

OCCUPATIONAL AND ENVIRONMENTAL MEDICINE RESIDENCY

Visit program website. (<https://oem.ucsf.edu/residency-and-other-education/residency-program/>)

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Program Description

Introduction

The Occupational and Environmental Medicine (OEM) program is a two-year ACGME-accredited residency program offered by the UCSF School of Medicine. The Occupational and Environmental Medicine rotation at the San Francisco Veterans Affairs Health Care Center (SFVAHCS) offers a variety of clinical experiences including: general occupational medicine occupational health services for VAMC employees; infectious disease (with an important component of COVID-19 assessment and return to work post illness), compensation and pension determinations; returning veterans assessments; and environmental medicine clinics (including for veterans with Agent Orange exposure and Gulf War Syndrome). In addition, interaction with the VAMC safety unit (industrial hygiene) is encouraged. Participation in a quality improvement project is a required activity as part of this rotation and has led to multiple peer-reviewed publications for participating residents.

The rotation at the SFVAHCS is a key part of overall UCSF residency. The UCSF Occupational and Environmental Medicine (OEM) Training Program prepares physicians for occupational and environmental medicine practice and leadership roles including in clinical, academic, governmental units, NGOs, consulting, and corporate settings. The program provides academic didactic instruction, clinical and non-clinical proctored experiences, and research opportunities. A large core and affiliated faculty based at UCSF, together with extramural clinical faculty and other preceptors, and our faculty partners in nursing, industrial hygiene, and ergonomics, provide this training. Graduates of the UCSF OEM program are currently leaders in all of the practice settings listed above. Trainees will achieve competency in all core knowledge content areas in OEM, and are encouraged to develop areas of special expertise. In keeping with this goal, the educational program is individually tailored to meet the needs of each trainee.

Educational Program (Basic Curriculum)

The UCSF Occupational and Environmental Medicine (OEM) residency is constituted as an integrated, 2-year program in which the trainees progressively take on greater responsibility and achieve core competencies according to the Milestones delineated by the American College of Preventive Medicine and the ACGME. There are three curricular components: didactic, clinical experiential, and non-clinical experiential learning opportunities. All three components are central to the mission of the program and each contributes to advancement within the milestones for OEM. This Executive Summary covers the Didactic Curriculum component. The overall educational Goals and Objectives of the OEM didactic curriculum are for trainees to progress in the common program and discipline specific ACGME milestones and also relevant American College of Occupational and Environmental Medicine (ACOEM) OEM "Core Competencies." To accomplish these goals and objectives, the trainee will complete the following didactic curriculum:

In the first year, trainees typically complete coursework to earn a Masters of Public Health (MPH) from the UC Berkeley School of Public Health. Entering trainees who already have an MPH or an equivalent degree and who have already completed a primary residency may matriculate as a second-year resident at the time of program entry. For entering residents who already have completed an MPH but do not matriculate at entry into the second year, the first-year curriculum will include a combination of clinical work (a minimum of 4 months) as well as other non-clinical rotations. The residents enroll in the Interdisciplinary MPH track, an accelerated, 11-month program. The program focuses on an interdisciplinary understanding of complex issues and the leadership challenges of successful interventions in public health. Core required coursework includes biostatistics, epidemiology, health services management and administration, environmental health, social and behavioral influences on health, and public health leadership (newly added in 2021). The Preventive Medicine Seminar (led by Dr. George Rutherford) includes a component of quality improvement training. Residents not enrolled at the School of Public Health are encouraged to audit this offering as possible. Additional graduate-level didactic content beyond the MPH addresses: 2. Industrial hygiene (both years); 3. Clinical epidemiology (first year); 4. An academic year-long (September-June) twice-monthly program of Grand Rounds, Clinical Conference and Journal Club; 5. A year-long weekly resident conference held at noon; 6. Risk/hazard assessment and communication (offered every other year for all residents); 7. Toxicology (first year); 8. The annual two-and-a-half-day UCSF Division of OEM CME yearly in March, addressing a wide range of OEM content; 9. Occupational case management (offered every other year for all residents); 10. Mentored, dedicated research with protected time.

A month-long program (August each of two years) features industry site visits. Theses provide an industrial hygiene (IH)-focused curriculum including a range of industrial and non-industrial workplaces, as well as environmental health site visits. The trainees are expected to observe and record occupational and environmental hazards and the corresponding control measures. Each trainee is expected to do preparatory research prior to at least two of the site visits, and to brief their colleagues on the occupational and environmental health issues related to that industry. In addition, each trainee is expected to complete at least two write-ups after the site visits to summarize the hazards and risks, and to communicate recommendations. Site visits include a wide range of industries and environmental sites in the greater San Francisco Bay Area. Examples include: refineries, metals manufacturing, foundries, cement manufacturing, pharmaceutical and biotech facilities, research laboratories, sewage treatment facilities, waste handling facilities,

distribution centers, food processing, dairies, farms, wineries, nail salons, and construction sites.

Additionally, in August (typically the first year), trainees participate in the Workshop in Clinical Epidemiology at UCSF that provides grounding in applied biostatistics, epidemiology, and clinical study design. Online training on research ethics involving human subjects is also required. Training in research methods and development of research projects is a vital element of our program. The program seeks trainees who will advance the scientific knowledge based upon which the prevention and treatment of occupational disease rests, as well as those who will educate future generations of researchers. This work can also feed into later MPH capstone projects.

Throughout both residency years, trainees attend twice-monthly OEM Grand Rounds (GR), followed by either Journal Club led by an OEM resident or a Clinical Seminar in which faculty share unusual or challenging management issues. The OEM GR lecture series is accredited by UCSF CME. Attendees include OEM residents and faculty, as well as interdisciplinary colleagues from the UCSF OEH Nursing program. In their second year, each resident is expected to give a GR presentation. Monthly resident-led Journal Club fosters the ability of residents to make critical appraisals of the biomedical literature. The presenting resident selects a relevant publication (vetted by Drs. Solomon or Balogun) and leads a discussion on methods, interpretation, and impact of reported findings. Monthly Clinical Conference provides a forum for associated faculty to present clinical challenges (broadly defined) in an informal, small group setting. Topics include difficult cases, management challenges, unusual cases and outbreaks, at-risk low-wage workers, and other experiential-based presentations. Also, throughout both residency years, trainees also participate in a weekly noon conference (by Zoom or in person at clinic) that includes resident-led case presentations or cases seen at clinic, interactive presentations on basic OEM material, presentations on more complex subjects, and a mixture of feedback, board review, and other organizational matters.

A risk/hazard assessment and communication is offered in the Fall every other year for all residents. It was offered in October 2021. This workshop is case-based and participatory. It is led by faculty with particular expertise in this area, led by Dr. Gina Solomon, MD MPH. Toxicology 180 is a cross-disciplinary course (first year OEM residents and graduate OEH nursing students), led by Dr. Rahmat Balogun. It covers basic principles of toxicology (routes of exposure, biological monitoring, toxicokinetics, toxicodynamics, classes of toxicants, organ system toxicology). Case-based learning features faculty members with expertise in clinical toxicology, respiratory medicine, dermatology, hepatology, neurology, reproductive medicine, and carcinogenesis. On-line modules, preparation of a chemical toxicity review, and presentation of a paper concerning an occupational or environmental exposure incident are included. Management of Clinical Occupational Health Problems is an interdisciplinary course that is co-taught by occupational medicine (Paul Blanc, MD MSPH) and a nursing faculty member (Sandra Domeracki, NP). It emphasizes integrated management of occupational health problems using the case-based teaching approach. It is taught in the spring academic quarter, alternate years and is next offered in the Spring Quarter, 2025.

The annual OEM CME offering provides a key didactic educational component for our OEM residents. It is organized in a two-and-a-half-day format that includes one day devoted to a focused topic, followed by one and a half days of an update covering a range of OEM content. The evening prior to their course features a poster session with abstracts related to the meeting theme. It is a program expectation that

each resident (individually or working in pairs) presents a poster and participates in the full course that follows. It is next offered in March 2022. Mentored independent research provides residents with the opportunity to garner valuable experience in conducting research and presenting their findings. It includes two months of protected research time. Scholarly work-products include outreach presentations, meeting abstracts, and peer reviewed publications.

Types of Rotations and Educational Activities

In the first year, trainees typically complete coursework to earn a Masters of Public Health (MPH) from the UC Berkeley School of Public Health while also participating in a weekly clinic and other UCSF clinical activities (full time rotations July and mid-May through June and periodic needle stick coverage) to meet ACGME requirements for four months of clinical activity per training year. Under certain circumstances, the MPH training may occur later in the training cycle. Selected trainees who already have an MPH or an equivalent degree and who have already completed a primary residency may matriculate as a second-year resident at the time of program entry. For entering residents who already have completed an MPH but do not matriculate at entry into the second year, the first-year curriculum will include a combination of clinical work (a minimum of four months) as well as other non-clinical rotations. The second year is devoted to a combination of clinical experience (four months), non-clinical rotations, and research. A typical breakdown of the trainees' activities by year is shown below:

First Year

- 1 month of special programming (August) including industry site visits and clinical work plus didactic training. Training in Clinical Research Course occurs in August as well.
- 8 months UC Berkeley School of Public Health coursework
- Weekly half-day clinic throughout year and 3-4 weeks of occupational clinical needlestick hotline coverage (nights and weekends)
- 2½ months of additional full-time clinical rotations (July; mid-May through June)

Second Year

- 1 month of special programming (August) including industry site visits and clinical work plus didactic training
- Weekly half-day clinic throughout year and 3-4 weeks of occupational clinical needlestick hotline coverage (nights and weekends)
- 2½ to 4 months of additional full-time clinical rotations
- 1-4 months non-clinical rotations including corporate or consulting and public and environmental health
- 2 months of research

Instructors and Resources

The UCSF OEM Residency Program has a wealth of clinical and research faculty distributed throughout UCSF and its associated hospitals listed below. Education within the program and supervision of trainees are the focus of the majority of the faculty.

Teaching Staff

- Sandeep Guntur, MBBS, MD, MPH, Associate Clinical Professor, Interim Director, Employee Health Department of Medicine San Francisco VAHCS Occupational and Environmental Medicine (OEM)

- Paul Blanc, MD MSPH, Professor of Medicine, Chief Division of Occupational, Environmental and Climate Medicine, Department of Medicine, SFVAHCS and UCSF, OEM, Internal Medicine, Medical Toxicology
- Samuel Goldman, MD MPH, Professor of Clinical Medicine, Division of Occupational, Environmental and Climate Medicine, Department of Medicine, SFVAHCS and UCSF, Preventive Medicine
- Amy Heinzerling MD MPH, Assistant Professor of Medicine, Division of Occupational, Environmental and Climate Medicine, Department of Medicine, SFVAHCS and UCSF, Internal Medicine

- David Claman UCSF Pulmonary (multispecialty rotation): Clinical experiential
- Jonathan Rutchik MD, Neurology private practice (multispecialty rotation): Clinical experiential
- UCSF Dermatology (multispecialty rotation): Clinical experiential
- UCSF Sports Medicine (multispecialty rotation): Clinical experiential
- University Health Services Tang Center (multispecialty rotation): Clinical experiential
- Osher Center Mount Zion UCSF (multispecialty rotation): Clinical experiential
- Kaiser SF Ophthalmology (multispecialty rotation): Clinical experiential
- Kaiser Allergy (multispecialty rotation): Clinical experiential

Instructional Facilities

The main facilities, which offer a wide depth and breadth of clinical and research experiences and training, where the trainees practice and see patients are:

- Bay Area Air Quality Management District: Non#clinical experiential
- Thomas Allems: Clinical experiential
- California Division of Occupational Safety and Health: Non#clinical experiential
- California Department of Public Health: Non#clinical experiential
- Richard Cohen: Non#clinical experiential
- Concentra: Clinical experiential
- Center for Environmental Health: Non#clinical experiential
- Dept. of Industrial Relations, Division of Workers: Non#clinical experiential
- Environmental Health Investigations Branch: Non#clinical experiential
- Federal Division of Occupational Safety and Health: Non#clinical experiential
- Michael Fischman: Non#clinical experiential
- ZSFG Federally Qualified Health Center: Clinical experiential
- UC Fresno Employee Health: Clinical experiential
- Kaiser Injury: Clinical experiential
- Kaiser Permanente Medical Center (San Francisco): Clinical experiential
- Kaiser Permanente Medical Center (Oakland): Non#clinical experiential
- Lawrence Berkeley National Laboratory: Clinical experiential
- Lawrence Livermore National Laboratory: Clinical experiential
- Labor Occupational Health Program: Non#clinical experiential
- National Institute for Occupational Safety and Health: Non#clinical experiential
- National Resource Defense Council: Non#clinical experiential
- California EPA, Office of Environmental Health Hazard Assessment: Non#clinical experiential
- San Francisco Pediatric Environmental Health Specialty Unit (PEHSU): Clinical experiential
- Poison Control Center: Clinical experiential
- Research (Fellow/Resident): Non#clinical experiential
- MPH/MS: Non#clinical experiential
- Veterans Affairs Medical Center (San Francisco): Clinical experiential
- Work Well Medical Group: Clinical experiential
- Zenith Insurance: Non#clinical experiential
- San Francisco General Hospital Medical Center: Clinical experiential
- Employee Health ZSFG & MZ: Clinical experiential

Entrance Requirements

In accordance with ACGME requirements for graduate medical education, the UCSF School of Medicine GME eligibility policy applies to all residency and fellowship programs and may be found in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).

The program specific policies may be found at: oem.ucsf.edu/residency-and-other-education/residency-program (<https://oem.ucsf.edu/residency-and-other-education/residency-program/>).

Policies

Enrollment Policy

In accordance with ACGME requirements for graduate medical education, UCSF School of Medicine GME policies apply to all residency and fellowship programs and may be found in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).

Credit Evaluation Policy

In accordance with ACGME requirements for graduate medical education, the UCSF School of Medicine GME supervision, evaluation, and other policies apply to all residency and fellowship programs and may be found in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).

The program specific supervision, communication/escalation, and evaluation policies address the different levels of training and may be found at: oem.ucsf.edu/residency-and-other-education/residency-program (<https://oem.ucsf.edu/residency-and-other-education/residency-program/>). Each program has a multisource learner assessment program in accordance with ACGME, UCSF GME, and program policies and requirements.

All faculty and trainees are educated about fatigue in GME training and adept at recognizing fatigue in themselves and others. In accordance with ACGME requirements for graduate medical education, the UCSF School of Medicine GME fatigue mitigation policy applies to all residency and fellowship programs and may be found in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).

Attendance Policy

In accordance with ACGME requirements for graduate medical education, the UCSF School of Medicine GME leave policy, which addresses vacation, sick, parental, and other leave, applies to all residency and fellowship programs and may be found in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).

- Absence: Refer to the GME leave policy in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).
- Tardiness: Fellows are expected to contact their site preceptor by 8:30 a.m. to indicate if they will be late or absent that day for any reason, notify the Chief resident, and to document absence in the MedHub system.
- Interruption for Unsatisfactory Attendance: Interruption for unsatisfactory attendance is addressed through the established UCSF GME disciplinary mechanisms noted elsewhere in this document. Fellows taking more than the allowed vacation/sick time may be required to extend their fellowship past the normal graduation date.
- Cutting Classes: Fellows must attend a minimum of 70% of conferences during their fellowship and unsatisfactory attendance will be reviewed at the semi-annual Clinical Competency Committee. If needed the fellow will be put on a remediation plan until the situation is rectified.
- Make-up Work: Missed conferences that have been recorded will be available for later viewing. Other missed conferences are made up at the discretion of the program director.
- Leave of Absence: Refer to the GME leave policy in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).

Policy on Academic Progress

The medical education of physicians to practice independently is experiential and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge and attitudes leading to proficiency in all the domains of clinical competency requires the resident and fellow physician to assume personal responsibility for the care of individual patients. For the resident and fellow, the essential learning activity is interaction with patients under guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents and fellows gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept – graded and progressive responsibility – is one of the core tenets of American GME. Supervision in the GME setting has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident or fellow's development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

The program director is responsible for the content and conduct of all educational activities at all teaching sites.

Trainee performance and progress are evaluated by program faculty verbally and in writing with progression consistent with ACGME milestones assessed twice yearly by the Clinical Competency Committee and further reviewed by the Residency Advisory Committee. These formal mechanisms are in place for monitoring and documenting each trainee's

acquisition of fundamental knowledge and clinical skills and overall performance throughout the academic year.

Trainees are supervised by faculty and given regular feedback on their performance in real-time and at regular intervals from the program director or associate program director with input from the Clinical Competency Committee (CCC), as noted. If a trainee is not meeting expectations or experiencing difficulties, the program director will determine if remediation is needed.

In the event academic action is necessary, policies and procedures must follow the UCSF GME academic due process policy (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202022-2023%20rev09.2022.pdf>).

Trainee Responsibilities

UCSF residents and fellows are expected to:

- Develop a personal program of self-study and professional growth with guidance from the faculty;
- Participate in safe, effective, and compassionate patient care under supervision commensurate with their level of advancement and responsibility;
- Participate fully in the educational and scholarly activities of their program and as required, assume responsibility for teaching and supervising other residents, fellows, and students;
- Participate in institutional programs and activities involving the medical staff and adhere to established practices, procedures, and policies of the institution;
- Participate in institutional committees and councils, especially those that relate to patient care activities;
- Participate in evaluation of the quality of education provided by the program;
- Develop an understanding of ethical, socioeconomic, and medical/legal issues that affect graduate medical education and how to apply cost containment measures in the provision of patient care;
- Comply with established ethical behavior and practices;
- Adhere to federal, state, and campus deadlines and requirements regarding licensure and registration for the practice of medicine;
- Respond to the Office of GME (OGME) and the home program/department for information related to position/rank and function;
- Adhere to all departmental, School of Medicine, GME, and ACGME policies and procedures.

Benefits/Leave

UCSF residents and fellows are entitled to four (4) work weeks of vacation, 12 sick days, and eight weeks of paid parental leave annually. Find more information about trainee leaves (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202022-2023%20rev09.2022.pdf#page=56>).

Time spent away from the program may impact program completion per American Board requirements. Programs are required to provide timely notice of the effect of leave(s) on the ability of trainees to satisfy requirements for completion.

UCSF Hospital System Responsibilities

- Sleep rooms and lounges: Sleep rooms and lounges for residents and fellows are provided at rotation sites. They may use for overnight call and napping.
- Uniforms: One long white coat is issued to new residents.
- Work Hours: UCSF GME work hour policy applies to all residents and fellows and may be found in the 2023-2024 Housestaff Information Booklet (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%20102323.pdf>).
- Communication: Pagers, email addresses, and access to the UCSF network are provided to all residents and fellows when they start their training.
- Library: All trainees have access to the UCSF library, both in-person and online. They also have access to libraries at the sites in which they rotate.

Salaries

Trainee salaries are determined through collective bargaining with CIR-SEIU Healthcare, the exclusive representative of UCSF residents and fellows. If program policy allows, trainees may elect to moonlight. Find the UCSF GME moonlighting policy (<https://meded.ucsf.edu/sites/meded.ucsf.edu/files/inline-files/Housestaff%20Info%20Booklet%202023-2024%2003-20-2024.pdf>) in the 2023-2024 Housestaff Information Booklet.