NIH BIOGRAPHICAL SKETCH

NAME: Cheung, Emilie V. **eRA COMMONS USER NAME (credential, e.g., agency login):** [INSERT USERNAME] **POSITION TITLE:** Associate Professor of Orthopaedic Surgery; Shoulder Elbow Fellowship Director **EDUCATION/TRAINING**

INSTITUTION AND LOCATION	DEGREE	COMPLETION DATE	FIELD OF STUDY
University of California, Los Angeles, CA	B.S.	06/1996	Physiological Science
New York Medical College, Valhalla, NY	M.D.	05/2000	Medicine
Drexel University, Philadelphia, PA	Residency	06/2005	Orthopedic Surgery
Mayo Clinic, Rochester, MN	Fellowship	08/2006	Adult Upper Extremity Reconstruction (Shoulder & Elbow)

A. Personal Statement

I am an **Associate Professor of Orthopaedic Surgery at Stanford University School of Medicine**, where I currently serve as the **Shoulder Elbow Fellowship Director** and previously served as the **Chief of Shoulder Elbow Service** for 18 years. My clinical and research focus is centered on advancing outcomes in shoulder and elbow reconstruction, particularly in the areas of arthroplasty, trauma, and biologic augmentation of tendon repairs. I have extensive leadership experience within the American Shoulder Elbow Society (ASES), including serving as the **Chair and Founder of the ASES Leadership Development Program**. My research, supported by the **Department of Defense** and various industry partners, seeks to innovate orthopedic care through both biomechanical studies and clinical outcome evaluations. I have authored numerous peer-reviewed publications and book chapters, and I serve as an **Associate Editor** for multiple major journals in my field, including *JSES International* and the *Journal of Shoulder Elbow Arthroplasty*.

B. Positions, Scientific Appointments, and Honors

Positions and Scientific Appointments

- **2026–Present:** Scientific Committee, International Congress of Shoulder Elbow Surgery
- **2026–Present:** Associate Editor, *Journal Shoulder Elbow Surgery International*
- **2024–Present:** Shoulder Elbow Fellowship Director, Stanford University School of Medicine

- **2024–Present:** Associate Editor, *Journal Shoulder Elbow Arthroplasty*
- **2024–Present:** Associate Editor, *JSES Seminars in Arthroplasty*
- **2023–Present:** Member, Neer Circle, American Shoulder Elbow Society (ASES)
- **2021–2024:** Chair and Founder, ASES Leadership Development Program
- **2006–2024:** Chief of Shoulder Elbow Service, Stanford University School of Medicine
- **2006–Present:** Associate Professor of Orthopaedic Surgery, Stanford University School of Medicine
- **2011–Present:** Active Member, American Shoulder Elbow Society (ASES)
- **2009–Present:** Fellow, American Academy of Orthopedic Surgeons (FAAOS)

Honors

- **2025:** America's Leading Doctors (Shoulder Surgery), Newsweek
- **2017:** Top 65 Orthopedic Surgeons in the Country, Beckers Orthopedic Review
- **2015:** Lloyd W. Taylor, M.D. Resident Research Award (PI), California Orthopedic Association
- **2012:** Research Founders Day Award, Stanford University Department of Orthopedic Surgery
- **2011:** Top 11 Female Orthopedic Surgeons to Know, Beckers Orthopedic Review

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C. Contributions to Science

1. Advancements in Shoulder Arthroplasty Outcomes and Techniques: My work has extensively examined the clinical and radiographic outcomes of both anatomic and reverse total shoulder arthroplasty (TSA). I have investigated factors such as surgeon variability in preoperative planning and the biomechanical advantages of eccentric reaming versus posterior augmentation for glenoid wear.

- Wang T, et al. Posterior Glenoid Wear in Total Shoulder Arthroplasty: Eccentric Anterior Reaming Is Superior to Posterior Augment. *Clin Orthop Relat Res*. 2015.
- Simovitch RW, et al. Rate of Improvement in Clinical Outcomes with Anatomic and Reverse Total Shoulder Arthroplasty. *J Bone Joint Surg Am*. 2017.
- Friedman RJ, et al. Are Age and Patient Gender Associated With Different Rates and Magnitudes of Clinical Improvement After Reverse Shoulder Arthroplasty? *Clin Orthop Relat Res*. 2018.
- Parsons M, et al. Assessment of surgeon variability in preoperative planning of reverse total shoulder arthroplasty. *J Shoulder Elbow Surg*. 2020.

2. Management of Complex Elbow Trauma and Reconstruction: A significant portion of my research addresses the challenges of elbow surgery, including total elbow prosthesis loosening, infection management, and the treatment of post-traumatic stiffness and instability.

- **Cheung EV**, O'Driscoll SW. Total Elbow Prosthesis Loosening Caused by Ulnar Component Pistoning. *J Bone Joint Surg Am*. 2007.

- **Cheung EV**, et al. Reimplantation of Total Elbow Prosthesis Following Resection Arthroplasty for Infection. *J Bone Joint Surg Am*. 2008.
- **Cheung EV**, et al. Complications of Hinged External Fixators of the Elbow. *J Shoulder Elbow Surg*. 2008.
- **Cheung EV**, et al. Elbow Trauma Sequelae: Instability, Stiffness, Non-arthroplasty, and Arthroplasty Options. *Instr Course Lect*. 2019.

3. Biologic Augmentation and Tissue Engineering for Tendon Repair: I have investigated novel methods for enhancing tendon healing, particularly in rotator cuff repairs. This includes evaluating the efficacy of growth factor therapies and developing mechanically-graded polymers that mimic the bone-tendon interface.

- **Cheung EV**, et al. Strategies in biologic augmentation of rotator cuff repair: a review. *Clin Orthop Relat Res*. 2010.
- Ker DFE, et al. Functionally Graded, Bone- and Tendon-Like Polyurethane for Rotator Cuff Repair. *Adv Funct Mater*. 2018.
- Wang D, et al. A Mechanically-Graded and Growth Factor-Biopatterned Strategy for Spatial Control of Bone-Tendon Multi-Tissue Regeneration. *NPG Materials Asia*. 2021.
- Durtschi MS, et al. Optimizing Tissue Engineering for Clinical Relevance in Rotator Cuff Repair. *Tissue Engineering Part B*. 2023.

4. Prevention and Management of Orthopedic Infections and Postoperative Pain: My research also focuses on clinical safety, specifically addressing periprosthetic joint infections and optimizing anesthesia techniques to minimize complications such as phrenic nerve blockade while maintaining effective postoperative analgesia.

- **Cheung EV**, et al. Infection Associated with Hematoma Formation After Shoulder Arthroplasty. *Clin Orthop Relat Res*. 2008.
- Xiao M, et al. Outcomes after resection arthroplasty versus permanent antibiotic spacer for salvage treatment of shoulder periprosthetic joint infections. *J Shoulder Elbow Surg*. 2022.
- Sun LY, et al. Continuous interscalene versus phrenic nerve-sparing high-thoracic erector spinae plan block for total shoulder arthroplasty: a randomized controlled trial. *Can J Anaesth*. 2022.
- Hampton JP, et al. Host and Microbial Characteristics Associated with Recurrent Prosthetic Joint Infections. *J Orthop Res*. 2024.

D. Research Support

Ongoing Research Support

- **DoD W81XWH-20-1-0343** (PI: Cheung) | 06/01/2020 – 05/31/2024
    - *Hybrid bone-tendon grafts for enhanced tendon healing:* This project aims to engineer a novel bioactive graft for tendon repair.

Completed Research Support

- **Exactech** | 2014–2021
  - *An Open Label, Multi-Center, Retrospective and Prospective Evaluation of Shoulder Arthroplasty - Clinical and Radiographic Outcomes.* Role: PI.
- **DJO Orthopedics** | 07/01/2011–06/30/2017
  - *Prospective Multi-Center Study of the Reverse Shoulder Arthroplasty.* Role: PI.
- **Byers Center for Biodesign – SPECTRUM Medtech Pilot Grant** | 01/01/2017–12/31/2017
  - *A Novel Device for Rotator Cuff Repair.* Role: Co-PI.

Would you like me to create a tailored report specifically focusing on your research contributions and leadership roles to further refine this biosketch?