in DAA/Revision Hip Arthroplasty
2015	7 <sup>th</sup> Annual Joint Replacement Fellows Symposium
2015	DePuy Synthes Attune Knee System Stable Motion Experience Course
2016	Zimmer Anterior THA Instructional Course
2016	Stryker Direct Anterior Approach to the Hip Surgical Training Program
2017	Zimmer Biomet Persona TKA BioSkills Event
2017	Zimmer Anterior THA Instructional Course
2018	Smith & Nephew REDAPT Revision THA & Legion Revision TKA Course
2018	DePuy Synthes Attune Revision Knee System Instructional Course
2019	Smith & Nephew Hip & Knee Master Class
2019	Exactech Masters Course in Knee Arthroplasty
2022	Stryker Mako Hip & Knee Certification