

WINTER 2021



APOM

NEWSLETTER

A Newsletter for OHSU Anesthesiology and Perioperative Medicine



An energized department

Dear colleagues,

It is my pleasure to share our winter issue with you featuring the latest accomplishments of our amazing APOM members. While SARS-CoV-2 has posed unprecedented challenges, we have not let it define us. Rather, APOM has risen to the challenge. We have continuously adapted our clinical and educational processes as well as paused and restarted our research activities. We prepared for the worst, and continue to meet the challenges of access to testing and PPE supplies while keeping our department members and our patients safe. We continue to promote wellness strategies for managing stress.

Simultaneously, we have acknowledged the ongoing persistence of racial inequality and committed ourselves to be leaders in creating a true culture of equality. We have been strong, vocal and up-front in the call for social and racial justice.

It is hard to wrap our collective successes in one letter but here are a few highlights:

- Our ICU team supported the rapid expansion of critical care services across the institution. The heart transplant program restarted with two successful transplants and multiple VAD implants. The Virtual ICU team implemented audiovisual connectivity and a secure data platform for all 90 adult ICU beds at OHSU and Hillsboro Medical Center to prepare 24/7 virtual ICU launch. The ECMO team significantly expanded services, including for COVID-19 patients.
- Our Pediatric team actively collaborated at Doernbecher to adapt and implement pediatric practice guidelines to meet the unique needs of children and their families. As conditions have permitted, they have also sustained their services at Hillsboro Medical Center.
- Our Adult Service had successful recruitment and growth of our physicians and CRNAs. The scheduling team rebuilt a clinical schedule to accommodate evening, weekend, and airway work reflecting a modified operations model. QGenda scheduling software was successfully launched.

- Our Comprehensive Pain Service quickly pivoted to offer as many services as possible virtually, and has averaged 250 virtual visits per week since modified operations was declared. Despite the pandemic, more than 21,000 CPC and 5,000 APS encounters were completed. As the CPC has worked to re-establish in-person appointments and procedures, they have sustained virtual options as well.
- Our research team celebrated its 5th Annual Research and Quality Day and is leading many high-impact trials. Our faculty produced over 70 publications. Our trainees published 14 articles, did 27 conference presentations and wrote 2 books in the last year.
- Our education team has done a fantastic job, earning approval for an expansion to our residency complement and filling all six programs. We are recognized as a top 20 program by U.S. News and World Report. All accredited programs have been given commendations by ACGME. Early this year, resident educational activities were organized into an academic half-day model, and then successfully transitioned once again to a virtual format.
- Our administrative team has led or anchored every one of these accomplishments. In addition, they transitioned all administrative staff to telework within 2 weeks upon modified operations, converted all recruitment and onboarding activities to a virtual format, and adapted financial processes to shifting institutional budget and compensation guidelines.

We have reached a new milestone with COVID-19 vaccinations and I am inspired by everyone's dedication, positivity, and commitment to excellence. It is an honor to be a member of this extraordinary department.



Stephen Robinson

Stephen Robinson, M.D.

PROFESSOR AND INTERIM CHAIR, ANESTHESIOLOGY
AND PERIOPERATIVE MEDICINE



Pain Center

Therapeutic care for cancer patients

The Comprehensive Pain Center has a Cancer Care program whose goal is to provide timely pain care for cancer patients currently undergoing treatment, post-treatment, or recovery. The program is led by a team including a nurse cancer care coordinator, Celeste Aguilar, RN, alongside Sandy Christiansen, M.D. and Amanda St. John, DNP, FNP. Together they provide pain-related care for cancer patients. The program is funded in part by a generous donor whose wife suffered pain post-cancer treatment and passed away before the pain could be controlled. His goal in donating was to ensure this did not happen to others. Below are two patient cases that the cancer care team would like to share.

Getting off all oral opioids

One of our patients with metastatic high-grade, non-functional paraganglioma, s/p (status post) Peptide Receptor Radionuclide Therapy (PRRT) with progressive disease in the liver and spine was admitted to OHSU due to increasing and poorly controlled pain and frequent falls.

In the hospital, our patient was found to have progressive myelopathy due to tumor and subsequently underwent a T10-L2 laminectomy, T9-L3 fusion with hardware. Following the decompression, our patient continued to have severe pain.

The collaboration between the Adult Pain Service, Comprehensive Pain Center, Palliative Care, and Neurosurgery resulted in a plan to implant and fill an intrathecal pump inpatient and then manage the pump outpatient.

After the implant, the pain was well-controlled and our patient was discharged to a local rehabilitation facility. At the facility, he has ultimately weaned off all oral opioid medications.

Able to walk and run again

A second patient with a WHO Grade II oligodendroglioma s/p (status post) resection with recurrence and progression to anaplastic oligodendroglioma was treated with radiation after a recurrent disease.

At follow-up with his radiation oncology provider, our patient complained of right-side pain in his low back radiating into his lateral thigh and lower leg. This patient attempted physical therapy but had minimal results.

A review of lumbar MRI revealed neuroforaminal stenosis with nerve root impingement consistent with a lumbar radiculopathy. Central pain syndrome (given his history), intra-articular hip pathology and sacroiliac joint dysfunction were also considered but felt to be less likely given the clinical symptoms, physical exam findings and imaging.

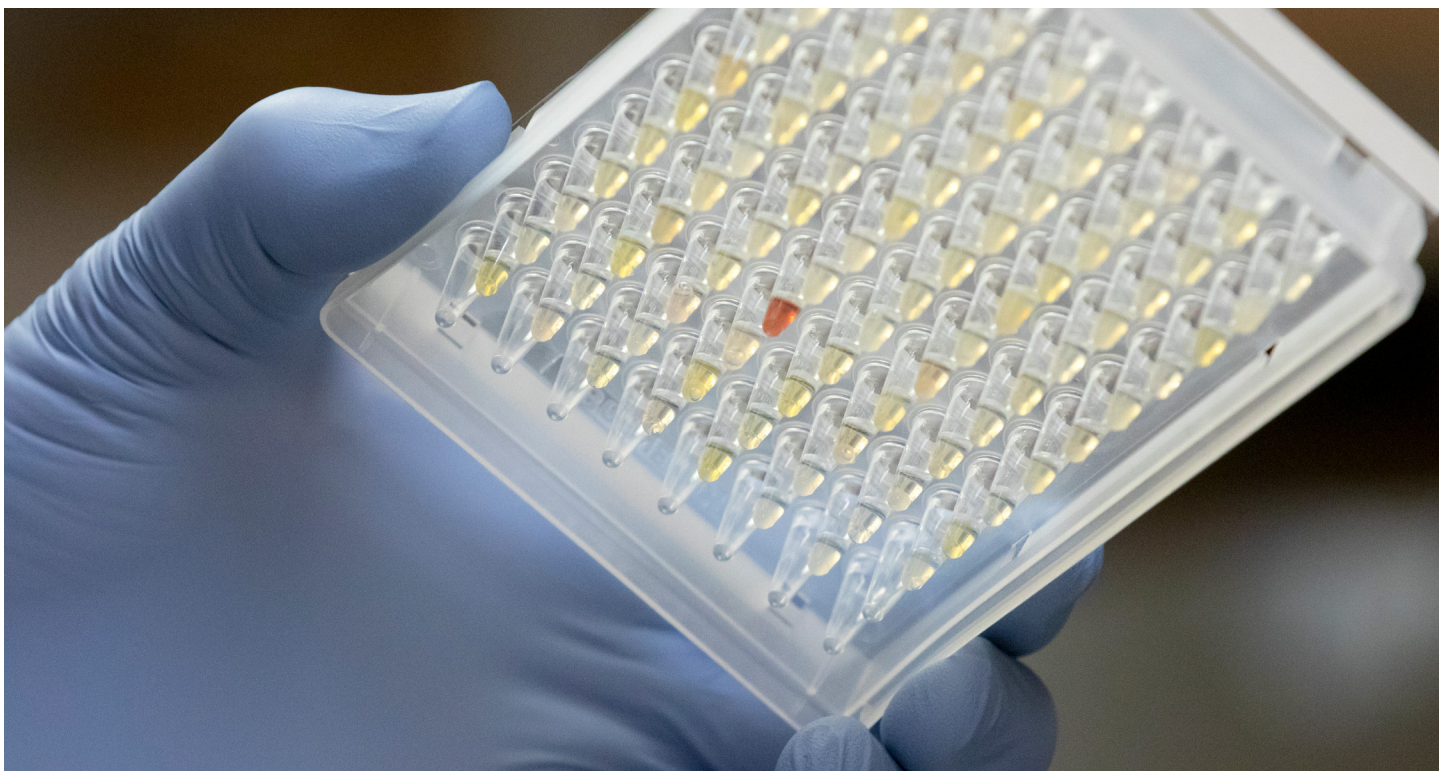
The Comprehensive Pain Center team discussed a diagnostic and therapeutic transforaminal epidural steroid injection. Prior to the procedure, the patient rated his pain 7/10 with interference in function and immediately following the epidural injection the patient rated his pain 3/10. He also stated that he was able to do more activities, like walking and running, and was very happy with the ongoing results.

Expanding telemedicine

The Comprehensive Pain Center started converting all in-person visits to virtual beginning March 16th, a week before modified operations was declared. While our integrative services, which are largely hands-on, had to be paused, our physicians, APPs and psychologists continued to work their regular schedules.

Since the first week of April, we have been averaging 250 telehealth visits per week. Our patients have shown nothing but appreciation for the ability to continue to receive care during this time. We will permanently incorporate virtual visits into our normal offerings for patients even with the resumption of in-person operations. This option will continue to be particularly beneficial for those patients from outside the Portland metro area, those with transportation limitations, and low complexity visits that do not require a physical exam.

With the resumption of some in-person visits, telehealth is currently making up approximately 50% of our total visits. A huge thank you to the entire Pain team for completely transforming the way we provide care in a matter of days.



Daniel Streblow, Ph.D., holds a plate of plasma samples that contain COVID-19 antibodies, to be evaluated in OHSU's in-house COVID-19 testing lab. Researchers are looking for antibody testing approaches, as well as hoping to find out if people can be re-infected, and how long antibodies remain in the body following infection. (OHSU/Kristyna Wentz-Graff)

Pandemic prompts statewide network of hospital resources

Oregon avoided its hospitals being overwhelmed with COVID-19 patients due to strong actions by state authorities as well as personal and economic sacrifices by Oregon citizens and businesses.

Oregon health care systems adopted the equivalent of a 6,000-bed statewide network to manage a surge in patient volumes across the entire state.

The initiative, enabled by GE Healthcare technology in partnership with Oregon Health & Science University and other health systems across the state, allows health systems to see and react to hospital capacity statewide rather than attempting to manage the surge on a piecemeal hospital-by-hospital approach.

The COVID Capacity Center actively monitors real-time hospital data to inform patient intake and care. The center includes 90% of all hospital beds statewide.

This initiative will have long-lasting benefits in

managing new upticks in COVID-19 patients in the next year or two. In addition, health systems will be able to use the new tool over the long term to help manage resources across hospitals during annual outbreaks of seasonal influenza.

Openly sharing the availability of resources in this way is new territory for health systems that have traditionally vied as competitors in the marketplace.

“This tool will be useful in managing demand for hospital beds any time we have an influx of patients that exceeds one hospital system’s capacity. It will help all Oregonians and avoid decisions being made in silos,” said Matthias Merkel, M.D., Ph.D., chief medical capacity officer and professor of anesthesiology and perioperative medicine in the OHSU School of Medicine. “Oregon is really leading the way for the United States.”

The Oregon Health Authority foresaw the need for better coordination between hospitals, especially between rural and urban areas, and encouraged Oregon health systems to come together to manage an expected statewide surge in demand for hospital beds, staff and equipment such as ventilators.



Heidi Paulson, R.N., B.S.N., and Miko Enomoto, M.D., try out new PAPR respirator lenses produced by Nike, April 3, 2020, at OHSU. (OHSU/Kristyna Wentz-Graff)

Full-face shields allow health care workers to safely combat COVID-19

When frontline health care workers and emergency responders across the world voiced concern about a dwindling supply of PPE, due to COVID-19, Nike answered the call.

Extending its innovation beyond athletic footwear, apparel and equipment, the Oregon-based company pivoted and donated PPE to help support Oregon health care workers fighting the novel coronavirus.

In April, Nike delivered a shipment of full-face shields and powered air-purifying respirator, or PAPR, lenses to OHSU frontline workers. Miko Enomoto, M.D., associate professor of anesthesiology and perioperative medicine and interim medical director of the Cardiovascular Intensive Care Unit, helped to develop them through medical advice and prototype testing.

According to Enomoto, face shields and PAPR lenses are among the most depleted of critical PPE supplies in the nation. When available, these masks help to protect health care workers from airborne contaminants generated by many procedures, such as intubation or ventilation, needed by patients with COVID-19. The lack of such equipment greatly amplifies the risk of viral spread and infection.

“Simply put, these resources help to keep frontline health care workers safe,” she said. “They allow us the ability to provide the best possible care to the most vulnerable patients during this uncertain time. Nike’s generous response to the COVID-19 crisis helps to instill an added layer of confidence and support for health care workers, that we can safely carry out the jobs we were born to do.”

Nike’s custom PPE uses and reimagines elements, such as collar padding and cords, used in existing footwear and apparel designs. A thermoplastic polyurethane, or TPU, familiar to their signature Nike Air soles, is a major component in both the full-face shield and PAPR lenses.



Congratulations to our 2020 graduates!

APOM celebrated our graduating residents. After proper vehicular decorating, a car parade was held to deliver a commemorative book, food and beverage, and boisterous cheering often joined by random passersby who got caught up in the moment. This was all accomplished with appropriate safety measures.

Here are a few parting words from APOM's graduates:

"I truly believe that I am standing on the shoulders of giants. I am going to Dallas for a peds anesthesia fellowship next year. It's been a great experience and a crazy end to my residency!"

— **George Agyekum**

"I have gone through each stage of residency as many do: initially feeling overwhelmed, followed by exhaustion, some burn out and finally the deep longing for more time at OHSU. I want to thank all my family, friends, and staff who have been by my side throughout my journey. I will miss OHSU deeply."

— **Jacob Anderson**

"Thank you to all of the faculty and staff, fellows, residents, CRNAs, periop and ICU nurses, RTs, pharmacists, anesthesia techs, EVS, and food and nutrition staff who I have gotten to learn from and laugh alongside over the past four years. I am forever grateful for your kindness and wisdom."

— **Jeremy Bengson**

"I'm very thankful for the opportunity to train with and amongst the best! My deepest gratitude goes to the residents, faculty and staff who became true allies and friends through the lowest points. I will always cherish our time. See you around. Lastly, giving a shout-out to my family! This is for you!"

— **Chino Chris-Ukah**

"I count myself fortunate to have built so many lifelong friendships with my co-residents and I am thankful for our memories of our annual float on the Clackamas, coast camping, ski days, backyard cookouts and mountaineering excursions."

— **Christopher Dukatz**

"I am incredibly thankful to have had the opportunity to train at OHSU. My four years here have been fraught with foibles, growth experiences, and delightful memories. I am grateful to my family for their incredible support, and each of my mentors at APOM."

— **Casey Harms**

"I have learned so much while training on the hill, and have grown as a person and as a medical provider. I am thankful for everyone I have worked with, the other residents I have learned from and worked alongside, our amazing education staff, the wonderful nurses I have had the pleasure to work with, and everyone else at OHSU who has helped make my residency training such a positive experience."

— **Melissa Knight**

"The highlight of my residency was when I took an RI call with the venerable Dawn Dillman, M.D. A patient with a nearly ruptured aortic aneurysm needed to come to the OR for open repair, and hastily prepared for the case. The case was dramatic, as one would expect, and I managed it to near completion with minimal assistance. Feeling prideful, I fished gently for praise regarding my care for this troubled patient. 'You did an okay job.'"

— **Brian Magnuson**

"Thank you to my family, and especially my wife Nicole, for their support throughout my training. It has been a long road, and I could not have done it without them. Thank you to our wonderful department leadership, faculty, staff, and my co-residents. I have thoroughly enjoyed my three years at OHSU and I will cherish you all."

— **John McKenna**

"As I complete my training and go full circle from having grown up in Klamath Falls, OR to joining the anesthesiology group I would like to thank those who have supported me along the way this includes my wife, our children, my parents and my brother. Though I have countless memories from the program, I'm most proud of an opportunity where I successfully resuscitated an apneic and bradycardic newborn immediately after a C-section delivery."

— **Phillip Narkiewicz-Jodko**

"The highlight of my residency was becoming Chief Resident and standing up for my colleagues when they needed a voice."

— **Viviana Ruiz Barros**

"I can't thank everyone enough! What an opportunity to train at OHSU APOM. Thanks everyone for getting me to the next steps!"

— **Nicholas Vigo**



Dr. Lauren Simpson raises her fist as she gathers with OHSU staff and community at Elizabeth Caruthers Park in June. "Whether you choose to sit, stand or kneel is up to you but making known our collective desire to end racism is the goal," said organizers. (OHSU/Kristyna Wentz-Graff)



Rosa Carbonell, M.D., holds a sign during a moment of silence, as she joins with other medical professionals in Pioneer Courthouse Square on Friday, June 5, 2020, showing their support for the black lives movement. (OHSU/Kristyna Wentz-Graff)

Our commitment to eradicating racism

A few months ago, hundreds of medical professionals gathered at Pioneer Courthouse Square, kneeling with fists raised to demonstrate their support for the Black Lives Matter movement. That same afternoon, OHSU staff and other community members joined together for a second "White Coats for Black Lives" event near CHH2. Thank you to all APOM members who have raised their voices in actively opposing racism. This crisis demands our focus.

We joined Black academic and STEM professionals on June 10th as a #ShutDownSTEM, a day for all of us to redirect our time towards combating racism in our society. Many spent the day educating ourselves and developing action plans for fighting systemic racism.

APOM's Interim Chair and Vice Chairs discussed how we, as a department, can take concrete steps to be actively antiracist. Our diversity action plan is a strategic way of mapping out how we strive to support the recruitment and retention of diverse faculty, staff, and trainees, and promote a climate of inclusion. We are viewed as a leader across campus in our commitment to diversity and inclusion. And yet, it is evident in these times that we can and must do more.

APOM's Diversity Action Implementation Team, established in 2016 and charged with the continuous implementation and evaluation of our departmental plan, pivoted this summer to serve as members of an Anti-Racism Task Force. The task force includes representation from all mission areas and divisions, and is developing a set of recommendations to department leadership on how to take steps toward becoming an actively anti-racist community.

One such priority, for example, is to stand up an anonymous reporting system for racism incidents, with immediate action attached to any reports. There was also energy around the concept of creating an antidiscrimination track in the ExCEL program.

The vice chairs also committed themselves to supporting everyone's participation in providing input into the OHSU committee formed by Dr. Jacobs to update OHSU policy to better reflect our values, when they open up to input.

Thank you to Dr. Tomas Lazo, a member of a Diversity and Inclusion task force at the Society for Education in Anesthesia, who is leading development of the antidiscrimination ExCEL track.



Medical students led a moment of silence. Emily Baird, M.D., Ph.D. participates in it (EdCOMM/Aaron Bieleck)

Intentional action combats preventable health care disparities

Over the past months, the pandemic has laid bare the racial health inequities harming Black communities, exposing the structures, systems, and policies that create social and economic conditions that lead to health disparities, poor health outcomes, and lower life expectancy.

As public awareness increases on health disparities, we need to make an effort to accelerate deliberate action. Clinical care differs based on race and ethnicity, and we must change that.

Dr. Dayle Hodge, a resident in APOM, has talked about “Health Problems in Urban Communities” an essential overview of healthcare disparities in a wide range of settings and the effects of social policies with diverse and complex causes.



Hundreds gathered, kneeling with fists raised. (OHSU/Kristyna Wentz-Graff)

He has noted the following:

- Zip codes are an accurate predictor for income, educational attainment and life expectancy. Redlining/housing discrimination policies were instrumental in contributing to racial disparities in these metrics.
- Food deserts are more prevalent in underserved neighborhoods and contribute to higher diabetes and obesity rates among these communities.
- Race is the single strongest predictor for living near polluted areas. Many major urban centers have alarmingly high lead contamination rates contributing to reduced quality of life and premature death.
- Disparate policing and mass incarceration directly contribute to reduced life expectancy in underserved communities.

“Children are facing risks that affect their ability to learn; increased public awareness is critical in combating health care disparities in underserved communities,” said Dr. Hodge. “Urban environments often have structural and environmental factors that can be detrimental to health. Policy and legislation often have substantial effects on lower socioeconomic populations.”

These are complicated issues. They require conversations and a personal commitment that may be uncomfortable at times. Let’s reflect and engage in these conversations.



Usable data for quality improvement and advancing scientific knowledge

A novel approach taken by the Multicenter Perioperative Outcomes Group

The use of the electronic health record (EHR) has become a routine part of perioperative care in the United States. Secondary use of EHR data includes research, quality, and educational initiatives. Fundamental to secondary use is a framework to ensure fidelity, transparency, and completeness of the source data.

APOM Professor and Interim Vice Chair for Clinical Affairs, Dr. Michael Aziz, collaborated in developing this framework. Competing priorities were considered as to which data sources are used and how data are organized and incorporated into a useable format. In assembling perioperative data from diverse institutions across the United States and Europe, the Multicenter Perioperative Outcomes Group (MPOG) developed methods to support such a framework.

The group approached considerations of data structure, validation, and accessibility to support multicenter integration of perioperative EHRs. In this multicenter practice registry, MPOG developed processes to extract data from the perioperative EHR, transform data into a standardized format, and validate, deidentify, and transfer data to a secure central Coordinating Center database.

As of March 2019, our collaboration of 46 hospitals had accrued 10.7 million anesthesia records with associated perioperative EHR data across heterogeneous vendors. Facilitated by MPOG, each site retains access to a local repository containing all site-specific perioperative data, distinct from source EHRs and readily available for local initiatives.

Through committee approval processes, investigators at participating sites may additionally access multicenter data for similar initiatives. Emerging from this work are four considerations that our group has prioritized to improve data quality:

1. Data should be available at the local level before Coordinating Center transfer
2. Data should be rigorously validated against standardized metrics before use
3. Data should be curated into computable phenotypes that are easily accessible
4. Data should be collected for both research and quality improvement purposes because these complementary goals bolster the strength of each endeavor

Here at OHSU, we have capitalized on this collaboration. APOM investigators have worked on a host of research projects related to airway management, regional anesthesia, pain, thoracic surgery, and broader perioperative questions. Today, APOM members have the means to answer their own clinical questions by tapping into our local infrastructure or more broadly as part of this research consortium. Utilizing a common “language” makes the implementation of study design more fluid and reproducible. Furthermore, the quality reporting tools remain the framework of our improvement initiatives. We can now measure the effects of our interventions on an individual or department level.

Welcoming new faculty and staff

PHYSICIAN FACULTY

Nicholas An
Sarah Biel
Kevin Blaine
Andrew Corcoran
Ryan Crowley
Meredith Degnan
Nicholas Eglitis
Salman Hirani
Jerry Holguin
Angele Theard
Kristin Thompson
Jennifer Vookles

RESEARCH FACULTY AND STAFF

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Minghui Chen
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Tahnee Groat
Jessica Hebert
Trevor McFarland
Adam Munhall
Megan Nickerson
Hung Nguyen
Calli Wimsatt
Sarah Zerimech

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Jolie Dietzen
Kimberly Giltner
Robert Montgomery
Gwen Nesselbeck
Ryan Oliver
Kirstin Patrick
Jamie Vogl

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Jennifer Arnold
Michelle Brannon
Ashley Cole
Sue Gritzner
Sue Heuangsackda
Afton Potter
Minh Son

ICU APP FACULTY

Tatum Arthur
Lisa Bush
Matthew Dalke (HMC)
Emmanuel Dwomoh-Tweneboah
Jocelyn Early
John Shoffer (HMC)

ADMINISTRATIVE STAFF

Dan Kenron
Anthony Morant



Psychology Ph.D. Program

Tom Kern, Jim Carson and Stephen Boyd, all health psychologists at the Comprehensive Pain Center, are actively involved in the OHSU Clinical Psychology Ph.D. program. In 2019, the OHSU Psychology Division started a Clinical Psychology Ph.D. program. It is the only program in Oregon that is sponsored and primarily housed within an academic medical center and it is one of only three programs in the state. In addition to training in general clinical psychology, the program offers emphasis in three key areas:

1. health psychology,
2. neuroscience of mental health disorders,
3. development and implementation of clinical trials.

Dr. Kern is a member of the Steering Committee, representing Health Psychology. Dr. Carson and Dr. Boyd started practicum training in July for our first cohort of students. It has taken a few years of hard work and preparation to get to this point. It is quite an accomplishment for OHSU to have this program and an honor for our psychology faculty in the CPC to be involved.



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