

# Emily Kraus, MD

Last updated: 112723

---

## I. IDENTIFYING DATA

|                     |  |
|---------------------|--|
| Name                | Emily Kraus, MD  |
| Current Position    | Clinical Assistant Professor, Stanford Department of Orthopaedic Surgery |
| Current Affiliation | Stanford University  |

## II. EDUCATION HISTORY

### Colleges and Universities Attended

|      |   |
|------|---|
| 2008 | B.S., Nutrition Science, Pre-Med, University of Nebraska, Lincoln, NE |
| 2012 | M.D., University of Nebraska Medical Center, Omaha, NE                |

### Residency and Fellowship Training

|             |   |
|-------------|---|
| 2013 – 2014 | <b>Intern resident</b> in Internal Medicine, University of Nebraska Medical Center, Omaha, NE |
| 2014 – 2017 | <b>Resident</b> in Physical Medicine & Rehabilitation, Stanford University, Stanford, CA      |
| 2017 – 2018 | <b>Fellow</b> in Primary Care Sports Medicine, Stanford University, Stanford, CA              |

### Board Certification

|      |  |
|------|--|
| 2017 | American Board of Physical Medicine & Rehab, Physical Medicine & Rehab |
| 2017 | American Board of Physical Medicine & Rehab, Sports Medicine           |

## III. EMPLOYMENT

### Academic Appointments:

|                    |  |
|--------------------|--|
| 9/1/2017 – present | Clinical Assistant Professor<br>Stanford Department of Orthopaedic Surgery, Stanford, CA |
|--------------------|--|

### Other Appointments:

|                  |   |
|------------------|---|
| 2/2022-5/1/25    | <b>Faculty:</b> Adjunct Membership on Graduate Faculty, University of Toledo  |
| 3/2021 – present | <b>Director</b> , Stanford Female Athlete Science and Translational Research (FASTR) Program, Stanford University, Stanford, CA |
| 2/2020 – present | <b>Physician Lead</b> for Adaptive Sports Medicine Program, VA Palo Alto Health Care System, Palo Alto, CA                      |
| 8/2019 – present | <b>Medical Director</b> , Motion Analysis and Sports Performance, Stanford Children's Orthopedics and Sports Medicine Center    |

# Emily Kraus, MD

Last updated: 112723

---

## IV. HONORS AND AWARDS

|      |  |
|------|--|
| 2017 | Female Athlete Triad Coalition Travel Award  |
| 2016 | Stanford Society of Physician Scholars Award   |
| 2015 | Best MSK Poster Presentation: American Academy of Physical Medicine and Rehabilitation |
| 2015 | Stanford PM&R Chief Resident   |
| 2014 | Team Player Award: Stanford Dept of PM&R   |

## V. TEACHING AND CLINICAL CARE

### Teaching Experience

|                |   |
|----------------|---|
| 2020 – 2021    | Stanford Healthy Living Webinar: “Exercise-Related Injuries - Recovery and Prevention,” (lectured on topic twice)                                     |
| 2021           | Stanford-CSI Clinical Summer Internship Lecture: “Pediatric Sports Medicine: Overuse Injuries & Sports Specialization” (lectured on topic twice)      |
| 2017 – Present | ORTHO 97Q: Exploring Sports Medicine. Invited Lecturer: “Female Athlete Triad/RED-S” (lectured on topic 2-3x/year)                                    |
| 2017 – Present | Stanford PM&R Didactics: Faculty Lecturer on Sports Medicine Topics (lecture 3-4x per/year)   |
| 2019           | Stanford PM&R Sports Fellowship Bootcamp: “Eating Disorders”  |
| 2018           | ORTHO 97Q: Exploring Sports Medicine. Invited Lecturer: “Biomechanical Analysis in Sport”   |
| 2015 – 2017    | ORTHO 110/210 - Practical Sports Medicine and Orthopaedic Exam: Clinical Instructor (Sept 2016 – June 2017); Teaching Assistant (Sept 2013- Dec 2015) |
| 2017           | Orthopaedic Surgery Ultrasound Workshop: Teaching Assistant   |
| 2013 – 2016    | Stanford Arbor Free Musculoskeletal Clinic: Resident Clinic Director  |
| 2016           | HHD 223 Musculoskeletal Clinical Correlations Lab: Small Group Facilitator  |
| 2016           | PM&R Cadaver Lab Workshop: Resident Coordinator   |
| 2015           | PM&R Ultrasound Lectures: Resident Lecturer   |

### Clinical Teaching Responsibilities

|                |   |
|----------------|---|
| 2018 – present | Adaptive Sports Medicine Clinic Attending to Fellows. 1 day/wk, Palo Alto VA  |
| 2017 – present | Sports Medicine Clinic Attending for Fellows, Residents, Medical Students: 1-2 days/wk, Stanford Children’s Orthopaedics and Sports Medicine Center |

### Students/Trainees/Mentorship

# Emily Kraus, MD

Last updated: 112723

---

|      |  |
|------|--|
| 2021 | Med Scholar: Blynn Shidelar, Pediatric Rehabilitation Technologies Program   |
| 2020 | PM&R Mentorship Program: David Bakal, Analysis of Limb Kinetic Asymmetry During a Drop Vertical Jump in Adolescents Post-ACL Reconstruction  |
| 2020 | Research Assistant: Shayna Mehta, A Descriptive Analysis of Adolescent Tarsal Navicular Bone Stress Injuries   |
| 2019 | Summer Ortho Research Intern: Kira Skaggs, Identifying Triad Risk Factors In Ultramarathon Runners   |
| 2019 | PM&R Mentorship Program: Emily Miller, Genetic Predictions Of Bone Mineral Density In Ultramarathon Runners: For Men, But Not For Women  |
| 2018 | Med Scholar: Torsten Rotto, Neck Strengthening in High School Football Players as an Effort to Modify Concussion Risk: A Model for the Effectiveness of a Summer Training Intervention for Increasing Neck Circumference and Strength. |
| 2018 | Med Scholar: Daniel Mayor, Assessing Parental Attitudes and Beliefs About Concussion Education in Pediatric Patients: What Should the Provider's Role Be?  |
| 2017 | Summer Ortho Research Intern: Paige Skorseth, A Pilot Study of Female Athlete Triad and Iron Deficiency Prevalence and Association in High School Athletes   |

## VI. PUBLIC AND PROFESSIONAL SERVICE

### Community Service Related to Professional Work

|                  |  |
|------------------|--|
| 1/2022 – present | Chair, PRISM RIG Committee   |
| 1/2022- present  | PRISM Awards Committee Member  |
| 12/2021- present | USOPC Women's Health Working Group Committee Member  |
| 2/2021 – present | PRISM Research Committee Member  |
| 9/2020 – present | Women in Sports Tech (WiST) Advisory Board   |
| 6/2020 – present | Positive Coaching Alliance: San Francisco Bay Area Chapter Board Member  |
| 7/2020 – present | Voice In Sport: VIS Expert™  |
| 9/2019 – present | Sideline Team Physician for Stanford Young Athletes Academy High Schools   |
| 8/2013 – present | RunSafe, Stanford Human Performance Lab: Running Medicine Expert   |
| 9/2013 – 7/2017  | Bridge Athletic: Sports Editor. San Francisco, CA.   |
| 7/2016 – 7/2017  | Notre Dame de Namur: Team Physician  |
| 11/2013 – 7/2016 | Healthy Runner Project: Research Coordinator, Stanford University  |
| 12/2010 –5/2012  | American Orthopaedic Association Own the Bone Program: Research Intern. University of Nebraska Medical Center, Department of Orthopaedic Surgery |

### Professional Societies

# Emily Kraus, MD

Last updated: 112723

---

|              |  |
|--------------|--|
| 2021-Current | AMSSM representative to the ASBMR Secondary Fracture Prevention Initiative Coalition     |
| 2020-Current | Chair, Bone Stress Injury Research Interest Group, Pediatric Research in Sports Medicine |
| 2018-Current | Nominating committee, Pediatric Research in Sports Medicine                              |
| 2017-Current | Member, American Academy of Physical Medicine and Rehabilitation                         |
| 2017-Current | Member, Association of Academic Physiatrists   |
| 2017-Current | Member, American College of Sports Medicine  |
| 2017-Current | Member, American Medical Society of Sports Medicine                                      |
| 2017-Current | Member, Female Athlete Triad Coalition   |
| 2017-Current | Member, Pediatric Research in Sports Medicine  |

## VII. BIBLIOGRAPHY

### Peer-reviewed original research

1. Joachim MR, Kuik ML, Krabak BJ, **Kraus EM**, Rauh MJ, Heiderscheit BC. Risk Factors for Running-Related Injury in High School and Collegiate Cross Country Runners: A Systematic Review. *J Orthop Sports Phys Ther.* 2023 Nov 16:1-36. doi: 10.2519/jospt.2023.11550. Epub ahead of print. PMID: 37970801.
2. Roche, Megan MD; Nattiv, Aurelia MD; Sainani, Kristin PhD; Barrack, Michelle PhD, RD, CSSD, FACSM; **Kraus, Emily MD**; Tenforde, Adam MD, FACSM; Kussman, Andrea MD; Olson, Emily Miller MD; Kim, Brian MD, MPH; Fahy, Katherine MD; Miller, Emily MD; Diamond, Elyse BS; Meraz, Sonya BS; Singh, Sonal BS; Nattiv, Aurelia MD; Fredericson, Michael MD, FACSM. Higher Triad Risk Scores Are Associated With Increased Risk for Trabecular-Rich Bone Stress Injuries in Female Runners. *Clinical Journal of Sport Medicine.* September 1, 2023. | DOI: 10.1097/JSM.0000000000001180
3. Mehta S, Zheng E, Heyworth BE, Rizzone K, Halstead M, Brown N, Stinson Z, Nussbaum ED, Gray A, Segovia N, **Kraus E**. Tarsal Navicular Bone Stress Injuries: A Multicenter Case Series Investigating Clinical Presentation, Diagnostic Approach, Treatment, and Return to Sport in Adolescent Athletes. *The American Journal of Sports Medicine.* 2023;0(0). doi:10.1177/03635465231170399
4. Fredericson M, Roche M, Barrack MT, Tenforde A, Sainani K, **Kraus E**, Kussman A, Miller Olson E, Kim BY, Fahy K, Miller E, Diamond E, Meraz S, Singh S, Nattiv A. Healthy Runner Project: a 7-year, multisite nutrition education intervention to reduce bone stress injury incidence in collegiate distance runners. *BMJ Open Sport Exerc Med.* 2023 May 8;9(2):e001545. doi: 10.1136/bmjsem-2023-001545. PMID: 37180969; PMCID: PMC10174024.
5. Olson, Emily Miller MD; Miro, Emily MD, MPH; Roche, Megan MD, PhD; Mehta, Shayna BA; Sainani, Kristin PhD; **Kraus, Emily MD**. Mental Health Matters: A Cross-Sectional Survey on Depression and Anxiety Symptoms and the Female and Male Athlete Triad. *Clinical Journal of Sport Medicine.* May 26, 2023. | DOI: 10.1097/JSM.0000000000001150
6. Micah C. Garcia, Bryan C. Heiderscheit, **Emily A. Kraus**, Grant E. Norte, Amanda M. Murray & David M. Bazett-Jones (2023) Preferred temporal-spatial parameters, physical maturation, and sex are related to vertical and braking forces in adolescent long-distance runners, *Sports Biomechanics*, DOI: [10.1080/14763141.2023.2218325](https://doi.org/10.1080/14763141.2023.2218325)
7. Glover J, Walker M, Kaur J, Roche M, McIntyre A, **Kraus E**. Female representation in orthopaedic surgery and Primary Care Sports Medicine subspecialties: Where we were,

- where we are, and where we are going. *Journal of Women's Sports Medicine*. 2022; 2(2):127-135. doi:10.53646/jwsm.v2i2.30
8. Garcia MC, Heiderscheit BC, Murray AM, Norte GE, **Kraus E**, Bazett-Jones DM. One size does not fit all: Influence of sex and maturation on temporal-spatial parameters for adolescent long-distance runners. *J Sports Sci*. 2022 Nov 9:1-6. doi: 10.1080/02640414.2022.2142743. Epub ahead of print. PMID: 36352559.
  9. Rizzone K, Walker M, Brown N, Kaur J, Magrini D, Glover J, **Kraus E**. Stress Injuries of the Knee. *Clin Sports Med*. 2022;41(4):707-727. doi:10.1016/j.csm.2022.05.008
  10. Bakal DR, Morgan JJ, Lyons SM, Chan SK, **Kraus EA**, Shea KG. Analysis of limb kinetic asymmetry during a drop vertical jump in adolescents post anterior cruciate ligament reconstruction [published online ahead of print, 2022 Oct 8]. *Clin Biomech (Bristol, Avon)*. 2022;100:105794. doi:10.1016/j.clinbiomech.2022.105794
  11. Wilzman A, Tenforde A, Troy K, Hunt K, Fogel N, Roche M, **Kraus E**, Delp S, Fredericson M. Medical and Biomechanical Risk Factors for Incident Bone Stress Injury in Collegiate Runners: Can Plantar Pressure Predict Injury?. *Orthop J Sports Med*. 2022;10(6):23259671221104793. Published 2022 Jun 15. doi:10.1177/23259671221104793
  12. Jasty, N., Dyrek, P., Kaur, J., Kathryn E. Ackerman, **Kraus, E.** and Heyworth, B. Evidence-Based Treatment and Outcomes of Tibial Bone Stress Injuries. *JPOSNA*. 3, 4 2021 October 29.
  13. Kuwabara, A., Dyrek, P., Olson, E.M., & **Kraus, E.** Evidence-Based Management of Medial Tibial Stress Syndrome in Runners. *Current Physical Medicine and Rehabilitation Reports*, 1 - 9. 2021 September 30. doi: <https://doi.org/10.1007/s40141-021-00326-3>
  14. Høeg T, Olson E, Skaggs K, Sainani K, Fredericson M, Roche M, **Kraus E**. Prevalence of Female and Male Athlete Triad Risk Factors in Ultramarathon Runners. *Clinical Journal of Sport Medicine*. 2021 July 5. doi: 10.1097/JSM.0000000000000956
  15. Nattiv A, De Souza MJ, Koltun K, Misra M, Kussman A, Williams N, Barrack M, **Kraus E**, Joy E, Fredericson M. The Male Athlete Triad—A Consensus Statement From the Female and Male Athlete Triad Coalition Part 1: Definition and Scientific Basis. *Clinical Journal of Sport Medicine* 31, no.4 (July 2021): 335-348. doi: 10.1097/JSM.0000000000000946
  16. Fredericson M, Kussman A, Misra M, Barrack M, De Souza MJ, **Kraus E**, Koltun K, Williams N, Joy E, Nattiv A. The Male Athlete Triad—A Consensus Statement From the Female and Male Athlete Triad Coalition Part II: Diagnosis, Treatment, and Return-To-Play. *Clinical Journal of Sport Medicine* 31, no.4 (July 2021): 349-366. doi: 10.1097/JSM.0000000000000948
  17. Kuwabara A, **Kraus E**, Fredericson M. Narrative Review - Knee Pain in the Pediatric Athlete. *Curr Rev Musculoskelet Med*. 2021 Apr 5. doi: 10.1007/s12178-021-09708-5. Epub ahead of print. PMID: 33818701.
  18. Barrack M, Fredericson M, Dizon F, Tenforde A, Kim B, **Kraus E**, Kussman A, Singh S, Nattiv A. Dietary Supplement Use According to Sex and Triad Risk Factors in Collegiate Endurance Runners. *J Strength Cond Res*. 2021 Feb 1;35(2):404-410. doi: 10.1519/JSC.0000000000003848. PMID: 33278271.
  19. Krabak BJ, Roberts WO, Tenforde AS, Ackerman KE, Adami PE, Baggish AL, Barrack M, Cianca J, Davis I, D'Hemecourt P, Fredericson M, Goldman JT, Harrast MA, Heiderscheit BC, Hollander K, **Kraus E**, Luke A, Miller E, Moyer M, Rauh MJ, Toresdahl BG, Wasfy MM. Youth running consensus statement: minimising risk of injury and illness in youth runners. *Br J Sports Med*. 2020 Oct 29;bjsports-2020-102518. doi: 10.1136/bjsports-2020-102518. Epub ahead of print. PMID: 33122252.
  20. Skorseth P, Segovia N, Hastings K, Dingel A, **Kraus E**. IDENTIFICATION OF FEMALE ATHLETE TRIAD RISK FACTORS IN HIGH SCHOOL DISTANCE RUNNERS AND

- PREVALENCE OF IRON SUPPLEMENTATION: A PILOT STUDY. *Orthopaedic Journal of Sports Medicine*. April 2020. doi:[10.1177/2325967120S00280](https://doi.org/10.1177/2325967120S00280)
21. Diaz, Robert, Emily K. Miller, **Emily Kraus**, and Michael Fredericson. "Impact of Adaptive Sports Participation on Quality of Life." *Sports Medicine and Arthroscopy Review* 27, no. 2 (June 2019): 73–82. <https://doi.org/10.1097/JSA.0000000000000242>
  22. **Kraus, Emily**, Adam S. Tenforde, Aurelia Nattiv, Kristin L. Sainani, Andrea Kussman, Megan Deakins-Roche, Sonal Singh, Brian Young Kim, Michelle T. Barrack, and Michael Fredericson. "Bone Stress Injuries in Male Distance Runners: Higher Modified Female Athlete Triad Cumulative Risk Assessment Scores Predict Increased Rates of Injury." *British Journal of Sports Medicine* 53, no. 4 (February 2019): 237–42. <https://doi.org/10.1136/bjsports-2018-099861>
  23. Orendurff, Michael S., Toshiki Kobayashi, Kirsten Tulchin-Francis, Ann Marie Herring Tullock, Chris Villarosa, Charles Chan, **Emily Kraus**, and Siobhan Strike. "Corrigendum to 'A Little Bit Faster: Lower Extremity Joint Kinematics and Kinetics as Recreational Runners Achieve Faster Speeds' [J. Biomech. 71 (2018) 167–175]." *Journal of Biomechanics* 82 (January 2019): 404. <https://doi.org/10.1016/j.jbiomech.2018.10.034>.
  24. Fukushima Y, Ray J, **Kraus E**, Syrop IP, Fredericson M. 2018. A Review and Proposed Rationale for the use of Ultrasonography as a Diagnostic Modality in the Identification of Bone Stress Injuries. *J Ultrasound Med*, 37: 2297-2307. doi:10.1002/jum.14588.
  25. **Kraus E**, Bachrach L, Grover M. 2018. Team Approach: Bone Health in Children and Adolescents. *JBJS Reviews*. Accepted for publication. doi:10.2106/JBJS.RVW.17.00205
  26. McQuillan T, Wilcox Fogel N, **Kraus E**, Ladd A, Fredericson M. 2017. Integrating Musculoskeletal Education and Patient Care at Medical Student-Run Free Clinics. *PM & R* 9 (11): 1117-1121.
  27. Tenforde A S, **Kraus E**, Fredericson M. 2016. Bone Stress Injuries in Runners. *Physical medicine and rehabilitation clinics of North America* 27 (1): 139-149.
  28. **Kraus EA**, Beaulieu C, Ratliff J, Tenforde A, Fredericson M Piriformis Syndrome with Variant Sciatic Nerve Anatomy. *PMR*. 2015 Sep 14.
  29. **Kraus EA**, Kim JM, Hargens AR. Gravitational Changes in Hand -Wrist Volume are Smaller in Older Adults as Compared to Younger Adults. *Journal of Cardiology and Vascular Medicine*. 1: 1-6, 2013.
  30. Neuschwander TB, Macias BR, Zhang Q, **Kraus EA**, and Hargens AR. Photoplethysmography Measurement of Muscle Microvascular Flow Accurately Reflects Large Artery Inflow. *Orthopaedic Research Society*, 2007.
  31. Kline CN, Macias BR, **Kraus E**, Neuschwander TB, Angle N, Bergan J, Hargens AR. Inelastic Compression Legging Produces Gradient Compression and Significantly Higher Skin Surface Pressures as Compared to an Elastic Compression Stocking. The manuscript was selected to be presented at the American Venous Forum in February of 2007 and published in *Vascular Journal*, Jan-Feb 2008.

## Peer-reviewed publications (submitted)

1.

## Non-Peer-reviewed Articles

1. Zimmerman, E. Outside Magazine Interview: A New Program Aims to Close the Gender Gap in Sports Science Research. March 3, 2022. Available at: <https://www.outsideonline.com/health/training-performance/stanford-fastr-female-athlete-research/>

2. Strout, E. Women's Running Interview: FASTR Seeks to Close the Research Gap for Female Athletes, Leading to Longer, Healthier Careers. February 28, 2022. Available at: <https://www.womensrunning.com/health/fastr-to-close-the-research-gap-for-female-athletes/>
3. Benton, E. Women's Running Interview: Research on Female Endurance Athletes is Thin- This New Study Hopes to Change That. July 12, 2021. Available at: <https://www.womensrunning.com/health/bone-health-in-female-ultrarunners/>
4. Guzman, A; **Kraus, E.** Expert Advice: Optimizing Your Bone Health is a Lifelong Investment. November 22, 2020. Available at: <https://shepowersport.com/bone-health/>
5. **Rines, D.** Reebok Interview: Are you Ready for an Ultramarathon? May 2020. Available at <https://www.reebok.com/us/blog/495062-are-you-ready-for-an-ultramarathon>
6. **Kraus E.** BJSM Blog: A battle cry for change in the female running world: physicians are listening. November 2020. Available at: <https://blogs.bmj.com/bjbm/2019/11/25/a-battle-cry-for-change-in-the-female-running-world-physicians-are-listening/>
7. **Kraus E.** Preventing & Managing Ankle Sprains. In: Bridge Athletic Sports Science Blog. Apr 8, 2017. Available at: <https://blog.bridgeathletic.com/preventing-ankle-sprains>.
8. **Kraus E.** Vitamin D: A Key Player in Bone Health, Sports Performance, & Recovery. In: Bridge Athletic Sports Science Blog. Feb 13, 2017. Available at: <https://blog.bridgeathletic.com/vitamin-d-a-key-player-in-bone-health-sports-performance-recovery>.
9. **Kraus E.** Serve Up a Winning Season through ACL Injury Prevention. In: Bridge Athletic Sports Science Blog. Dec 20, 2016. Available at: <https://blog.bridgeathletic.com/acl-injury-prevention>.
10. **Kraus E.** Beat the Heat: Cooling Methods and Exertional Heat-Related Illness. In: Bridge Athletic Sports Science Blog. Aug 29, 2016. Available at: <http://blog.bridgeathletic.com/beat-the-heat-cooling-methods-and-ehri>.
11. **Kraus E.** How to Beat the Heat in Training and Competition: Part 2 - Hydration. In: Bridge Athletic Sports Science Blog. Aug 8, 2016. Available at: <http://blog.bridgeathletic.com/how-to-beat-the-heat-hydration>.
12. **Kraus E.** How to Beat the Heat in Training and Competition: Part 1 – Acclimatization. In: Bridge Athletic Sports Science Blog. Jul 14, 2016. Available at: <http://blog.bridgeathletic.com/heat-acclimatization>.
13. **Kraus E, Fredericson MF.** Sacral Stress Fractures. In: AthleteBiz Village Blog. Jul 1, 2016. Available at: <https://www.athletebiz.us/blog/sacral-stress-fractures/>.
14. **Kraus E.** Preventing & Treating Exercise Associated Muscle Cramps (EAMC). In: Bridge Athletic Sports Science Blog. May 12, 2016. Available at: <http://blog.bridgeathletic.com/preventing-treating-exercise-associated-muscle-cramps>.
15. **Kraus E.** Swimmer's Shoulder-Prevention and Training Strategies. In: Bridge Athletic Sports Science Blog. Jan 16, 2015. Available at: <http://blog.bridgeathletic.com/shoulder-series-part-i-swimmers-shoulder-prevention-and-training-strategies>.
16. **Kraus E.** How to Avoid Athlete Burnout & Overtraining Syndrome. In: Bridge Athletic Sports Science Blog. Jan 7, 2015. Available at: <http://blog.bridgeathletic.com/how-to-avoid-athlete-burnout-and-overtraining-syndrome-bridgeathletic>.
17. **Kraus E.** Jump Start Your Workout with the Dynamic Warm-Up. Dec 10, 2014. Available at: <http://blog.bridgeathletic.com/jump-start-your-workout-with-the-dynamic-warm-up>.
18. **Kraus, E.** Fullem B. Abbey D's "Unhappy Triad" In: AthleteBiz Village Blog. August 18, 2016. Available at: <https://www.athletebiz.us/blog/abbey-ds-unhappy-triad/>.

19. Chaparro L. B Si quieres no adelgazar y comprometer tu físico, este es tu deporte. In: El Espanol Blog. Sept 26, 2016. Available at: [http://www.lespanol.com/ciencia/salud/20160923/157734668\\_0.html](http://www.lespanol.com/ciencia/salud/20160923/157734668_0.html).
20. Roche D. Does Compression Gear Actually Work? In: Trail Runner Magazine Blog. July 1, 2016. Available at: <http://trailrunnermag.com/training/trail-tips/2190-is-compression-gear-worth-it-for-runners>

## Book Chapters

1. Miller Olson EK, **Kraus E**, Fredericson M. (2021) Stress Fractures in Sport: Pelvis and Acetabulum. In: Robertson G.A.J., Maffuli N. (eds) Fractures in Sport. Springer, Cham. doi: 10.1007/978-3-030-72036-0\_29.
2. Roche M, Fredericson M, **Kraus E**. "Ankle Injuries." Clinical Care of the Runner. Editor: Mark Harrast. Publisher: Elsevier, 2020. 1
3. Roche M, Kraus, E. Fredericson M, **Kraus E**. "Bone Stress Injuries" (co-author of chapter) in Clinical Care of the Runner. Editor: Mark Harrast. Publisher: Elsevier 2020. 1
4. Roche M, Miller E, **Kraus E**. "Management of Bone Stress Injuries in Female Athletes" (corresponding author) in Bone Stress Injuries in Athletes: Diagnosis, Treatment, and Prevention Editors: Dr. Adam Tenforde and Dr. Michael Fredericson. Publisher: Nova Science Publishers, Inc.
5. **Kraus E**, Fredericson M. (2017). Prevention of Bone Stress Injuries. In: Krabak BJ, Lipman GS, Waite BL, editors, The Long Distance Runner's Guide To Injury Prevention and Treatment. New York City: Skyhorse Publishing.
6. Tenforde A, **Kraus E**, Fredericson M. (2015). Bone. E Casey, M Rho, & J Press (Editors), Sex Differences in Sports Medicine. New York City: Demos Publishing.
7. Miller, E., **Kraus, E.**, Fredericson, M. "Stress Fractures in Sport: Pelvis and Acetabulum" in Fractures in Sport. Editors: Greg Robertson and Nicola Maffulli. Publisher: Springer Nature.

## Abstracts and Presentations

1. Ackerman K, **Kraus E**, Reece L, Rowan M, Wilson K, Stellingwerff T. The Benefits of an Interdisciplinary Team in Treating Female Athletes. Presentation at 2023 Female Athlete Conference.
2. Ackerman K, **Kraus E**. How the Wu Tsai Human Performance Alliance is Advancing Female Athlete Health and Performance. Presentation at 2023 Female Athlete Conference.
3. **Kraus E**, McCleery J. Developing a Sports Science Research Agenda and Translational Practice Informed by USOPC-Affiliated Female Athletes. Presentation at 2023 Female Athlete Conference.
4. **Kraus E**, McIntyre A. How Can We Better Engage Female Athletes? A Novel Approach to Health and Performance Education. Presentation at 2023 Female Athlete Conference.
5. **Kraus, E**. The Female Runner: Implications for Prevention and Treatment. Presentation at 2023 American College of Sports Medicine Annual Meeting.
6. McIntyre A, Roche M, Oliver C, Boyd T, **Kraus E**. A Novel Approach to Female Athlete Sport Science Education. Poster Presentation at 2023 American College of Sports Medicine Annual Meeting.



## Emily Kraus, MD

Last updated: 112723

---

7. Diamond E, McCleery J, Kelly R, Li J, Adams W, Ackerman K, **Kraus E**. The Menstrual Cycle; A Priority Research Area For Team Usa Female Athletes. Poster Presentation at 2023 American College of Sports Medicine Annual Meeting.
8. Garcia M, Heiderscheit E, **Kraus E**, Murray A, Norte G, Bazett-Jones D. Biomechanical and Perceived Effort Responses of Adolescent Runners to Cadence Manipulation in a Natural Environment. Presentation at 2023 American College of Sports Medicine Annual Meeting.
9. McCleery J, **Kraus E**, Kelly R, Diamond E, Li L, Adams W, Ackerman K. Team Dynamics and Interpersonal Relationships: An Area of Research Priority for Elite Female Athletes. Poster Presentation at 2023 American College of Sports Medicine Annual Meeting.
10. Barrack M, Fredericson M, Sainani K, **Kraus E**, Roche M, Diamond E, Lewis T, McIntyre A, Nattiv A. Perception Of Thinness Promoting Faster Running Is Associated with Lower Energy Availability in Collegiate Runners. Poster Presentation at 2023 American College of Sports Medicine Annual Meeting.
11. Kraus E. Managing Low-Grade Bone Stress Injuries In-Season. Presentation at 2023 Pac-12 Student Athlete Health Conference.
12. Kraus E. Developing a sports research agenda & translational practice informed by team USA female athletes. Presentation at 2023 AMSSM Annual Meeting.
13. Kraus E. Nutritional Considerations in the Runner. Presentation at 2022 Mountain Land Running Summit.
14. Kraus E. Chasing Down the Lifelong Runner. Presentation at 2022 Mountain Land Running Summit.
15. Kraus E. Bone Health in the Runner. Presentation at 2022 Mountain Land Running Summit.
16. Kraus E. Relative Energy Deficiency in Sport: Screening Methods, Interventions, and Return to Sport Recommendations. Presentation at 2022 USOPC-NGB Medical Meeting.
17. Roche M, Sainani K, Walker M, Kelly R, Fredericson M, **Kraus E**. Evaluating Genetic Predictors Of Bone Health In Ultramarathon Runners: Are Females Overriding Their Genetic Predisposition? Poster Presentation at ACSM 2022 Annual Meeting.
18. Burke L, Elliot-Sale K, Stellingwerff T, **Kraus E**, Ackerman K. Wu Tsai Human Performance Alliance– Addressing the Sex and Gender Gaps in Sports Performance Research. Disseminating Female Specific Sports Medicine and Sports Science Research to the Masses- Real News. Panel Presentation at ACSM 2022 Annual Meeting.
19. Ackerman K, Reece L, Farnsworth N, Keating M, **Kraus E**. Building an Interdisciplinary Female Athlete Program. Panel Presentation at ACSM 2022 Annual Meeting.
20. Mehta S, Zheng E, Heyworth B, Segovia N, Rizzone K, Halstead M, Bohon T, Brown N, Stinson Z, Nussbaum E, Gray A, Kraus E. A Descriptive Analysis of Adolescent Tarsal Navicular Bone Stress Injuries. Podium Presentation at AOSSM 2022 Annual Meeting.
21. Wolfenden E, Olson E, Mehta S, Sainani K, Roche M, **Kraus E**. The Association Between The Female Athlete Triad And Self-Reported Depression And Anxiety In Athletes. Poster Presentation at AMSSM 2022 Annual Meeting.
22. Walker, M., Roche, M., Sainani, K., Kelly, R., Fredericson, M., McIntyre, A., **Kraus, E**. Prevalence Of Triad Risk Factors In Female Ultramarathon Runners Over Three Years. Podium Presentation at AMSSM 2022 Annual Meeting.

23. Mehta S, Zheng E, Heyworth B, Segovia N, Rizzone K, Halstead M, Bohon T, Brown N, Stinson Z, Nussbaum E, Gray A, Kraus E. A Descriptive Analysis of Adolescent Tarsal Navicular Bone Stress Injuries. Poster Presentation at AAOS 2022 Annual Meeting.
24. Kasitinon D, Miller E, **Kraus E**, Fredericson E. Interdisciplinary Adaptive Sports Programs - Creating Athletes And Promoting Exercise For All. Instructional Course Lecture Presented at AMSSM 2021 Virtual Annual Meeting.
25. **Kraus E**, Shayna M, Rizzone K, Halstead M, Stinson Z, et al. (2021, April) A Descriptive Analysis of Adolescent Tarsal Navicular Bone Stress Injuries. Podium Presentation at AMSSM 2021 Virtual Annual Meeting.
26. Nussbaum E, **Kraus E**, Tenforde A, Greenberg E Management Considerations for Tibial Bone Stress Injury. Virtual PRISM January 2021
27. Morgan, J. J., Lyons, S. M., Chan, S. K., Chan, C. M., Shea, K. G., **Kraus, E. A.** Relationship Between Dynamic Limb Symmetry And Subjective Limb Confidence Post ACL Reconstruction In Youth Athletes LIPPINCOTT WILLIAMS & WILKINS. 2020: 2–3. Presentation at Virtual ACSM 2020.
28. Skaggs, K. F., Fredericson, M., Miller, E. K., Roche, M., Hoeg, T. B., Sainani, K., **Kraus, E.** Identifying Triad Risk Factors In Ultramarathon Runners. LIPPINCOTT WILLIAMS & WILKINS. 2020: 68. Poster at Virtual ACSM 2020.
29. Agans, D., Barrack, M., Fredericson, M., Kraus, E., Kussman, A., Gravani, K., Miller, B., Papanos, L., Roche, M., Hernandez, C., Grohmann, E., Brotman, C., Nattiv, A. Food Accessibility And Eating Patterns In Elite Collegiate Endurance Runners LIPPINCOTT WILLIAMS & WILKINS. 2020: 757. Poster at Virtual ACSM 2020.
30. Hernandez, C., Fredericson, M., Nattiv, A., **Kraus, E.**, Kussman, A., Gravani, K., Miller, B., Papanos, L., Roche, M., Agans, D., Grohmann, E., Brotman, C., Barrack, M. Dietary Intake Patterns And Risk Of Energy Deficiency In Ncaa Endurance Athletes. LIPPINCOTT WILLIAMS & WILKINS. 2020: 753. Poster at Virtual ACSM 2020.
31. Hoeg, T. B., Fredericson, M., Sainani, K. L., Skaggs, K. F., Roche, M. D., Miller, E., **Kraus, E.** Predictors And Prevalence Of Low Bone Mineral Density And Bone Stress Injuries In Ultramarathon Runners. LIPPINCOTT WILLIAMS & WILKINS. 2020: 492. Virtual Presentation at ACSM 2020.
32. Miller, E. K., Fredericson, M., Roche, M., Skaggs, K., Hoeg, T., Sainani, K., **Kraus, E.** Genetic Predictions Of Bone Mineral Density In Ultramarathon Runners: For Men, But Not For Women. LIPPINCOTT WILLIAMS & WILKINS. 2020: 783–84. Poster at Virtual ACSM 2020.
33. Giacomazzi, Roche, Long, Kent, Whalen, Fredericson. **Kraus, E.** (2020, November) Differences in Bone Characteristics Between Collegiate Distance Runners and Normal Age-Matched Controls Using High Resolution Peripheral Quantative Computed Tomography. Research Hub-Live Theater Research Spotlight: Musculoskeletal and Sports Medicine Session. 2020 AAPM&R Scientific Sessions.
34. **Kraus, E.**, Skorseth, Segovia, Hastings, Dingel. (2020, January) Identification of Female Athlete Triad Risk Factors in high School Distance Runners and Prevalence of Iron Supplementation: A Pilot Study. Poster presentation at the 7th annual meeting of PRISM, Glendale, AZ.
35. Rotto, Torsten, Fredericson, MF. **Kraus, E.** (2020, January) A Neck Strength Training Protocol in High School Football Players for Concussion Risk Reduction. Poster presentation at the 7th annual meeting of PRISM, Glendale, AZ.
36. **Kraus E**, Miller E, Hoeg, Sainani K, Skaggs, Deakins-Roche M, Fredericson M. Genetic And Environmental Predictors Of Low Bone Mineral Density And Bone Stress Injury In Ultramarathon Runners. Virtual Podium presentation at 2020 AMSSM Conference.

## Emily Kraus, MD

Last updated: 112723

---

- [https://www.youtube.com/watch?v=G191LjJldsw&t=106s&ab\\_channel=EmilyKraus](https://www.youtube.com/watch?v=G191LjJldsw&t=106s&ab_channel=EmilyKraus)
37. Lee, Michelle H., M.D., Lyons, Samuel M., M.S., Morgan, Jeff J., M.S., Chan, Salinda K., D.P.T. Kraus E. Altered Tibial Angle and Loading Mechanics in Adolescent Runners with History of Lower Leg Bone Stress Injury. Podium presentation at Virtual AMSSM Conference 2020.
  38. Lyons, S. M., Morgan, J.J., Orendurff, M., Chan, S.K., Munoz G. & **Kraus, E.** (2020) Preliminary evidence of the influence of age on gait variability in adolescent endurance runners. Oral presentation at Motion Analysis Research Center Symposium, Samuel Merritt University, Oakland CA
  39. Mehta S. **Kraus E.** Adolescent Tarsal Navicular Bone Stress Injury Case Review. Poster presentation at Annual Stanford MCHRI Research Symposium. Nov 2020. Stanford, CA. [https://www.youtube.com/watch?v=wQ6KjPu5DGE&t=9s&ab\\_channel=EmilyKraus](https://www.youtube.com/watch?v=wQ6KjPu5DGE&t=9s&ab_channel=EmilyKraus)
  40. **Emily Kraus, MD**; Aurelia Nattiv, MD; Megan Deakins-Roche, MD; Kristin Sainani, PhD; Andrea Kussman, MD; Adam Tenforde, MD; Michelle Barrack, PhD, RD; Sonal Singh, BS; Emily Miller, MD; Kate Fahy, MD; Sonya Meraz, BS; Brian Kim, MD; Michael Fredericson, MD. Low Total T3 Associated With Lower Lumbar Spine BMD And Low Energy Availability In Male And Female Collegiate Distance Runner – Virtual podium presentation at AMSSM 2020
  41. Fahy K, Fredericson M, Sainani K, Kussman, Miller, Barrack, **Kraus E.** Tenforde, Kim, Deakins-Roche, Singh, Meraz, Nattiv. The Association of Android: Gynoid Fat Mass Ratio with BMD and BSI in Collegiate Distance Runners. Virtual Oral Research Poster in Rising Research Section at 2020 AMSSM Conference.
  42. **Kraus E.** Hoeg T, Sainani K, Bodor M, Miller E, Weiss M, Fredericson M. Identifying Risk Factors Associated with Bone Stress Injury in Ultramarathon Runners. Podium Presentation at 2019 AMSSM Annual Conference in Houston, TX
  43. Skorseth, Paige, Aleksei Dingel, Katie Hastings, Nicole Segovia, and **Emily Kraus.** Prevalence of Female Athlete Triad Risk Factors in High School Distance Runners. Podium presentation at 2019 AMSSM Annual Conference in Houston, TX
  44. Miller E, **Kraus E.** Hoeg T, Sainani K, Bodor M, Weiss M, Fredericson M. Bone health and energy availability in ultra-marathon runners. Oral poster presentation at 2019 AMSSM Annual Conference in Houston, TX
  45. Deakins Roche M, Nattiv A, **Kraus EA**, Kussman A, Barrack M, Tenforde A, Kim B, Singh S, Fredericson M. Serum N-telopeptide is Associated with Low Bone Mineral Density in a Cohort of NCAA Distance Runners. Podium presentation at 2019 AMSSM Annual Conference in Houston, TX.
  46. Singh Sonal, Nattiv A, **Kraus EA**, Kussman A, Deakins Roche M, Barrack M, Tenforde A, Kim B, Singh S, Fredericson M. Sleep Correlates With Faster Mile Time and Increased Triad Risk Factors in Female Runners, a Five-Year Exploratory Analysis. Podium presentation at 2019 AMSSM Annual Conference in Houston, TX.
  47. Skorseth, Paige, Aleksei Dingel, Katie Hastings, Nicole Segovia, and **Emily Kraus.** “Iron Supplementation and the Female Athlete Triad in High School Distance Runners: 2638 Board #302 May 31 9:30 AM - 11:00 AM.” Medicine & Science in Sports & Exercise 51, no. 6 (June 2019). <https://doi.org/10.1249/01.mss.0000562698.93119.f6>. Orlando, FL.
  48. Barrack M, Fredericson M, Tenforde AS, **Kraus E.** Kim B, Singh S, Kussman A, Gravani K, Ansari Y, Miller B, Nattiv A. Utilization And Efficacy Of The “Run Fueled” Smart-phone Application Among Collegiate Endurance Runners: 373 Board #214 May 30 11. May 2018. Medicine & Science in Sports & Exercise. 50:82 DOI: 10.1249/01.mss.0000535353.58724.eb

## Emily Kraus, MD

Last updated: 112723

---

49. **Kraus EA**, Kussman A, Kim B, Nattiv A, Tenforde A, Barrack M, Deakins Roche M, Singh S, Fredericson M. Forearm Bone Mineral Density is a Predictor for Bone Stress Injury in Elite Male Distance Runners. April 2018. Poster Presentation. Conference: AMSSM At: Orlando, FL.
50. Kussman A, Nattiv A, **Kraus E**, Barrack M, Tenforde A, Kim B, Deakins Roche M, Singh S, Fredericson M. The Female Athlete Triad Cumulative Risk Assessment Score Implemented at the Preparticipation Physical Exam Correlates with Risk of Bone Stress Injury in Collegiate Distance Runners: Results of a Four-Year Prospective Study. April 2018. Conference: AMSSM. At: Orlando, FL
51. **Kraus EA**, Kussman A, Kim B, Nattiv A, Tenforde A, Barrack M, Deakins Roche M, Singh S, Fredericson M. 2018. Male Athlete Risk Assessment Highly Predictive of Bone Stress Injuries in Elite Male Distance Runners: Results of a Three-Year Prospective Study. Accepted for Podium presentation at 2018 Pediatric Research in Sports Medicine Society (PRiSM) Annual Conference; Plantation, FL.
52. **Kraus EA**, Nattiv A, Kussman A, Barrack M, Tenforde A, Kim B, Deakins Roche M, Singh S, Fredericson M. 2017. Preliminary Results From a Prospective Interventional Study Using the Female Athlete Triad Cumulative Risk Assessment. Abstract presented at 2017 American College of Sports Medicine Annual Conference; Denver, CO.
53. Barrack M, Fredericson M, Tenforde AS, **Kraus E**, Kim B, Singh S, Kussman A, Gravani K, Ansari Y, Miller B, Nattiv A. "Nutrition Goals Prioritized By Elite Endurance Runners Undergoing A Nutrition Education Intervention: 3009 Board #6 June 2 3." *Medicine & Science in Sports & Exercise* 49 (May 2017): 852. Denver, CO.
54. **Kraus EA**, Nattiv A, Kussman A, Barrack M, Tenforde A, Kim B, Deakins Roche M, Singh S, Fredericson M. 2017. Preliminary Results From a Prospective Interventional Study Using the Female Athlete Triad Cumulative Risk Assessment. Abstract accepted at 2017 American College of Sports Medicine Annual Conference; Denver, CO
55. Barrack M T, Fredericson M, Tenforde A S, Kim B, **Kraus E**, Singh S, Ratanapratum J, Nattiv A. 2016. Use Of Dietary Supplements, Energy and Protein Bars, Gels and Drinks Among Elite Collegiate Endurance Runners: 2692 Board #215 June 3, 9: 30 AM - 11: 00 AM. *Medicine and science in sports and exercise* 48 (5 Suppl 1): 753-753. Boston, MA.
56. **Kraus EA**, Kim B, Nattiv A, Tenforde A, Barrack M, Deakins Roche M, Kussman A, Singh S, Morkos J, Fredericson M. 2016. Poster 155 Higher Cumulative Risk Assessment Scores Are Associated with Delayed Return to Play in Division I Collegiate Distance Runners. *PM & R* 8 (9S): S212-S213. Podium presentation at 2016 American Medical Society of Sports Medicine Annual Conference; Dallas, TX.
57. McQuillan TJ, Wilcox-Fogel N, Liu MB, **Kraus EA**, Ladd AL, Hunt K. Integrating Musculoskeletal Education and Patient Care at Medical Student-Run Free Clinics. Poster Presentation at the American Academy of Orthopaedic Surgeons Annual Meeting, March 2-4, 2016. Orlando, FL
58. **Kraus E**, Nattiv A, Tenforde A, Kim B, Kussman A, Fredericson M. Patterns of Bone Stress Injuries in Division I Collegiate Distance Runners: A Retrospective Cohort Study. *PM&R*. October 2015, 7(9):S89. Boston, MA
59. **Kraus EA**, Martin E, Doan R, Paulus S, Kennedy D, Smuck M. Zygapophyseal Joint Tropism Leading to Pars Stress Reaction in an Adolescent Athlete: A Case Report. Presented at the American Academy of Physical Medicine and Rehabilitation Conference, November 15, 2014. San Diego, CA.

### Digital Publications

# Emily Kraus, MD

Last updated: 112723

---

## Podcasts

1. 2022, July: Health Professional Radio, "Stanford Children's Health FASTR Program"  
[https://soundcloud.com/healthprofessionalradio/stanford-childrens-health-fastr-program?utm\\_source=clipboard&utm\\_campaign=wtshare&utm\\_medium=widget&utm\\_content=https%253A%252F%252Fsoundcloud.com%252Fhealthprofessionalradio%252Fstanford-childrens-health-fastr-program](https://soundcloud.com/healthprofessionalradio/stanford-childrens-health-fastr-program?utm_source=clipboard&utm_campaign=wtshare&utm_medium=widget&utm_content=https%253A%252F%252Fsoundcloud.com%252Fhealthprofessionalradio%252Fstanford-childrens-health-fastr-program)
2. 2022, May: The Strength Running Podcast, "The Big Stress Fracture Episode with Dr. Emily Kraus"  
<https://open.spotify.com/episode/4bpbS2Mxwm3rpGqX6VTLbs>
3. 2022, April: The Feisty Women's Performance Podcast, "The Future of Female Performance is FASTR with Dr. Emily Kraus and Dr. Megan Roche"  
<https://open.spotify.com/episode/425PmtHmldN1DELhWRjODJ?si=AbPaa7qoRH6DUhNnh0uqvA&nd=1>
4. 2022, March: Voice In Sport, "Preventing Bone Injuries & RED-S With VIS Expert, Dr. Emily Kraus"  
<https://open.spotify.com/episode/5sHYDVtMeGCQuX9WtAnu0h>
5. 2022, March: The Sonya Looney Show, "Closing the Gender Gap in Sports Research With Emily Kraus, MD and Megan Roche, MD"  
<https://open.spotify.com/episode/4fRxvud8L4exvuJWUJ5iig>
6. 2022, February: Strong Runner Chick Radio, "Dr. Emily Kraus on Female Athlete Research, including bone health, stress fractures, and RED-S"  
<https://open.spotify.com/episode/2NqSv3kIDQepgR6gKvjecb?si=xOCZqL19RyWFC1bpZ7b74g>
7. 2022, February: TrainRight Podcast, "FASTR: Closing the Gender Gap in Sports Science Research"  
<https://open.spotify.com/episode/6vypIIVVCXqDxxGUbVENfu?si=ZJ3TPFovTwi9HDBYtlmXrg&nd=1>
8. 2021, April: Koopcast w/ Coach Jason Koop, "RED-S and Ultramarathoners"  
<https://www.jasonkoop.com/podcast>
9. 2021, Feb: Rise Up Nutrition w/ Lindsey Cortes "Female Athlete Nutrition"  
<https://podcasts.apple.com/us/podcast/bone-injury-treatment-with-emily-kraus-md/id1537395854?i=1000512532235>
10. 2020, Sept: For the Long Run w/ Jonathan Levitt "Running and Researching"  
<https://podcasts.apple.com/us/podcast/111-dr-emily-kraus-running-and-researching/id1453616436?i=1000493336252>
11. 2020, July: Anne Guzman Podcast: "Bone Health and Relative Energy Deficiency in Sport in Endurance Athletes"  
[https://www.youtube.com/watch?v=F668Ov8d1t4&t=1s&ab\\_channel=AnneGuzman](https://www.youtube.com/watch?v=F668Ov8d1t4&t=1s&ab_channel=AnneGuzman)
12. 2020, July: Runners of the Bay Podcast: "Hormonal Contraception & Bone Health in Female Athletes"  
<https://podcasts.apple.com/us/podcast/episode-11-dr-emily-kraus-answers-your-questions-about/id1514973336?i=1000485349522>
13. 2020, August: Runners Zone Podcast: "Bone Health in Runners"
14. <https://youtu.be/jt-iE1c4H00>
15. 2018, July: Running for Real Podcast: "Are Your Nutritional Habits Why You Are Injured?"  
[https://www.youtube.com/watch?v=bCKGaMkuNmM&ab\\_channel=TinaMuir](https://www.youtube.com/watch?v=bCKGaMkuNmM&ab_channel=TinaMuir)

## Lectures/Speaking Events

# Emily Kraus, MD

Last updated: 112723

1. 2023, May: Women's Running Coaches Collective Webinar: "How to talk to athletes about RED-S and fueling for performance".
2. 2023, March: Grit and Luxe Women's Cycling Retreat: "Studying the Female Athlete-Complex Doesn't Have to be Complicated".
3. 2023, February: Women's Running Coaches Collective Webinar: "Relative Energy Deficiency in Sport (RED-S): A Primer and Open Conversation with Coaches".
4. 2021, April: Rooted Webinar: "Chassis Maintenance, reducing injury risk on the bike through strength training"
5. 2021, March: Lincoln Running Company Live Discussion on "Running Injuries"
6. 2021, March: Career Night on "My Journey in PM&R/Sports Medicine" hosted by David Entwistle
7. 2021, Jan: Girl Scout "Amuse Journey Women's Panel"
8. 2021, Jan: Wildwood Running Camp Webinar on "Female Athlete Triad/RED-S in Runners"
9. 2020, Sept: UltraSports India Webinar: "Female Athlete Triad"
10. 2020, Aug: Girls Gone Gravel Webinar: "Reducing Injury Risk While Getting Stronger on the Bike"
11. 2019, Nov: Harker High School Students: "Introduction to Pediatric Sports Medicine"
12. 2019, Oct: Castilleja Cross Country Team: "Sports Nutrition for Runners" Presentation
13. 2019, Aug: Sacred Heart Cross Country Team: "Sports Nutrition for the Student Athlete"

## VIII. GRANT FUNDING

### Current:

2023

Grant: Stanford Women's Health & Sex Differences Seed Grant for study "Multi-omics of RED-S in Female Endurance Athletes"

IRB: 69308

PI: Emily Kraus, MD

2021-2024

Grant: Wu Tsai Human Performance Alliance for study "Female Athlete Science and Translational Research (FASTR) Pilot Study"

IRB: 62042

PI: Emily Kraus, MD

### Completed:

2021

Grant: Western States Research Foundation Grant for Study "Genetic and Serologic Determinants of Bone Health in Ultramarathoners" IRB: 49492

PI: Emily Kraus, MD

2018 – 2020

Grant: Western States Research Foundation Grant for Study "Genetic and Serologic Determinants of Bone Health in Ultramarathoners" IRB: 49492

PI: Emily Kraus, MD

## IX. PATENTS

None

**X. EDITORIAL SERVICE**

**Ad Hoc Reviewer**

|                |  |
|----------------|--|
| 2018 – present | British Journal of Sports Medicine                       |
| 2018 – present | Journal of Athletic Training                             |
| 2018 – present | Medicine & Science in Sports & Exercise                  |
| 2018 – present | PM&R: The journal of injury, function and rehabilitation |

**XIII. INVITED PRESENTATIONS (since 2011)**

**Grand Rounds:**

1. 2021 “The Triad and Relative Energy Deficiency in Sport (RED-S). Bone Health and Beyond” Orthopaedics Grand Rounds, Stanford University, Stanford, CA
2. 2021 “Female Athlete Triad and RED-S,” UCSF PCSM Sports Medicine Virtual Lecture, UCSF, San Francisco, CA
3. 2020 “Pediatric Sports Medicine: Overuse Injuries and Sports Specialization” CHOMP Grand Rounds, Monterey, CA
4. 2019 “Adolescent Sports Injuries.” Pediatric Grand Rounds, Dominican Hospital, Santa Cruz, CA
5. 2018 “Biomechanical Analysis in Sport.” Stanford PM&R Grand Rounds, Stanford University, Stanford, CA.
6. 2018 “Female Athlete Triad.” Pediatric Grand Rounds, Marin General, Mill Valley, CA.

**National and Regional Meetings:**

1. 2020 “Pediatric Sports Medicine: Sports Specialization and Overuse Injuries.” Association of Academic Physiatrists Virtual Lecture Series