

Kristin Schreiber, M.D., Ph.D., a Recipient of the 2022 James E. Cottrell, M.D., Presidential Scholar Award

James P. Rathmell, M.D., M.B.A.

Kristin Schreiber, M.D., Ph.D., Vice Chair for Faculty Development at Brigham and Women's Hospital (Boston, Massachusetts) and Associate Professor of Anaesthesia at Harvard Medical School (Cambridge, Massachusetts), was awarded this year's James E. Cottrell, M.D. Presidential Scholar Award. This is a well-deserved honor for such a superb clinician–scientist. Dr. Schreiber's work has helped us to understand which patients are at highest risk for developing persistent postsurgical pain, while also probing personalized interventions to prevent this often debilitating outcome. I have followed her work, which overlaps with my own areas of research interest, watching her career develop over time, and so it gives me great pleasure to honor Dr. Schreiber with a few words about her career.

Kristin received a Bachelor of Science degree with honors, from the University of Wisconsin–Madison (Madison, Wisconsin), majoring in Psychology and German. She then received an M.D./Ph.D. in Neuroscience from the University of Minnesota in Minneapolis, Minnesota. Work for her doctoral thesis investigated the bidirectional cross talk between the nervous and immune systems in pain and infection. She demonstrated this bidirectional communication in two diverse settings: activation of spinal microglia in the development of persistent and widespread pain,¹ and modulation of pathogen adherence and invasion in the gut by the enteric nervous system.^{2,3} She went on to complete a Residency in Anesthesiology at the University of Pittsburgh (Pittsburgh, Pennsylvania), where she focused her passion for understanding the development of chronic pain into clinical applications in regional anesthesia⁴ and the development of persistent postsurgical pain,⁵ contributing to the peer-reviewed literature during a busy clinical residency. Dr. Schreiber joined us at Brigham and Women's Hospital for Regional Anesthesia and Research Fellowships in July 2012, simultaneously joining our faculty, where she is now Associate Professor of Anesthesia at Harvard Medical School and a Staff Anesthesiologist at Brigham and Women's Hospital specializing in Regional Anesthesia. During her 10 yr with our department, she has excelled both clinically as an exceptional Regional Anesthesiologist and a prolific translational Pain Neuroscientist.



Working with a diverse team of mentors and collaborators in Pain Psychology, Neurophysiology, Psychophysics, Regional Anesthesia, Oncology, Neuroimaging, Preoperative Evaluation, and Placebo Research (Drs. Rob Edwards, Gary Strichartz, Kamen Vlassakov, Angela Bader, Vitaly Napadow, Marco Loggia, and Ted Katpchuk), Kristin has built an impressive collaborative clinical research program. She set out to identify factors predicting the transition to persistent postsurgical pain, earning her the support of a K23 grant in 2015. In 2018, her early success led to her being among the first Anesthesiologists nationally to be awarded a highly competitive National Institutes of Health Maximizing Investigators' Research Award (R35), equivalent to an R01, from the National Institute of General Medical Sciences. She has gained further independent funding, serving as the site Principal Investigator at Brigham and Women's Hospital for the Early Phase Pain Investigation Clinical Network (EPPIC-Net), part of the large National Institutes of Health Helping to End Addiction Long-term

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initiative, and as coinvestigator on grants from the National Cancer Institute and the National Science Foundation.

A notable hallmark of Kristin's research is the collaborative nature of everything she does. She has a tremendous track record of sparking interest in research among her colleagues and successfully engaging them in research projects. She has thoughtfully mentored premedical and medical students, residents, and clinical and postdoctoral fellows in conducting clinical studies. Her collaborative spirit and enthusiasm for research has fostered strong cross-departmental bonds, not only with the Department of Surgery, but also with the Departments of Oncology, Emergency Medicine, Neurology, and Pharmacy. She has served as a key consultant to oncologists and surgeons on a large Patient-Centered Outcomes Research Institute grant, bringing high quality and thoughtful assessment and treatment of pain to these projects.

Dr. Schreiber's active fostering of these observational, laboratory-based, randomized, or pragmatic trials have resulted in more than 60 peer-reviewed publications, most of which are as first or senior author. Her primary research focus is on the prediction and prevention of postsurgical pain and opioid use, with publications in *Annals of Surgical Oncology*, *Journal of Pain*, *Pain Medicine*, and *Anesthesia & Analgesia*. In addition, she has pursued mechanistic testing of pain processing among individuals, including studies in neuroimaging and the quantitative sensory testing laboratory, published in *Anesthesiology* and *Journal of Pain*. Her insights into the impact of regional anesthetic techniques have been published in *Regional Anesthesia and Pain Medicine*, *British Journal of Anesthesia*, and *Pain Medicine*, including contributions to understanding and reducing postsurgical pain after mastectomy,⁶⁻¹¹ liver resection,⁴ cesarean delivery,¹² thoracotomy, total knee arthroplasty,¹³⁻¹⁶ and spinal fusion.^{17,18} For much of this research, she has adapted simple, validated psychometric measures, including objective quantitative sensory testing in the preoperative clinic, to "phenotype" patients preoperatively, and predict patients at risk for acute and chronic postsurgical pain and opioid use, including the development of bedside adaptations of these tests.¹⁹ She has also examined the impact of alternative therapies on pain modulation, including the impact of yoga-based exercise on pain in fibromyalgia patients,²⁰⁻²² distraction in chronic pain patients,²³ music in emergency medicine patients,²⁴ and a randomized controlled trial of open-label placebo in spine surgery patients,¹⁷ which was featured in press releases after its publication in *PAIN*. During the pandemic, she aptly pivoted to investigate the impact of social isolation on chronic pain and reported differential impact among individuals, with certain chronic pain patients being more impacted (minority and female).²⁵ This longitudinal study of the impact of COVID-induced isolation allowed insights into a rarely studied aspect of the biopsychosocial model: how social forces influence pain, and how they impact a patient's psychology and their processing of pain.²⁵⁻²⁸ Her work is changing the way we think

about personalizing perioperative care in an era of multiple enhanced recovery after surgery protocols that often dictate a one-size fits all approach.²⁹

Dr. Schreiber has a tremendous record of local, national, and international academic service, ranging from local institutional review board expert review and leadership in research infrastructure, to involvement in the Early-Stage Anesthesia Scholars program as part of International Anesthesia Research Society and serving as an Editor of *ANESTHESIOLOGY*. In our own department, she has demonstrated exceptional leadership as the Associate Vice Chair for Research working together with our Vice Chair for Research, Dr. Danny Muehlschlegel. Together Drs. Muehlschlegel and Schreiber developed a strong research core that serves to support basic, translational, and clinical research. She has served on scientific committees of major national organizations and on grant study sections, including as the Chair of the International Anesthesia Research Society Mentored Research Award review committee. She has also chaired a working group of the Analgesic, Anesthetic, and Addiction Clinical Trial Translations, Innovations, Opportunities, and Networks-American Pain Society Pain Taxonomy Group, defining taxonomy and measurement guidelines for postsurgical pain.³⁰ She has been an sought-after speaker, addressing National Institutes of Health research workshops, as well as a diverse set of Anesthesiology and Pain-related societies' annual meetings.

Kristin and her husband Paul Wacnik, Ph.D., a pharmacology and neuroscience-trained engineer working at Pfizer in Cambridge, Massachusetts, enjoy spending time with their 15- and 17-yr-old boys Leo and Fredrik. Having the chance to mentor (a little) and to learn (a lot) from Kristin here at Brigham and Women's and Harvard Medical School has been a great pleasure. It reminds me why I enjoy academic medicine so enormously, watching extraordinary people like Kristin grow to their full potential. We are privileged to have this talented clinician-scientist who brings a holistic, personalized approach to perioperative pain prevention as our colleague and friend, and as a member of our specialty.

Competing Interests

The author declares no competing interests.

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