

Department of Radiology
University of California • San Francisco, School of Medicine

CSF Leak Symposium

A Collaborative Effort Between the Departments of
Neuroradiology, Neurology, and Neurosurgery



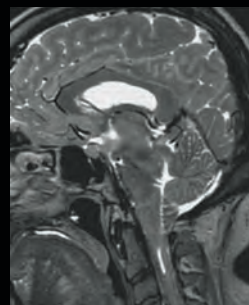
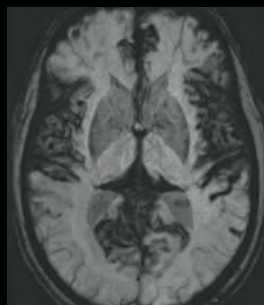
FRIDAY

March 20, 2026

UCSF Mission Bay Campus
Oberndorf Auditorium,
Adult Hospital
San Francisco, CA



Department of Radiology
and Biomedical Imaging



OVERVIEW

Spinal cerebrospinal fluid (CSF) leaks are an underrecognized but treatable cause of debilitating headaches and neurologic symptoms. This comprehensive, full-day CME course, sponsored by the University of California, San Francisco, is designed for physicians seeking to improve their understanding and management of spinal CSF leaks and spontaneous intracranial hypotension (SIH).

Through a series of expert-led lectures, interactive panels, and case-based discussions, attendees will gain insights into the clinical presentation of SIH, advanced imaging strategies including decubitus CT myelography and digital subtraction myelography, and evolving treatment approaches such as targeted patching, surgical repair, and embolization of CSF-venous fistulas.

Special sessions will explore complex scenarios, including pediatric presentations and skull base leak differentiation. This course equips clinicians with the tools needed to confidently diagnose and treat these challenging but rewarding cases.

LEARNING OBJECTIVES

By the end of this course, participants will be able to:

1. **Recognize the spectrum of clinical presentations** of spontaneous intracranial hypotension, including both typical and atypical features, and differentiate them from common mimics.
2. **Interpret advanced neuroimaging modalities** such as brain and spine MRI, decubitus CT myelography, and digital subtraction myelography to accurately localize spinal CSF leaks.
3. **Compare treatment strategies** for spinal CSF leaks—including epidural blood/fibrin patching, surgical repair, and endovascular embolization—based on leak type and anatomic considerations.
4. **Manage special clinical scenarios**, including pediatric leaks, imaging-negative patients, and skull base CSF leaks that may overlap with other etiologies like idiopathic intracranial hypertension.
5. **Apply practical procedural tips** and expert insights for performing targeted myelography and interpreting subtle imaging clues that may indicate elusive or occult leaks.

JOINT ACCREDITATION STATEMENT



In support of improving patient care, this activity has been planned and implemented by Amedco LLC and University of California San Francisco (UCSF). Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Amedco Joint Accreditation #4008163.

Professions in scope for this activity are listed below.

Physicians

Amedco LLC designates this live activity for a maximum of 6.50 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CSF Leak Symposium

Friday, March 20, 2026

7:30 am *Registration and Breakfast*

8:00 **Welcome & Announcements**

Vinil Shah, MD;
Mark Mamlouk, MD

Session 1: Clinical Perspectives of Spinal Leaks

8:15 **Typical SIH Clinical Presentation**

Rebecca Michael, MD

8:30 **Atypical SIH Clinical Presentation**

Maggie Waung, MD PhD

8:45 **Clinical Mimics of SIH**

Richard Baron, MD

9:00 **Types of Spontaneous Spinal Leaks**

Vinil Shah, MD

9:15 **Postdural Puncture Headache & Risks of the Routine LP: Myths & Tips**

Ian Carroll, MD

9:30 **Panel Q&A**

Nina Riggins, MD PhD;
Xander Gotowski, PA

9:45 *Coffee Break*

Session 2: Imaging Diagnosis of SIH

10:05 **Brain & Spine MR Imaging of SIH**

Bryan Lanzman, MD

10:25 **Decubitus CTM for Spinal Leaks**

William Dillon, MD

10:45 **DSM for Spinal Leaks**

Nicholas Telischak, MD

11:05 **CTM Tips & Tricks for the Elusive Leak**

Mark Mamlouk, MD

11:25 **Panel Q&A**

Kim Seifert, MD MS;
Mike Thomas, MD

11:40 *Lunch (on own)*

Session 3: Treatment of Spinal CSF Leaks

12:30 pm **Patching of CSF leaks and Venous Fistulas**

Vinil Shah, MD

12:50 **Surgical Repair of Dural Tears**

Mark Sedrak, MD

1:10 **Embolization of CSF-Venous Fistulas:
Roadmapping the Path to Occlusion**

Matt Amans, MD

1:30 **Treating the Imaging Negative Patient**

Ian Carroll, MD

1:50 **Panel Q&A**

Cynthia Chin, MD;
Justin Remer, MD

2:10 *Coffee Break*

Session 4: SIH Special Scenarios

2:25 **Clinical Presentations of Pediatric Spinal CSF Leaks**

Amy Gelfand, MD

2:45 **Imaging of Pediatric Spinal CSF Leaks**

Mark Mamlouk, MD

3:05 **Skull Base CSF Leaks: SIH or IIH?**

William Dillon, MD

3:25 **Subdural Hematomas in SIH: To Drain or Not**

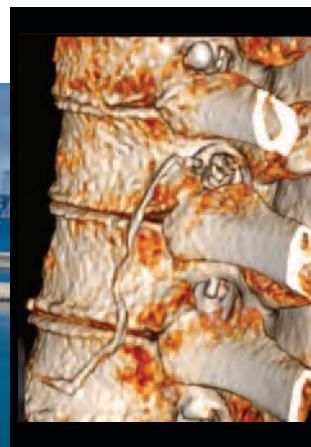
Ethan Winkler, MD PhD

3:45 **Panel Q&A**

Lee Tan, MD;
Adriana Gutierrez, PA

4:00 **Wine & Cheese Social**

5:30 pm *Adjourn*



GENERAL INFORMATION

Advanced registration closes two (2) business days prior to the start of the course. Onsite registration fees, if applicable, will be applied after this date.

HOW TO ENROLL

Tuition*:

Early Bird By 2/13/26

\$350 Physicians (MD/DO) and
Advanced Health Professionals (PA, RN, NP)

Standard Fee After 2/14/26

\$400 Physicians (MD/DO) and
Advanced Health Professionals (PA, RN, NP)

* On-site registration will be \$50 additional.

Payment can be made by Visa, MasterCard, AmEx or check.

GREENER MEETING

We're saving paper! The syllabus will be transmitted electronically one week prior to the course.

REGISTER VIA:

Online: radiology.ucsf.edu/cme

Mail: Complete course registration form and send with payment to:

UCSF Radiology CME

513 Parnassus Ave, S257

San Francisco, CA 94143-0628

Phone: To please email Rad-CME@ucsf.edu

Please check our website for up-to-date information on the course:

<https://radiology.ucsf.edu/cme/ucsf-csf-leak-2026-sanfrancisco>

On-Site Registration: Pre-registration is preferred to ensure attendees receive email information prior to the start of the course; however, we are generally able to accommodate on-site registration.

REFUND POLICY

Cancellations received in writing by **Monday, March 16, 2026** will be refunded, less a \$75 administrative fee. No refunds will be made on cancellations received after that date.

UCSF FACULTY

Mark Mamlouk, MD

Course Co-Chair

Associate Professor of Radiology (Volunteer)
Neuroradiologist at Kaiser Medical Center, Santa Clara CA

Vinil Shah, MD

Course Co-Chair

Associate Professor of Radiology
Chief of Neuroimaging Division

Matthew Amans, MD

Professor of Radiology
Co-Director, Pulsatile Tinnitus Clinic

Cynthia Chin, MD

Professor Emeritus of Radiology

William Dillon, MD

Professor Emeritus of Radiology

GUEST FACULTY

Richard Baron, MD

Assistant Professor of Neurology
Stanford University, Palo Alto CA

Ian Carroll, MD

Associate Professor of Anesthesiology
Stanford University, Palo Alto CA

Adriana Gutierrez, PA

Neuroradiology Division
Kaiser Medical Center, Santa Clara CA

Bryan Lanzman, MD

Associate Professor of Radiology
Stanford University, Palo Alto CA

CONFERENCE LOCATION

The Oberndorf Auditorium is in the Adult Hospital Section of the UCSF Mission Bay Medical Center, at 4th and 16th Streets. There are four bright green columns in front of the entrance to the Adult Hospital. Further details will be sent the week prior to the course.

HOTEL ACCOMMODATIONS

Registrants have the option to book at the Hyatt SOMA, which is 2 miles north of the UCSF Adult Hospital at the Mission Bay Campus. If you call the hotel, please state that you are part of the UCSF CPVD meeting that is being held at the Hyatt SOMA, March 19-21. *Note that there are 4 Hyatt hotels in downtown SF.*

Hyatt Regency San Francisco SOMA (South of Market Street)

50 Third Street, San Francisco, CA 94103

Phone: 800-424-8292

<https://www.hyatt.com/en-US/group-booking/SFORD/G-UCSF>

Room rate: **\$189/night + tax**

A limited number of rooms have been reserved at this discounted rate. Reserve your room soon to guarantee this discounted rate. Rooms are available on a first-come, first-served basis or through the cut-off date of **February 25, 2026**.

By staying at the host hotel, you help UCSF meet its contractual obligations and keep registration fees reasonable.

AIR TRANSPORTATION

United Airlines - UCSF has negotiated special fares with United Airlines for our course attendees.

Please visit the TRAVEL AND LODGING section on the course webpage at radiology.ucsf.edu/cme for more information to make online reservations, or use United Promo Code **ZR7T125624**

SYLLABUS

The syllabus will be distributed electronically approximately 1 week prior to the course.

Amy Gelfand, MD

Professor of Neurology

Xander Gotowski, PA

Physician Assistant in Neurology

Rebecca Michael, MD

Associate Professor of Neurology

Justin Remer, MD

Clinical Instructor in Radiology

Lee Tan, MD

Assistant Professor of Neurosurgery

Michael Thomas, MD

Clinical Instructor in Radiology

Maggie Waung, MD PhD

Associate Professor of Neurology

Ethan Winkler, MD PhD

Assistant Professor of Neurosurgery

Nina Riggins, MD PhD

Neurologist, VA Medical Center
Palo Alto CA

Mark Sedrak, MD

Neurosurgeon
Kaiser Medical Center, Redwood City CA

Kimberly Seifert, MD MS

Neuroradiologist
Sutter Medical Center, Sacramento CA

Nicholas Telischak, MD MS

Associate Professor of Radiology and Neurosurgery
Stanford University, Palo Alto CA

**Neuro and MSK Imaging on
Big Island Hawaii**
February 15-20, 2026
Fairmont Orchid Resort
Kona, Hawaii

UCSF Radiology CORE Review
April 27 – May 1, 2026
Virtual-Online / Live

Neurovascular Symposium
May 21-23, 2026
UCSF Mission Bay Campus
San Francisco CA

Imaging Update in Croatia
September 21-26, 2026
Le Meridien Lav (Marriott)
Split, Croatia



Split, Croatia

upcoming
courses



For more information or to register online visit our website
at radiology.ucsf.edu/cme
You may also reach us by calling Radiology CME at
(415) 476-5731 or emailing: rad-cme@ucsf.edu

♻️ Printed on Recycled Paper



UCSF Department of Radiology CME
513 Parnassus Ave, S257
San Francisco, CA 94143

COURSE REGISTRATION FORM

UCSF CSF Leak Symposium • MMH26014

March 20, 2026 • UCSF Mission Bay Adult Hospital, San Francisco CA

Mail to : UCSF Radiology CME
513 Parnassus St. S257
San Francisco, CA 94143

Register On-line: <https://radiology.ucsf.edu/cme/ucsf-csf-leak-2026-sanfrancisco>
Registration/Course Information: (415) 476-5731

☐ Dr. ☐ Mr. ☐ Mrs. ☐ Ms. ☐ Mx.

LAST NAME FIRST M.I.

MEDICAL DEGREE SPECIALTY

ADDRESS

CITY STATE ZIP

DAYTIME PHONE

EMAIL

Address Label Code Letter (see address label: example, A, B, C, D, etc.) _____

Would you like to be on our priority email list? ☐ Yes ☐ No

 Please indicate if you have any special needs: _____

REGISTRATION FEES:

Tuition*

Physicians (MD/DO),
Advanced Health Professionals (PA, RN, NP)

Early Bird
By 2/13/26
☐ **\$350**

Regular Fee
After 2/14/26
☐ **\$400**

On-site
After 3/20/26
☐ **\$450**

Make checks **payable to UC Regents**

Please charge my credit card: ☐ Visa ☐ MasterCard ☐ AmEx for \$ _____

CARD # EXPIRATION DATE

NAME ON CARD (PLEASE PRINT) AUTHORIZED SIGNATURE

Refund Policy: Cancellations received in writing to rad-cme@ucsf.edu by **March 16, 2026** will be refunded, less a **\$75** administrative fee. No refunds will be made on cancellations received after that date.

Please check our website for up-to-date information on the course: radiology.ucsf.edu/cme

