Kaiser Permanente Los Angeles Medical Center has an exceptional Interventional Radiology (IR) training experience. We established a pathway for training in 2008 and our graduates go on to develop robust clinical IR practices. Currently, we have 11 faculty, including 8 peripheral interventionalists and 3 neurointerventionalists.

**Interventional Radiology**

We have developed a robust outpatient Interventional Radiology clinic every day of the week. Each IR attending has between 1 to 2 days of clinic a week, and our IR clinic sees between 100 to 150 patients a week. We have established a purely consultative practice for the hospital setting where all inpatients are seen in formal consultation, regardless of if a procedure is going to be performed or not.

We have our own admitting service and admit approximately 10 patients a week to the hospital directly to the vascular and interventional radiology service.

From a purely clinical non-procedural standpoint our IR division averages 2,000 inpatient consultations, 500 hospital admissions and we see approximately 5,000 patients in our outpatient clinic annually. The IR division offers the gamut of advanced interventional procedures including aortic interventions, peripheral arterial disease, interventional oncology, pain interventions, neurointerventions, pediatric interventions, hepatobiliary interventions, women’s health and Gastrointestinal/Genitourinary interventions.

**Vascular Treatments**

We have a robust aortic division in which we evaluate and manage complex abdominal and thoracic aortic pathology including complex fenestrated thoraco-abdominal aortic repair. We also have a robust peripheral vascular disease practice with the treatment of both claudicants with medical optimization/revascularization and critical limb ischemia patients with complex revascularization including retropedal access and wound care. Our residents receive a minimum of 80 hours of wound care training and have the option of getting wound care.
Gastrointestinal and Genitourinary Treatments
Outside of the standard gastrostomy tubes, cholecystostomy tubes, biliary drains and nephrostomy tubes. Our division is heavily involved in the treatment of BPH with prostate artery embolization as well as the treatment of fibroids with uterine artery embolization. We also provide treatment of fertility disorders with varicocele embolizations for males and fallopian tube recanalization for females.

Neuro-interventional Treatments
The three neuro-interventionalists in our group have a very robust practice treating over 100 cerebral aneurysms a year and perform a fair number of carotid stents, intracranial stents as well as AVM treatments. We are also a comprehensive stroke center and perform a high volume of acute stroke thrombectomy cases. Our integrated IR residents do a minimum of three months of neuro-interventional during their residency and assist in stroke call, resulting in extensive hands on experience in cerebral circulation. The trainees are able to get a fair volume of neuro-interventional cases as well, which include stroke interventions, carotid stenting, and the treatment of intracranial aneurysms and AVMs. There is also the option to do a dedicated stroke neurology rotation as well as neuro ICU.

Vascular and Interventional Integrated Resident Training Experience
Our IR medical student and resident training is exceptional. We started one of the earliest medical student rotations for IR in southern California. The trainees get a great deal of autonomy in the procedure room as well as in the outpatient clinic and inpatient consult service. Once clinical competence is gained in the ICU, outpatient clinic and inpatient consults, trainees have the opportunity to perform complex procedures.

Internship
Residents complete their internship in General Surgery. The general surgery division is vigorous and busy with tertiary cases. Trainees receive hands-on training, often directly with the surgical attending in the surgical division. During the year, trainees have one month of interventional radiology, one month of vascular surgery, two months of surgical oncology, onemonth of thoracic surgery, one month of pediatric surgery, onemonth of colorectal surgery, two months of acute care surgery, a month of minimally invasive surgery and one month of medical intensive care unit (MICU).
**PGY 2-4**

We feel that early integration of IR rotations as well as dedicated clinic time and clinical rotations are paramount to becoming a comprehensive clinical interventional physician. Unlike most integrated programs which have a 3-year hiatus after internship in which they will only have 3 months of IR during the first 3 years of residency, our Integrated IR residents do their internship in Surgery at Kaiser, as mentioned above. During the PGY 2 year trainees rotate in the medical intensive care unit as well as doing weekend interventional radiology call to continue to expand their clinical and technical experience. We feel the highest yield clinical rotation is the intensive care environment as trainees will be dealing with the most ill and acute medical conditions. At the end of PGY 2, trainees do two months of back to back interventional radiology. The PGY 3 year has a 3 month block, which includes one month of intensive care in the cardiac care unit (CCU) and two months of interventional radiology. At the very beginning of PGY 4, the IR integrated residents do one month of interventional radiology and one month of neurointerventional radiology residency. Thus trainees complete a total of 7.5 months of interventional radiology and clinical rotations during PGY2 through PGY4.

**PGY 5**

The PGY 5 year has two additional months of neurointerventional radiology, one to two months of vascular surgery and two additional months of intensive care medicine. The remainder of the year will be interventional radiology intermixed with one month of mammography and one month of nuclear medicine.

**PGY 6**

The final year will be primarily on the interventional radiology service with some options for elective time on clinical rotations.

**ICU/CCU Experience**

Clinical integration is critical to being a solid interventional physician who can comprehensively manage patients. Many of our patients have multiple comorbid conditions and so we feel that the highest yield clinical rotation is intensive care training. Thus we have developed extensive intensive care (ICU) training throughout the integrated IR residency experience. During the surgical internship you spend one month in a very busy medical intensive care unit. During PGY 2 you will spend about 80 hours in the medical intensive care unit (MICU). During PGY 3 you will rotate on the Cardiac Intensive Care Unit (CICU). The PGY 5 and 6 years will include 2 months of CICU experience. We also have an ICU lecture series built into the IR curriculum that is given by the Intensive Care faculty during the course of their integrated IR residency. During
the intensive care months, the IR resident will get more comfortable with the running of codes and dealing with higher acuity cardiac patients who require ventilator support, intra-aortic balloon pumps, or pulmonary artery invasive monitoring.

**IR Resident Continuity Clinic**
As part of the clinical integration, we feel that continuity clinic is critical. The integrated IR residents will have a half day of clinic a week throughout the PGY 2 through PGY 6 years. During that time they will develop long term longitudinal relationships with their patients and patient’s families. They will be the patient’s advocate and make sure that the patient is relayed results of lab evaluations and imaging as well as being up to date on their screening studies (mammography, colorectal screening, lipid panels, HbA1c etc). The IR resident will be responsible for monitoring and managing their patient’s comorbid conditions, guiding them on smoking cessation and aiding with diabetic control.

**Multi-disciplinary Conferences**
We have numerous multi-disciplinary conferences that the interventional radiology resident is an active participant in, including a weekly hepatobiliary/liver tumor board, multidisciplinary vascular conference, and lung tumor board every Tuesday. We also have a pulmonary/critical care conference every Wednesday at noon. Additionally, we have a neurointerventional radiology conference every other Thursday at noon.

**Interventional Lecture series**
In addition to our general diagnostic conferences, which are between 12:00 pm and 1:30 pm daily, we also have a specific 7 am to 8 am daily conference schedule for the IR trainee. Monday mornings are a core radiology topic (focused on general radiology boards), Tuesdays are multi-disciplinary vascular conference, Wednesdays are dedicated clinical topics (atrial fibrillation, diabetes management, diabetic foot, shock etc), Thursdays are general IR concepts, and Fridays are best IR case conference/Journal clubs. The AM conferences are invaluable in learning the extensive clinical pearls that are critical to becoming a strong clinical interventional physician. We also highly encourage the IR resident to attend and present at local angio clubs as well as regional and national interventional meetings.

**Medical Student Education**
We have a robust medical student experience for those who have determined that they want to pursue vascular and interventional radiology. We have 3rd and 4th year students. Our medical students are an integral part of our training program on the IR service. They are acting sub-interns and see initial consultations, actively participate in clinic and are also heavily involved in the procedural areas. Our IR integrated residents will work closely with medical students both at our institution and also nationally.

**Summary**
In summary, the Kaiser Permanente Integrated Interventional Residency offers the highly motivated trainee an opportunity to become an outstanding interventional physician who will be able to build an interventional practice from scratch and provide comprehensive clinical care. Our residents are some of the strongest clinicians graduating from IR programs due to the unique resident driven continuity clinic that is throughout the PGY 2 through PGY 6 years, the extensive ICU experience integrated throughout (4.5 months) and the dedicated weekly clinical lecture series throughout PGY 2 through PGY 6.

Residents are trained to comprehensively manage a large number of diseases and provide a range of procedures to the patients that they take care of. We offer one of the broadest and most comprehensive array of procedural opportunities in a training program which includes nearly every aspect of interventional medicine (interventional oncology, pain interventions, PAD, aortic repair, and neuro-interventional).

Visit residency-scal-kaiserpermanente.org to learn more about how to apply, our faculty & residents, available clerkships & electives, and benefits & salary.