

## Asokumar Buvanendran, MD

The William Gottschalk, MD,  
Chair of Anesthesiology

### Advancement of Medicine

Pain is one of the most common complaints made by patients worldwide. Understanding pain mechanisms and pathways is critical. My studies have centered around acute and chronic pain.

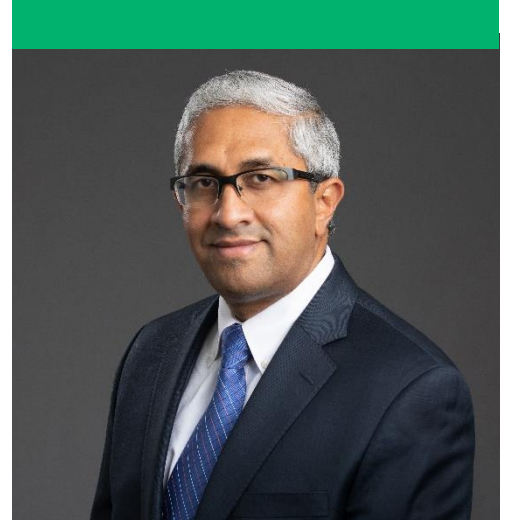
There are no valid assessments for measuring pain. My group's research seeks to understand the tools for measuring pain and the mechanisms of pain. We also study acute to chronic post-operative pain and interventions that could prevent this transition.

I continue to advance our group's objectives by serving on several national task forces and working groups.

### Research

Your generous support of my endowed position enabled the pain research team to develop grant proposals and begin research. We received funding from the National Institutes of Health, or NIH, for our study "Transition from Acute to Chronic Pain in Total Knee Arthroplasty Patients: Identifying Resilience and Vulnerability Profiles."

The original research done with support from this endowment provided the necessary evidence to apply for the NIH funding. Recently, we also received funding from the U.S. Department of Defense to investigate post-traumatic stress syndrome.





## Publication Highlights — Abbreviated

- “Selective Inhibition of NaV1.8 with VX-548 for Acute Pain,” *New England Journal of Medicine*, 2023.
- “Predicting chronic postsurgical pain: current evidence and a novel program to develop predictive biomarker signatures,” *Pain*, 2023.
- “A Pharmacological Evaluation of the Analgesic Effect and Hippocampal Protein Modulation of the Ketamine Metabolite (2R,6R)-Hydroxynorketamine in Murine Pain Models,” *Anesthesia Analgesia*, 2024.
- “Multiorganizational consensus to define guiding principles for perioperative pain management in patients with chronic pain, preoperative opioid tolerance, or substance use disorder,” *Regional Anesthesia & Pain Medicine*, 2024.

## The Year Ahead: 2025 and Beyond

In the coming year, we will seek to further understand the mechanism of acute to chronic pain after surgery. We are also studying PTSD and the mechanism to treat it.

## With Gratitude

Thank you for your generosity. Your support has bolstered the pain research team in our quest to study and alleviate acute and chronic pain, which affects millions of patients across the globe.