

NEUROLOGICAL SURGERY EDUCATION SERIES



August 20, 2025

7 – 8 AM

NEUROLOGICAL SURGERY GRAND ROUNDS

- **Zachary Bernstein**
Medical Student, Emory University School of Medicine
Talk Title: Quantifying Neurological Recovery After Surgery: From Motor to Mind
- **Samuel Brehm**
Medical Student, Washington University School of Medicine in St. Louis
Talk Title: Upstream Turbulator for Intracranial Aneurysms: Concept, Modeling, and Bench Validation
- **Ian Odland**
Medical Student, ICAHN School of Medicine at Mount Sinai
Talk Title: Steerable Screwdriver for Anterior Lumbar Interbody Fusions and the THRIVE Fellowship
- **Angela Tang-Tan**
Medical Student, Keck School of Medicine of the University of Southern California (USC)
Talk Title: Reversibility of Microglial Activation, White Matter Damage, Neuroinflammation, and Oxidative Stress from Air Pollution

8 – 9 AM

RESIDENT EDUCATION CONFERENCE

Topic: Skull Base Anatomy Part 2
Presenter: Dr. Ruzevick
Location: NJB 14th floor for HMC residents
No CME Credit

OBJECTIVES:

1. Discuss a novel endovascular device that induces upstream spiral flow to reduce aneurysm dome pressure and inflow; Discuss computational and bench data supporting the mechanism and feasibility of spiral-flow induction; Discuss potential applications alongside traditional aneurysm treatments such as coils, stents, and flow diverters; Discusses limitations, contraindications, and next steps for preclinical development. (Brehm)
2. Discuss 3 ways to measure functional outcomes after surgery: Karnofsky-Performance Scale, Modified Rankin Scale, and Neurological Motor Exam; Discuss the limitations of the literature looking at social determinants of health on neuropsychological outcomes after pediatric epilepsy surgery. (Bernstein)
3. Discuss the clinical and technical challenges of ALIF cage screw placement and their impact on patient outcomes. Describe the process of translating a surgical need into a functional medical device through needs finding, prototyping, and validation. Discuss how structured innovation programs, such as the THRIVE Fellowship, can accelerate point-of-care technology development and training. (Odland)
4. Discuss the extent to which neuroinflammation, oxidative stress, microglial activation, and white matter injury are reversible following cessation of chronic diesel exhaust particulate exposure in a mouse model; Describe how chronic air pollution changes microglial activation, phenotype, and recruitment, and how these changes persist or resolve after exposure ends. (Tang-Tan)

ACCREDITATION:

The University of Washington School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The University of Washington School of Medicine designates this live activity for a maximum of 48.0 AMA PRA Category 1 Credit(s)[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity. (Each 1 hour session is 1.0 credit)

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To request disability accommodations, contact ADA Office at least 10 days in advance.

