### **EDUCATION**

Undergraduate

1999-2003 University of California, San Diego

Major: Biochemistry/Cell Biology Minor: Health-Care & Social Issues

San Diego, CA

Graduate/Medical School

2004-2008 Midwestern University, Arizona College of Osteopathic Medicine

Doctorate of Osteopathic Medicine

Glendale, AZ

Residency

2008-2011 Pacific Hospital of Long Beach

Co-Chief Resident — June 2010-2011

Family Medicine Residency — June 2009-2011

Internship — June 2008-2009

Long Beach, CA

Postgraduate/Fellowship

2011-2012 Mercy Health Partners

Neuromusculoskeletal Medicine — 1 year Fellowship

Muskegon, MI

2016 Certified in Medical Acupuncture for Physicians by Helms Medical Institute —

6-month course

### **CERTIFICATION AND LICENSURE**

### Specialty/Subspecialty Certification

April 2020 Buprenorphine Medication Assisted Treatment X Waiver March 2019 Fellow of the American Academy of Osteopathy (FAAO)

June 2017 Certificate of Added Qualification in the Subspecialty of Pain Medicine (Board

Certification Equivalent)

December 2013 Board Certified Neuromusculoskeletal & Osteopathic Manipulative Medicine
August 2011 Board Certified Family Medicine and Osteopathic Manipulative Treatment

## PRESENT APPOINTMENTS/POSITIONS

Present Private practice physician. Bobby Nourani, D.O., Medical Corporation
Present CEO and Founder of Slanted Adaptor, LLC. Manufacturer of SyringePro
Present Associate Professor. Western University of Health Sciences. College of

Osteopathic Medicine of the Pacific. Department of Neuromusculoskeletal

Medicine & Osteopathic Manipulative Medicine.

## PAST APPOINTMENTS/POSITIONS

Apr 2019-Jun 2020	Associate Clinical Professor Inpatient Integrative Health Medical Director University of California Irvine, School of Medicine Susan Samueli Integrative Health Institute, Department of Medicine, Department of Internal Medicine, Irvine, CA
Sep 2015-Feb 2019	Assistant Clinical Professor Clinical Health Sciences (CHS) Track University of Wisconsin School of Medicine and Public Health, Department of Family Medicine and Community Health, Madison, WI
Jul 2017-Feb 2019	Osteopathic Program Director of Curriculum and Instruction University of Wisconsin Department of Family Medicine and Community Health
Apr 2013-Aug 2015	Physician, Urgent Care and Family Medicine Locum Tenens at Tracy Zweig Associates, Santa Monica, Los Angeles and Orange County, CA
Apr 2013-Aug 2015	Physician, Urgent Care for Lakeside Community Healthcare, Burbank and West Covina, CA
Dec 2012-Aug 2015	Bobby Nourani, D.O., Medical Corporation, private practice, Santa Monica and Orange County, CA
Mar 2012-Oct 2012	Urgent Care Physician, Mercy Health Partners, Muskegon, MI
Dec 2009-Jun 2011	Urgent Care Physician, Universal Care Medical Center, Long Beach, CA

## PROFESSIONAL SOCIETY MEMBERSHIPS & SERVICE TO THE FIELD

2020-Present 2016-2021	Member, International Association of Regenerative Therapy Member, American Academy of Osteopathy Publications Committee
2016-Present	Reviewer, The American Academy of Osteopathy Journal (AAOJ)
2015-Present	Member, The American Association of Orthopaedic Medicine
2010-Present	Member, Hackett Hemwall Patterson Foundation
	Board Member 2021-Present
2008-Present	Member, The Cranial Academy
2008-Present	Member, American College of Osteopathic Family Physicians
2005-2019	Member, American Academy of Family Practice Physicians
2004-Present	Member, American Osteopathic Association
2004-2013	Member, American Medical Association
2005-2008	Vice President, Student Osteopathic Medical Association
1998-1998	Founder and President, The Ecology Club

### **HONORS AND AWARDS**

2015	Outstanding Preceptor for AZCOM Students Academic Year 2014-2015. Arizona College of Osteopathic Medicine, Department of Clinical Education
2011	The Osteopathic Principles in Practice Award for residents, Pacific Hospital of Long Beach
2010	The Osteopathic Principles in Practice Award for residents, Pacific Hospital of Long Beach
2009	The Osteopathic Principles in Practice Award for residents, Pacific Hospital of Long Beach
2009	Certificate of Appreciation, Pacific Hospital of Long Beach
2009	1 <sup>st</sup> Place: Pacific Hospital of Long Beach Resident Research
2000	Emerging Leaders Program, University of California at San Diego

### **GRANT SUPPORT**

 University of Wisconsin Department of Family Medicine and Public Health Small Grant Multiple modality integrative care for chronic low back pain: A quality improvement project January 1, 2017 – Feb 2019

Role: Principal Investigator

\$25,000

2. 2017 Summer Student Research and Clinical Assistantship (SSRCA)

Coccydynia: Treatment modalities and a case report

Summer 2017

Role: Principal Investigator Mentored: Ross Gilbert, MSI

\$5,000

3. 2017 Shapiro Summer Research Program

Effects of prolotherapy on objectively assessed knee osteoarthritis

Summer 2017

Role: Principal Investigator Mentored: David Marshall, MSI

\$5,000

4. 2016 Summer Student Research and Clinical Assistantship (SSRCA)

Effects of prolotherapy on objectively assessed knee osteoarthritis

Summer 2016

Role: Principal Investigator Mentored Maggie Smith, MSI

\$5,000

5. 2016 Shapiro Summer Research Program

Effects of prolotherapy on objectively assessed knee osteoarthritis

Summer 2016

Role: Principal Investigator Mentored Stephanie Lakritz, MSI

\$5.000

### Major Past Awards

Pacific Hospital of Long Beach Resident Research — 2008-2009
Awarded for independent laboratory research and publishable article: *Infection control:*Comparing alcohol-based hand sanitizers to Byotrol (and chlorhexidine) in preventing the transmission of health-care associated pathogens
Long Beach, CA

### **PUBLICATIONS**

#### **Refereed Articles**

- Van Leuven L, Benes L, Fortney L, Slattengren A, Nourani B, Grettie J, Rabago D. Qualitative Aspects of Treatment with Hypertonic Dextrose Injection (Prolotherapy) for Knee Osteoarthritis in a Multi-Method Study; *J of Alt and Comp Med*; 22(6): A143-A150; 2016. doi:10.1089/acm.2016.0164
- Rabago D, Kansariwala I, Marshall D, Nourani B, Stiffler-Joachim M, Heiderscheit B. Dextrose Prolotherapy for Symptomatic Knee Osteoarthritis: Feasibility, Acceptability and Patient-oriented Outcomes in a Pilot-level Quality Improvement Project; *J of Alt and Comp Med*; Jan 28, 2019. doi.org/10.1089/acm.2018.0361
- 3. **Nourani B**, Gilbert R, Rabago D. The Treatment of Headache and Coccydynia with Transrectal OMT: A Case Report. *Scholar: Pilot and Validation Studies*; Jan 2020. doi:10.32778/spvs.71366.2020.4
- 4. Castillo R, Marvin H, Rabago D, **Nourani B**, Hodge L. Dextrose-Based Prolotherapy Induces Apoptosis and Reduces the Release of Inflammatory Mediators from Macrophages. Submitted 2019

### **Non-Peer Reviewed Articles**

- Nourani B, Rabago D. Prolotherapy for Knee Osteoarthritis: A descriptive review; Current Physical Medicine and Rehabilitation Reports; Vol 4, Issue 1, pp 42-49. March 3, 2016. doi:10.1007/s40141-016-0111-z
- 2. Rabago D, **Nourani B**. Prolotherapy for Osteoarthritis and Tendonopathy: A descriptive review; *Current Rheumatology Reports*. Vol 19, Issue 34. 2017. doi:10.1007/s11926-017-0659-3

### **Books**

1. **Nourani B.** Long Lever Techniques: An Illustrated Guide for Practitioners to Treat Neuro-Musculoskeletal Pain. North Atlantic Books. Spring 2022. B Nourani - first author. Second author, Richard Huff, D.O.

2. **Nourani B.** Long Lever Techniques: An Osteopathic Clinical Manual. Self Published. January, 2021. I am the first author. Second author, Richard Huff, D.O.

### **Book Chapters**

- 1. Rabago D, **Nourani B**, Weber M; Prolotherapy for Chronic Musculoskeletal Pain; <u>Integrative Medicine</u> 5th Ed; David Rakel, Vincent Minichiello Eds; Elsevier Saunders; 2022
- 2. Rabago D, **Nourani B**, Weber M; Prolotherapy for Chronic Musculoskeletal Pain; <u>Integrative</u> Medicine 4th Ed; David Rakel Ed; Elsevier Saunders; 2018
- 3. **Nourani, B**; Prolotherapy for Knee Pain with Enthesopathy. <u>Foundations of Osteopathic Medicine</u> 4<sup>th</sup> Ed; Michael Seffinger Ed; Lippincott Williams & Wilckins; 2018
- Rabago D, Nourani B, Reeves K, Weber M. Prolotherapy: History, Biology, Mechanism of Action, Preparation, and Clinical Applications; <u>Essentials of Regenerative Medicine in</u> <u>Interventional Pain Management</u>; Manchikanti L and Navani A Eds; American Society of Interventional Pain Physicians Publishing; Padukah KY; 2019
- 5. **Nourani B**. Introspection and Measurement of Subjective Pain Experience; *Pain:* <u>A Review Guide</u>; Abd-Elsayeed A Ed; Springer; 2019

Peer Reviewed Abstracts (Presented as oral podium presentations unless otherwise noted)

- Rabago D, Nourani B, Mundt M, Zgierska A, Grettie J. Hypertonic Dextrose Injection (Prolotherapy) to Multiple Tissues for Knee Osteoarthritis: Long Term Outcomes; Podium Presentation at the Fourth International Fascia Research Congress; Washington DC, September 18-20, 2015
- Van Leuven L, Benes L, Fortney L, Slattengren A, Nourani B, Grettie J, Rabago D. Qualitative Aspects of Treatment with Hypertonic Dextrose Injection (Prolotherapy) for Knee Osteoarthritis in a Multi-Method Study; Poster Presentation at the International Congress on Integrative Medicine & Health (ICIMH); May 20; Las Vegas Nevada, 2016
- 3. Marshall D, **Nourani B**, Kansariwala I, Gilbert R, Hayer S, Smith M, Lakritz S, and Rabago D. *Prolotherapy for symptomatic knee osteoarthritis: In-progress quality improvement data;* Poster Presentation at the Shapiro Summer Research Symposium. Madison, WI; November 2017
- 4. Rabago D, Marshall D, Kansariwala I, **Nourani B**, Heiderscheidt B, Stiffler-Joachim; Dextrose prolotherapy for knee OA in routine clinical practice: Self-reported and objectively assessed outcomes in a feasibility study; Poster Presentation at the North American Primary Care Research Group (NAPCRG) 46<sup>th</sup> Annual Conference; Chicago, IL; November 10, 2018
- 5. Shah S, Nunez M, **Nourani B**, Malik S; Feasibility and Data on Developing a Hospital-Wide Inpatient Integrative Service in a Tertiary Adult Academic Medical Center, Poster

Presentation at the Regional Society of Regional Anesthesia and Pain Medicine (ASRA), 2019 Pain Medicine Meeting; New Orleans, LA; November 14-16; 2019. Chosen as one of the top meeting posters

- 6. Thomas M, Joe V, Nunez M, **Nourani B**, Chin T, Burton K, Rychlock R, Li S, Horie M. *Successful Implementation of Acupuncture for Hospitalized Burn Patients*; Poster Presentation at the American Burn Association 52<sup>nd</sup> Annual Meeting; Orlando, FL; March 19, 2020. <a href="https://doi.org/10.1093/jbcr/iraa024.381">https://doi.org/10.1093/jbcr/iraa024.381</a>
- 7. Chin T, Burton K, Thomas M, Bernal N, **Nourani B**, Nunez M, Li S, Rychlock R, Horie M, Malisk S, Joe V. *The Effects of Acupuncture on Pain on the Burn Service*; Oral Presentation at the American Burn Association 52<sup>nd</sup> Annual Meeting; Orlando, FL; March 20, 2020. https://doi.org/10.1093/jbcr/iraa024.131

### **INVITED RESEARCH PRESENTATIONS**

### National/International

Apr 2023	<b>Nourani B</b> . Coccydynia: How to Diagnose & Treat a Pain in the Butt (80 minute lecture presentation). The Jeff Ericksen, MD Endowment Lectureship. Virginia Commonwealth University. Richmond, VA
Oct 2019	<b>Nourani B</b> . Prolotherapy for the Thoracic Spine and Ribs (60 minute lecture presentation). The Anatomy of Myofascial Pain with Prolotherapy; The Hackett Hemwall Patterson Foundation, University of Wisconsin, Madison, WI
Oct 2019	<b>Nourani B</b> . Multiple Modality Care for Chronic Low Back Pain: A Quality Improvement Project (30 min lecture presentation). Hackett Hemwall Patterson Foundation, University of Wisconsin; Madison, WI
May 2019	<b>Nourani B</b> . Inpatient Integrative Health Consult Service: Indications, Patient Outcomes, Quality Outcome Measures. University of California Leadership Forum. Santa Ana, CA
Mar 2019	<b>Nourani B</b> . Multiple Modality Care for Chronic Low Back Pain: A Quality Improvement Project (60 min lecture presentation). American Academy of Osteopathy; Orlando, FL
Mar 2019	<b>Nourani B</b> . Coccydynia Evaluation and Management: A Quality Improvement Project (60 min lecture presentation). American Academy of Osteopathy; Orlando, FL
Nov 2018	Rabago D, Marshall D, Kansariwala I, <b>Nourani B</b> , Heiderscheit B, Stiffler-Joachim M. Dextrose Prolotherapy for Knee OA in Routine Clinical Practice: Self-reported and Objectively Assessed Outcomes in a Feasibility Study (poster); North American Primary Care Research Group (NAPCRG) 46 <sup>th</sup> Annual Conference; Chicago, IL
Oct 2018	Nourani, B. Multiple Modality Integrative Care Including Prolotherapy for Chronic

Low Back Pain: A Quality Improvement Project. The Hackett Hemwall Patterson Foundation, The Anatomy of Myofascial Pain with Prolotherapy, Madison, WI

- Nov 2017 Marshall D, **Nourani B**, Kansariwala I, Gilbert R, Hayer S, Smith M, Lakritz S, Rabago D. Prolotherapy for Symptomatic Knee Osteoarthritis: In-progress Quality Improvement Data (Poster). Shapiro Summer Research Symposium. Madison, WI
- Oct 2017 **Nourani, B.** The Hackett Hemwall Patterson Foundation, The Anatomy of Myofascial Pain with Prolotherapy, Madison, WI
  - Development and Assessment of an Injection Assist Device: UW Biomedical Engineering Student Project
  - 2. Mentored two UW School of Medicine and Public Health MSII students on their summer project that yielded their invitation and presentation on: Clinic-based Assessment in Knee OA and Coccyalgia
  - 3. Initiated and facilitated joint research between the University of Wisconsin and the University of North Texas Health Science Center on the basic laboratory science research on the mechanism of dextrose prolotherapy. Outcome included invited research presentation with our collaborator Lisa Hodge, PhD, titled: Back to Basics: In-vitro Dextrose Inhibition of Macrophage Activity in an invited presentation
- Oct 2016 **Nourani B.** Fascia in the Context of Prolotherapy: Clinical and Research Considerations. The Hackett Hemwall Patterson Foundation, The Anatomy of Myofascial Pain with Prolotherapy, Madison, WI
- Oct 2015 **Nourani B**. The Hackett Hemwall Patterson Foundation, The Anatomy of Myofascial Pain with Prolotherapy, Madison, WI
  - 1. Prolotherapy for the Thoracic Spine and Ribs
  - 2. Prolotherapy and Tissue Planes: Considering Fascia in a Long Term Knee OA Study

### **INVITED EDUCATIONAL ACTIVITIES AND PRESENTATIONS**

### Departmental

- Feb 2020 The Implementation of Inpatient Integrative Health: Lecture and demonstration of Osteopathic Manipulative Treatment for the University of California Irvine Hospitalists physicians
- Feb 2020 Acupuncture: How, When, Why. Promoting Therapeutic Progress. UCI Health CME lecture for Occupational Therapists, Physical Therapists, and Speech-Language Pathologists, Orange, CA
- Feb 2020 Heal–IM: UCI medical student elective on Integrative Medicine. 90-minute Manual Medicine lecture and lab for 25 first- and second-year medical students, University of California Irvine, CA
- Nov 2019 Inpatient Integrative Health Consult Service. Lecture presentation for Susan Samueli Integrative Health Institute 2019 Annual Meeting comprised of members and donors, Newport Beach, CA

Oct 2019	Panel Presentation: Where does it hurt? The latest in pain management. One of three panel speakers for the University of California Irvine Research Associates Fall Luncheon., Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering, Irvine, CA
Oct 2019	Multiple Modality Care for Chronic Low Back Pain: A Quality Improvement Project. Grand Rounds Lecture, University of California Irvine, Orange, CA
Oct 2019	Inpatient Integrative Health Consult Service. Lecture presentation for the University of California Irvine Orthopaedic Department, Orange, CA
Jun 2019	Integrative Musculoskeletal Pain Medicine at the University of California Irvine, Susan Samueli Integrative Health Institute, Costa Mesa, CA
May 2019	Inpatient Integrative Health Consult Service. Presentation for the University of California Irvine Leadership Forum, Orange, CA
May 2019	Inpatient Integrative Health Consult Service applications in Hematology/Oncology, Benefits of Acupuncture and Osteopathic Manipulative Treatment. Presentation at the University of California Irvine Hematology/Oncology Annual Meeting, Orange, CA
Nov 2018	Nourani B, Robinson M. Osteopathic Principles and Applications of Fulford's Percussion Hammer, Lecture & Lab. The University of Wisconsin Department of Family Medicine Osteopathic Residency Program Statewide Conference, Baraboo, WI
Nov 2017	Nourani B, Huff R. Long Lever Techniques: An Osteopathic Clinical Guide. The University of Wisconsin Department of Family Medicine Osteopathic Residency Program Statewide Conference, Baraboo, WI
Oct 2017	University of Wisconsin Department of Family Medicine and Community Health Procedures Fair. Volunteer educator for ultrasound workshop, Madison, WI
May 2017	Osteopathic Continuous Certification. The University of Wisconsin Department of Family Medicine Osteopathic Residency Program Statewide Conference, Baraboo, WI
Nov 2014	Low Back Pain: Clinical Review, Case Studies, Osteopathic Applications and Treatment, the University of Wisconsin Department of Family Medicine Osteopathic Residency Program Statewide Conference, Baraboo, WI
Nov 2014	Small Intestinal Bacterial Overgrowth, the University of Wisconsin Department of Family Medicine, Madison, WI
Statewide	
June 2018	Peripartum Osteopathy for Mom and Baby: When, Why, How. The Milk Mob, The Art and Science of Breastfeeding annual conference. Madison, WI

Oct 2017 Coccydynia: Evaluation, diagnosis, novel treatment write-up, standard treatments, and case reports. Wisconsin Association of Osteopathic Physicians and Surgeons, Madison, WI

### National/International

- Mar 2023 Tensegrity and Fascia – Sequencing: the Art of Finding the Key Lesion. 2022 AOA Pre-convocation 3-day course. The American Academy of Osteopathy. Colorado Springs, CO. Nov 2022 Cervical Spine – Anatomy and Injection Techniques. 2022 Annual IART Conference. Core of Regenerative medicine: Prolotherapy and Perineural Injection Therapy of the Spine. The International Association of Regenerative Therapy & The Hackett Hemwall Patterson Foundation, Virtual. Thoracic Spine and Ribs Prolotherapy – Anatomy, Palpation, Marking, and Injection Jan 2022 Technique and Prolosound™ Technique of the Thoracic Spine. 2022 Annual Virtual Conference, Core of Regenerative medicine: Prolotherapy and Perineural Injection Therapy of the Spine. The International Association of Regenerative Therapy University of Wisconsin School of Medicine & The Hackett Hemwall Patterson Foundation, Virtual, Organized in Madison, WI Apr 2021 Co-Moderator and conference committee planning member. The Core of Regenerative Medicine: Diagnosis & Treatment of Chronic Pain with Prolotherapy & Perineural Injection Therapy of the Upper Extremity. International Association of Regenerative Therapy, The Hackett Hemwall Patterson Foundation, and the University of Wisconsin School of Medicine, Madison, WI Oct 2020 Moderator and conference committee planning member. The Core of Regenerative Medicine: Diagnosis & Treatment of Chronic Pain with Prolotherapy & Perineural Injection Therapy of the Lower Extremity, International Association of Regenerative Therapy, The Hackett Hemwall Patterson Foundation, and the University of Wisconsin School of Medicine, Madison, WI Oct 2019 Prolotherapy for the Thoracic Spine and Ribs. The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy. The University of Wisconsin School of Medicine & The Hackett Hemwall Patterson Foundation, Madison, WI Oct 2019 Multiple Modality Care for Chronic Low Back Pain: A Quality Improvement Project. The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy Research Symposium. The University of Wisconsin School of Medicine & The Hackett Hemwall Patterson Foundation, Madison, WI
- Mar 2019 Coccydynia: Osteopathic Considerations in Treatment (120 min workshop). American Academy of Osteopathy; Orlando, FL
- Oct 2018 Prolotherapy for the Thoracic Spine and Ribs. The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy. The University of Wisconsin School of Medicine & The Hackett Hemwall Patterson Foundation, Madison, WI

May 2018	Coccydynia: Evaluation, diagnosis, novel treatment write-up, standard treatments, and case reports. Indiana Osteopathic Medical Association. Des Moines, IA
Oct 2017	Course Director of 3-day international conference on The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy. Provided by the University of Wisconsin School of Medicine and Public Health, UW Department of Family Medicine and Community Health, University of Wisconsin-Madison Interprofessional Continuing Education Partnership, and The Hackett Hemwall Patterson Foundation, Madison, WI
Oct 2016	Prolotherapy for the Thoracic Spine and Ribs, The Hackett Hemwall Patterson Foundation, The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy, Madison, WI
Oct 2015	Prolotherapy for the Thoracic Spine and Ribs, The Hackett Hemwall Patterson Foundation, The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy, Madison, WI
May 2015	Osteopathic Medicine, University of California Los Angeles (UCLA) Osteopathic Medicine Jumpstart Conference, Los Angeles, CA
Feb 2015	All Roads Lead to Integrative Medicine, the University of California Los Angeles (UCLA) 3rd Annual Student Conference for Integrative Medicine: Exploring Integrative Medicine from a Clinical to Global Scale, Los Angeles, CA
Oct 2014	Prolotherapy for the Thoracic Spine and Ribs, The Hackett Hemwall Patterson Foundation, The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy, Madison, WI
Oct 2014	Osteopathic Medicine and Integrative Medicine, the University of California Los Angeles (UCLA) Lecture to Students, Los Angeles, CA
May 2014	Osteopathic Medicine, University of California Los Angeles (UCLA) Osteopathic Medicine Jumpstart Conference, Los Angeles, CA
Apr 2012	Rehabilitative Injection Techniques for Peri-facial Pain and Temporomandibular Disc Disorder, Hollister, CA

## **Referee for Journals**

Present	Scholar: Pilot and Validation Studies. Reviewer, March 2020 – Present
Present	American Academy of Osteopathy Journal. Reviewer, March 2016 – Present
Dec 2017	FP Essentials. Monograph of the American Academy of Family Physicians. Reviewed Musculoskeletal Therapies. CME education monograph informing the

reader about acupuncture, osteopathic manipulation, injection therapies, and physical therapy modalities

## **Clinical Teaching**

Apr 2023	A.T. Still's Approach to the Foot and Ankle. Indiana Academy of Osteopathy. Table-Trainer. Course Directors: Rue Tikker, DPM; Charlie Beck, DO, FAAO. Oakland, CA, April 15-16, 2023.
Mar 2023	Sequencing: the Art of Finding the Key Lesion. 2022 AOA Pre-convocation 3-day course. Lecturer and Table-Trainer. The American Academy of Osteopathy. Course Director: Charlie Beck, DO, FAAO Colorado Springs, CO.
Apr 2022	A.T. Still's Approach to the Foot and Ankle. Indiana Academy of Osteopathy. Table-Trainer.  Course Directors: Rue Tikker, DPM; Charlie Beck, DO, FAAO.  Napa, CA, April 23-24, 2022.
Sep 2021	A Sutural Approach to Osteopathy in the Cranial Field. West Virginia School of Osteopathic Medicine. Lecture and lab. The American Academy of Osteopathy. Directors: Edward Stiles, DO, FAAO; Charlie Beck, DO, FAAO. 24 cme credits.
Feb 2020	Integrative Medicine and Osteopathic Manipulative Treatment: Lecture and Lab for University of California Irvine, Physical Medicine and Rehabilitation residents
Nov 2019	OMT didactic/experiential session, lecture and lab, for integrative medicine track University of California Irvine Integrative Medicine track Family Medicine residents
Apr 2019	Clinical Precepting of Family Medicine and Internal Medicine residents, University of California Irvine, 2019-2020
Mar 2019	Table-Trainer, Brain Therapy for Neonatal Reflexes & Lifelong Reflexes in Adults and Children. March 10-12, 2019. American Academy of Osteopathy. Course Director: Bruno Chikly, MD, DO
Sep 2015-Fe	eb 2019 Outpatient primary care and musculoskeletal medicine teaching. One-on-one supervision and teaching of family medicine resident physicians at the UW Health Northeast clinic
Nov 2018	Clinical Precepting, Student - Joseph Janz, MSII. Academic year 2018-2019
Dec 2017	Clinical Precepting, Student - Bryce De Venecia, MSII. Academic year 2017-2018
May 2017	Clinical Precepting, Student - Joseph Janz, MSI. Academic year 2017-2018
May 2017	Clinical Precepting, Student - Bryce De Venecia, MSI. Academic year 2016-2017

Mar 2016	Clinic Director and Instructor, Hackett Hemwall Foundation: Honduras Prolotherapy Trip
Mar 2015	Clinic Director and Instructor, Hackett Hemwall Foundation: Honduras Prolotherapy Trip
Jun 2014	Instructor, Integrating Osteopathy with Dentistry & Orthodontia, Thousand Oaks, CA
Mar 2014	Instructor, Hackett Hemwall Foundation: Honduras Prolotherapy Trip
Jul 2013	Table Trainer, Expanding the Osteopathic Concept into the Cranial Field, Osteopathic Center for Children, San Diego, CA
Mar 2013	Instructor, Hackett Hemwall Foundation: Honduras Prolotherapy Trip
2013-2015	Instructor, Midwestern University, Arizona College of Osteopathic Medicine clinical training for 3 <sup>rd</sup> and 4 <sup>th</sup> year medical students, Glendale, AZ
Feb 2013	Instructor, Expanding the Osteopathic Concept into the Cranial Field, Western University of Health Sciences, Pomona, CA
Aug 2012	Table Trainer, A Sutural Approach to Osteopathy in the Cranial Field, Indianapolis, IN
Apr 2012	Instructor, Interface II: Linking Osteopathy and Dentistry, Hollister, CA
Mar 2012	Table Trainer, Palpating and Treating the Brain: The Ventricular System & the Brain Nuclei, Orlando, FL
Feb 2012	Table Trainer in Training, Basic Cranial Course, San Diego, CA
Nov 2010	Table Trainer, The Inherent Motility of the Brain and Spinal Cord: Brain Parenchyma, Nuclei & Fluid, Philadelphia, PA
Mar 2008	Table Trainer, Fluid Techniques for Interosseous and Embryological Articulations of the Thorax, Colorado Springs, CO
2005-2006	Student Table Trainer, Midwestern University, Department of Osteopathic Medicine, Glendale, AZ

## Mentoring

Over the years, I have worked with hundreds of learners at various points in their training and careers. The following listing includes learners for which there was a formal individualized teaching relationship, mentorship, or other substantive teacher-learner interactions.

### **Medical Students**

# 1<sup>st</sup> and 2<sup>nd</sup> Year MD preceptor program at the UW School of Medicine and Public Health

Bryce De Venecia, MSI, 2016-2017; MSII 2017-2018 Joseph Janz, MSI, 2017-2018; MSII 2018-2019

### **UW DFM Summer Research and Clinical Assistantship**

Ross Gilbert, MSI, 2017 Margaret Smith, MSI, 2016

## **UW Shapiro Summer Research Program**

David Marshall, MSI, 2017 Stephanie Lakritz, MSI, 2016

# **UW School of Medicine and Public Health course "Research and Independent Study in Family Medicine"**

Ahmad Mahmoodi, MSI, 2017

## Undergraduate

# Rural and Urban Scholars in Community Health: UW School of Medicine and Public Health

Amy Fulcher, Undergraduate, 2017

## **Service Activities**

### National/International

2020-Present	Journal Referee: Scholar: Validation and Pilot Studies
2019-Present	Expert medical reviewer for the United States Department of Justice
2016-Present	Journal Referee: The American Academy of Osteopathy Journal
2020-Present	Journal Referee: Scholar: Validation and Pilot Studies
2017	Referee "FP Essentials" the AAFP Home Study Monograph Program. Reviewed "Musculoskeletal Therapies"
2017	Textbook Reviewer: Handspring Publishing Limited
2017	Point of care ultrasound workshop training of medical students at University of Wisconsin Family Medicine Procedures Fair
2015	Medical Team Volunteer, Join-Up Horse Sense and Healing
2015	Prolotherapy Standardization Committee Member, Guadalajara, Mexico
2014-2015	Medical Team Volunteer, Hackett Hemwall Foundation Prolotherapy Service, Guadalajara, Mexico
2014-2015	Medical Team Volunteer, Hackett Hemwall Foundation Vein Sclerotherapy Service, Honduras

2011-2015	Medical Team Volunteer, Hackett Hemwall Foundation Prolotherapy Service-Honduras
2005-2014	Medical Team Volunteer, Association of Volleyball Professionals
2008	Medical Team Volunteer, Orange County Marathon
2008	Medical Team Volunteer, Reeds Lake Triathlon
2005-2006	Medical Team Volunteer, PF Chang's Rock n' Roll Marathon
2005	Medical Team Volunteer, Foundation for International Medical Relief of Children, Costa Rica
2005	Medical Team Volunteer, High School Sports Physicals
2005	Medical Team Volunteer, Surf Cup San Diego Soccer Tournament
2002-2004	Premedical intern, Oasis Surgery Center
	2005-2014 2008 2008 2005-2006 2005 2005 2005

#### **ADDITIONAL TRAINING**

. American Academy of Osteopathy: Convocation — March 2005-2010, 2012, 2016-2020, 2022,2023

Annual national conference in the field of osteopathy

2022 Annual IART Conference – The Core of Regenerative Medicine – Nov 3-5, 2022, 11.25 cme credits

International Association of Regenerative Therapy & The Hackett Hemwall Patterson Foundation.

Virtual

 2022 Annual Virtual Conference, Core of Regenerative medicine: Prolotherapy and Perineural Injection Therapy of the Spine. International Association of Regenerative Therapy & The Hackett Hemwall Patterson Foundation – Jan 21-23, 2022.

University of Wisconsin School of Medicine and Public Health Madison, WI

. Advanced Prolozone – Theoretical and Practical Applications, Ozone Therapy Inc – Oct 25, 2021, 6 cme credits

Advanced injection techniques of the spine and pelvis

In association with the Nevada Homeopathic and Integrative Medical Association, and the American Academy of Ozonetherapy

Reno, NV

. Beginning Prolozone – Theoretical and Practical Applications, Ozone Therapy Inc – Oct 23-24, 2021, 7.5 cme credits

Advanced injection techniques of the spine and pelvis

In association with the Nevada Homeopathic and Integrative Medical Association, and the American Academy of Ozonetherapy

Reno. NV

Ozonetherapy Certification – Theoretical and Practical Applications, Ozone Therapy Inc – Oct 2, 2021, 15 cme credits

Advanced injection techniques of the spine and pelvis

In association with the Nevada Homeopathic and Integrative Medical Association, and the American Academy of Ozonetherapy Reno. NV

The Orthobiologic Institute (TOBI) Fall Conference – Oct 8-9, 2021

PRP, bone marrow concentrate (BMAC), microfragmented adipose tissue (MFAT), Shockwave, & photobiomodulation. Including research outcomes, scientific evidence,

technique advancements, and FDA regulations.

In association with Gulf Coast Biologics & Albert Einstein College of Medicine. Virtual

 Interventional Orthobiological & Pain Management Cadaveric Image Guided Injection Techniques for Lower & Extremity Disorders, Bio-Illuminate II International Conference – Sep 10-12, 2021, 19 cme credits

PRP, Bone Marrow orthobiolgics, & photobiomodulation.

In association with Gulf Coast Biologics & Albert Einstein College of Medicine. Fort Myers, FL

Photobiomodulation Therapy Healing, PAIN week 2021 National Conference on Pain Management – Sep 7, 2021, 6 cme credits

Science, research, clinical applications, and therapeutic use of light and laser therapy. Las Vegas, NV

 Diagnosis & Treatment of Chronic Pain with Prolotherapy & Perineural Injection Therapy of the Lower Extremity, International Association of Regenerative Therapy & the Hackett Hemwall Patterson Foundation — Apr 9-11, 2021, 14.25 cme credits

In association with The University of Wisconsin School of Medicine and Public Health Madison, WI

Cutting Edge Solutions for Cutting Edge Physicians, American Academy of Orthopaedic Medicine (AAOM) – Dec 5-6 & 12-13, 2020, 20 cme credits.

Virtual conference series and workshops on the regulations and applications of orthopedic regenerative medicine therapies for musculoskeletal conditions.

Director: Sean Mulvaney, MD

Diagnosis & Treatment of Chronic Pain with Prolotherapy & Perineural Injection Therapy of the Lower Extremity, International Association of Regenerative Therapy & the Hackett Hemwall Patterson Foundation — Oct 23-25, 2020, 16.5 cme credits

In association with The University of Wisconsin School of Medicine and Public Health Madison, WI

I-Corps, University of California Irvine Beall Applied Innovation — Oct 2019-2021

National Science Foundation funded grant program. Market discovery program identifying product market fit.

Director: Doug Crawford The Cove, UCI, Irvine

. Wayfinder Incubator Program, University of California Irvine Beall Applied Innovation — Oct 2019-2022. Supporting innovation, entrepreneurship, and commercialization

Director: Juan Felipe Vallejo

The Cove, UCI, Irvine

Post-Graduate Intensive Course in Prolotherapy and Musculoskeletal Ultrasound, Guadalajara, Mexico: Hackett Hemwall Patterson Foundation — January 2020

In association with The University of Wisconsin School of Medicine and Public Health Madison, WI

. Musculoskeletal Ultrasound (MSKUS) Guided Injection Cadaver Course — Oct 12-14, 2018, 16 cme credits

Director: Thomas Clark

Norfolk, VA

. Advanced Peripheral Nerve Ultrasound: Diagnostic and Interventional Applications, Gulf Coast Ultrasound Institute — June 21-22, 2018, 16 cme credits

Director: Jeff Strakowski, MD

St. Petersburg, FL

 Musculoskeletal Ultrasound (MSKUS) Diagnostic and Guided Injection Training — May 17-19, 2018, 24 cme credits

Director: Thomas Clark Mazatlan, Mexico

. American Academy of Orthopaedic Medicine (AAOM) 2018, 35<sup>th</sup> Annual Conference and Scientific Seminar: The Complete Interventional Regenerative Orthopaedic Medicine Specialist

Directors: Marty Gallagher, MD and Charles Mahl, MD Clearwater, FL

. Interventional Musculoskeletal Ultrasound, Level 2: Spine and Nerves: American Academy of Orthopaedic Medicine 35<sup>th</sup> Annual Conference. 7 cme credits

Director: Brian Schiple, DO

Clearwater, FL

. Osteopathic Management of Chronic Fatigue Syndrome, Fibromyalgia, and Multiple Sclerosis: American Academy of Osteopathy – March 18-20, 2018

Director: Bruno Chikly, MD, DO

Dallas, TX

Orthobiologics Injection Course. Arthrex Agency. February 2018. Denver, CO

University of Wisconsin Comprehensive Review in Pain Medicine — August 2016, 2017, 41 credits

Director: Nalini Sehgal, MD

Madison, WI

The Strategic Crossroads of the Body: American Academy of Osteopathy — March 18-21, 2017, 32 credits

Instructors: Jean-Pierre Barral, DO and Kenneth Lossing, DO

Colorado Springs, CO

. The Anatomy, Diagnosis, and Treatment of Chronic Myofascial Pain with Prolotherapy: Hackett Hemwall Foundation — October 2010, 2012, 2014, 2015, 2016

University of Wisconsin School of Medicine and Public Health Madison. WI

. Medical Acupuncture for Physicians: Helms Medical Acupuncture — April - Sept 2016. 300 AMA PRA Category 1 Credits

Director: Joe Helms, MD

Potomac, MD

11<sup>th</sup> Annual Fundamentals of Musculoskeletal Ultrasound: iiCME – April 2016

Director: Jon Jacobson, MD

San Diego, CA

Evidence-Based Visceral Function and Dysfunction: American Academy of Osteopathy – March 12-15, 2016. 32 credits

Instructors: Kenneth Lossing, DO and Stephan Hagopian, DO

Orlando, FL

Essentials of Musculoskeletal Ultrasound: Diagnostic and Interventional Skills – January 29-31, 2016

Director: Kenneth Lee, MD

The American Association of Orthopaedic Medicine (AAOM): 32nd Annual Conference — April 2015

The 1st World Congress on Interventional Regenerative Orthopedic Medicine (IROM) New Orleans, LA

. Foam Sclerotherapy and Vein Course, Honduras: Hackett Hemwall Foundation — March 2015, 2014

In association with The University of Wisconsin School of Medicine and Public Health Madison, WI

. TEDMED — September 2014

A global community dedicated to unlocking imagination in service of health and medicine San Francisco, CA

Metabolic Endocrinology: American Academy of Anti-Aging Medicine — May 2014

Testing, diagnosing, and treating hormonal deficiencies and dysfunctions Orlando, FL

IV Symposium: American Academy of Anti-Aging Medicine — April 2014

Diagnosing and treating to provide nutritional support

Denver, CO

Post-Graduate Intensive Course in Prolotherapy, Guadalajara, Mexico: Hackett Hemwall Foundation — January 2014

In association with The University of Wisconsin School of Medicine and Public Health. Madison, WI

Transforming Patient Care: Heal Thy Practice — October 2013

Advancements in integrative medicine, medical economics, and practice management Long Beach, CA

Intensive Course in Pediatric Osteopathy: American Academy of Pediatric Osteopathy — July 2013

Advanced pediatric evaluation, diagnosis, and osteopathic treatment San Diego, CA

. Intermediate Pediatric Course: Changing Lives, Cranial Osteopathy's Gift to Children: The Cranial Academy — February 2012

Director: Margaret Sorrel, DO

San Diego, CA

Endobiogeny — December 2011

Director: Luna Leyva, MD

Eugene, OR

. American College of Osteopathic Family Physicians: Annual Conference — March 2011 San Antonio, TX

. Neural Prolotherapy & Perineural Subcutaneous Injections — May 2011

Subcutaneous therapeutic injections for peripheral neuropathic pain

Director: John Lyftogt, MD

Huntington Beach, CA

. Brain Level 2: Brain Tissue, Nuclei, Fluid & Reticular Alarm System — 2011

Advanced osteopathic diagnosis and treatment

Director: Bruno Chikly MD, DO

Phoenix, AZ

. Neural Prolotherapy & Perineural Subcutaneous Injections: Hackett Hemwall Foundation — October 2010

Subcutaneous therapeutic injections for peripheral neuropathic pain

Director: John Lyftogt, MD

Madison, WI

The Art and Science: Transformational Orthodontics — 2010

Integrating osteopathy and dentistry

Director: Darick Nordstrom, DDS

Hollister, CA

. Prolotherapy; A Comprehensive Approach: The American College of Osteopathic Sclerotherapeutic Pain Management — 2010

Prolotherapy, neural therapy, mesotherapy

San Diego, CA

Clinical Homeopathy Training Course: Beth Israel Department of Family Medicine — Nov 2009 - June 2010

Center for Education and Development of Clinical Homeopathy (CEDH) Los Angeles. CA

The Midline: Embryology, Anatomy, Organization and Function: The Cranial Academy — 2009

Director: Eliott Blackman, DO

San Francisco, CA

. The Widespread Consequences of Trauma: The Osteopathic Approach to School Age Child and Adolescents — 2008

Instructors: Viola Frymann, DO; Lee Rice, DO; Peter Springall, PhD; Claude Valenti, OD San Diego, CA

. Fluid Techniques for Interosseous and Embryological Articulations of the Thorax — 2008

Instructor: Bruno Chikly, MD, DO

Colorado Springs, CO

. Ophthalmologic Principles and Their Relationship to Osteopathy in the Cranial Field — 2008

Instructors: Paul Dart, MD and Charlie Beck, DO

Indianapolis, IN

. The Inherent Motility of the Brain and Spinal Cord: Brain Parenchyma, Nuclei and Fluid

Instructor: Bruno Chikly, MD, DO

Phoenix, AZ

. American Osteopathic Association Convention — 2008

San Diego, CA

Florida Academy of Osteopathy Conference: "OMT in Daily Practice" — 2007

Instructors: Richard VanBuskirk, DO; David Patriquin, DO; and Melicien Tettambel, DO Still Technique, Women's Health, Gas and fluid motion, back pain Orlando, FL

. Chapman's Reflexes — 2006

Instructors: Kendall Wilson, DO and Loren Rex, DO

Phoenix. AZ

Cranial Academy 40-hour Basic Cranial Course — July 2005

Instructor: Viola Frymann, DO

San Diego, CA.

. Advanced Anatomy Dissection Course — 2005

Independent study 30-hour focused anatomy shoulder dissection. Geared toward understanding shoulder OMM techniques. Final project included Powerpoint lecture and OMM laboratory palpation and practice

Glendale, AZ

Strain/Counterstrain and Exercise Prescription — 2004, 2005

Director: Philip Greenman, DO

Tucson, AZ

Basic Neurofascial Release Course — 2005

Instructor: Stephen Davidson, DO Glendale, AZ

Osteopathic Center for Children, San Diego, CA — July 2003-2004 Full-time Assistant to Viola Frymann, DO. Pediatric osteopathic practice San Diego, AZ

#### **UPCOMING**

### **Publications**

- Case series, Osteopathic treatment of coccydynia: a quality improvement project. I am the primary
  investigator and treating physician. Study conducted at the University of Wisconsin School of
  Medicine and Public Health, Department of Family Medicine and Community Health. Step-up
  treatment modalities included osteopathic manipulation, transrectal osteopathic manipulation, and
  prolotherapy regenerative injections. First author.
- 2. Multiple Modality Integrative Care for Chronic Low Back Pain: A Quality Improvement Project. I am the principal investigator and provider for a quality improvement study of patients with nonspecific chronic low back pain. Participants were provided step-up or combination therapy including osteopathic manipulative treatment, peripheral nerve injections, and dextrose prolotherapy. Patients were assessed for the following at three-month intervals: pain intensity (Numerical Rating Scale), disability (Oswestry Disability Index), and quality of life (Veterans RAND 12-item Health Survey). All data scores were calculated and analyzed by a University of Wisconsin Statistician. Results suggests all three treatment modalities are worthwhile adjuncts in the treatment of nonspecific chronic low back pain. First author.
  - I am the first physician to introduce electronic data capture and scoring in the University of Wisconsin Department of Family Medicine. Using a \$25,000 Department of Family Medicine small grant, this study introduced use of in-office tablets and at-home electronic health records communication to compile patient scores directly into their electronic health records.
- 3. Dextrose-based Prolotherapy Induces Apoptosis and Reduces the Release of Inflammatory Mediators from Macrophages. Manuscript suggests a mechanism of dextrose prolotherapy using an in-vitro model. I am a contributing author. I was the catalyst and recruiter of the team of contributing authors consisting of clinicians and scientists working together to discover the mechanism of action of dextrose prolotherapy. *Awaiting Publication*

## **Novel Ideas, Inventions, and Patents**

- Slanted Adaptor, LLC. CEO & Founder. 2015: Design and manufacture of SyringePro, an
  ergonomic syringe accessory that reduces repetitive strain injuries of the wrist and hand. The FDA
  Class I medical device supports patient and provider comfort, allowing for thinner needles to be
  used with injections while simultaneously decreasing physician hand strain and improving hand
  steadiness.
  - I led 7 UW biomedical engineering students in designing a syringe adaptor to improve leverage and comfort with repeated injections.
  - FDA registered.
  - Patents utility and design.
  - Registered trademark with the United States Patent and Trademark Office.