UC Irvine Endourology Fellowship Program

Advanced Training: Leadership, Innovation Translational Science and Minimally Invasive Surgery

Laparoscopy, Endoscopy, Robotics & Image Guided Therapy

Overview

The Minimally Invasive Urology Training Program at University of California, Irvine is an Endourology Society approved training program specifically and carefully tailored to train future academic leaders in the world of minimally invasive and noninvasive urology. The directors of this program have been training fellows in Endourology longer than any other academic center world-wide.

Graduates of the program when it was first initiated at Washington University and then continued by Drs. Landman, McDougall, and Clayman at UC Irvine include 4 current Chairs of Urology. Upon graduation, over 75% (23/30) of the fellows have gone into academic urology. While many endourology fellowship programs have gone to a one year experience, it is our firm belief that academic urology is becoming, more rather than less complicated. As such the skill set for success includes a firm grounding in research and leadership as well as extensive specialty training.

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Accordingly, the UCI fellowship includes a masters curriculum in Biomedical and Clinical Translational Science; this degree program is directed by world renown leaders in Health Policy Research, Dr. Sherri Kaplan and Dr. Shelly Kaplan. Also, a leadership training program has been established through the Merage School of Business at UC Irvine in order to further provide the administrative leadership and know -how that will equip the fellow with tools/knowledge for a successful career in academia.

The intensive two year program is designed to train highly skilled leaders in research and in all aspects of endourology. The initial year is largely spent in the laboratory with a 20% participation in clinical activities. The endourology laboratory is well-established and includes both basic and opportunities; a one year degree granting masters program in basic and translational science is part of the first fellowship year. In addition to the endourology laboratory, there is a UC Irvine Surgical Education Laboratory for conducting studies in training and the development of teaching modules and models. Research training is focused on creative and dynamic innovation, study design and execution, and proper presentation.

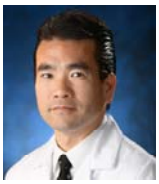
Co-Directors

Ralph Clayman, MD
Professor of Urology
Dean Emeritus

Jaime Landman, MD
Professor of Urology and Radiology
Chairman, Department of Urology

Faculty

Thomas E. Ahlering, MD
Professor of Urology
Vice Chair, Department of Urology



Edward Uchio, MD
Associate Professor of Urology
Director of Urologic Oncology

Ramy Yaacoub, MD
Assistant Professor of Urology

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Further, during the two years, the fellow participates in leadership training and executive coaching exercises to provide the administrative leadership skills necessary for success in the academic realm.

During the second year, the majority of time is spent in mastering clinical skills in all aspects of minimally invasive Urology; these include robotic, laparoscopic, percutaneous, ureteroscopic, and needle ablative surgeries. In addition, there is focus on the use of GU ultrasonography, especially as it would apply to in – office ultrasound guided biopsy of renal masses and operating room initiation of the percutaneous nephrostomy tract.

The training program has, additionally incorporated highly skilled and well trained urologic oncologists, Dr. Thomas Ahlering and Dr. Edward Uchio, who are an important part of the minimally invasive training program and laboratory. Additionally, the training program is quite unique as the close working relationship we have with interventional radiology allows our fellows to work closely with our interventional radiologists in order to optimize the fellows' experience with percutaneous ablation and other related procedures.

The technical training and investigative components of the training program are enhanced by unique world-class laboratory resources. The laboratory incorporates four distinct training facilities: a survival operative suite and animal vivarium, a non-survival operative suite with 6 operative stations, a surgical simulation and laparoscopic trainer suite with 6 laparoscopic pelvic trainers, and a fresh tissue laboratory with an additional 4 operative stations. In addition, the program is one of the few in the country with a dedicated laboratory da Vinci (Si) surgical robot for both training and perfecting new procedures. Further, the education laboratory also includes: laparoscopic virtual reality trainers, robotic virtual reality trainers, a percutaneous renal access and ureteroscopy simulator, and a full complement of endourology equipment. The available facilities and advanced surgical equipment allow the potential for a broad array of experiments to be designed and performed.

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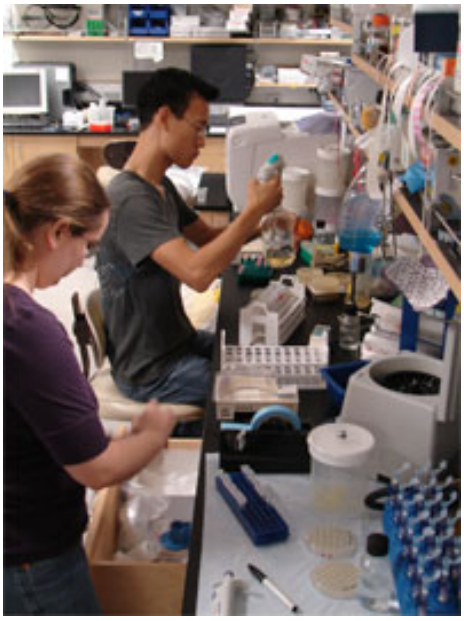


Indeed, the only limits on the fellow's productivity during the fellowship is the range of her/his creative/innovative capabilities. Expert full-time Urology dedicated staff is available to optimize productivity in the four laboratories. Staff dedicated to the minimally invasive urology team includes a full time research coordinator, a full time laboratory director, full time associate lab director, and the services of a statistician for study design and execution. UCI is a highly collaborative campus and the endourology laboratories have ongoing projects with fellow interventional radiology, nephrology, and the School of Engineering. The fellow will have close interaction with engineering teams from Cal IT2. *www.calit2.uci.edu.* The endourology laboratory works actively on numerous projects with engineers to optimize biomedical innovation. Projects routinely result in the development of important intellectual property.

Current research includes surgical education and training, surgical simulation, development of novel minimally invasive surgical energy technologies, novel anastomotic techniques and devices, surgical pharmaceuticals, materials development for use within the urinary tract, novel ablation technologies, improved radiographic targeting and imaging for endourological procedures, surgical optics and digital technologies, the transfer of renal biopsy from the hospital into the office realm, and novel mechanisms for the protection of the kidney during warm ischemia. The UC Irvine Minimally Invasive Urology Training Program is unique in the depth and breadth of the dedicated faculty. The training program is directed by Dr. Ralph Clayman and Dr. Jaime Landman. In addition, the fellow works closely with Dr. Edward Uchio and Dr. Thomas Ahlering in minimally invasive urological oncology, and with Dr. Ramy Yaacoub who is fellowship trained in minimally invasive urology. We also collaborate very closely with our interventional radiological colleagues in ablation techniques. The laboratory also works closely with Dr. Xiaolin Zi, PhD, who runs an NIH and Department of Defense supported basic science laboratory through the Department of Urology. Current active clinical projects are ongoing in collaboration with Dr. Zi including novel work evaluating the molecular significance of perinephric adipose tissues with regard to prostate and renal malignancy.

Program Description

This is an all encompassing two-year training program. The fellow is granted a clinical instructor appointment. During the two years of fellowship the fellow is expected to take call on the faculty rotation usually once every 6 weeks. (In the second year, would be 80% clinical and 20% research. The clinical component of this year includes time spent at the Long Beach Veterans Administration hospital as well as at UC Irvine Douglas Hospital.

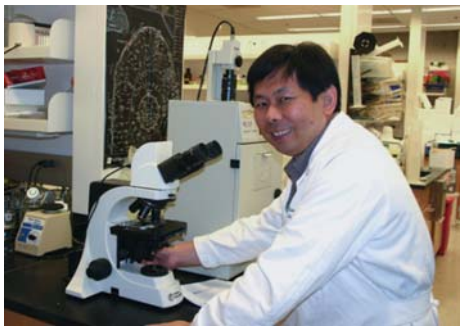
The robust resources and large number of students participating in the laboratory allow for the fellow to remain clinically active while maintaining a strong laboratory experience. The fellow is considered the team leader for laboratory and clinical research and directly manages/organizes the work of the undergraduate students, medical students, as well as international visiting scholars. The fellow leads the section of the weekly laboratory devoted to the latest progress of existing projects and to brainstorm new ideas for study.

In the laboratory the fellow will be leading and supervising the laboratory experiments and researchers. The focus of the laboratory efforts is on endourological, laparoscopic, robotic, training and translational research. We encourage the fellow to tailor projects that stimulate his/her interest and expand her/his technical skill sets in order to create an extremely productive scientific experience. effective presentation of data and results.

The clinical component of the training program includes a focus on the development of advanced technical skills in the operating room, developing familiarity and dexterity with advanced instrumentation, and expanding surgical judgment and experience. The breadth of procedures cover needle ablative, percutaneous, ureteroscopic, laparoscopic, and robotic techniques. Additionally, the fellow participates in the design and implementation of clinical trials, aids in the enrollment of patients in clinical studies, and is involved in the interpretation and effective presentation of data and results. This collaborative effort in the laboratory invariably leads to multiple manuscripts and presentations during the fellowship experience. In year two, the fellow has her/his own clinic one half day per week and will therefore be able to generate his/her own cases as well as be very involved with the cases of the attendings that compose the endourology service.

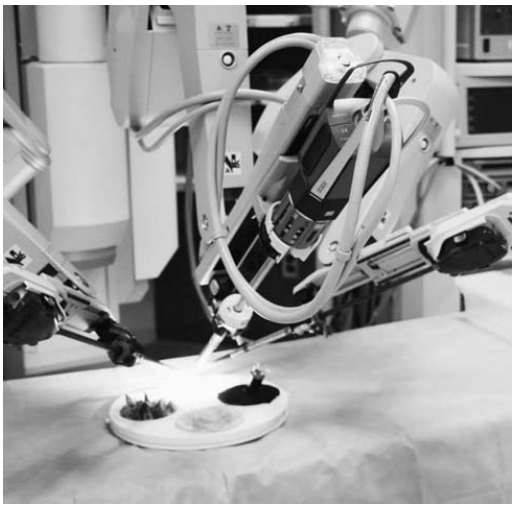
Research Facilities

There are four independent facilities that compose the UC Irvine Surgical Education Center Laboratory: a survival operative suite and animal vivarium, a non-survival operative suite with 6 operative stations, a surgical simulation and laparoscopic trainer suite, and a fresh tissue laboratory with an additional 4 operative stations. The animate and inanimate laboratory is a facility managed by the Department of Urology and used in conjunction with other school of medicine departments.



The laboratory incorporates a wide range of high end specialized equipment. Presently, this includes: inanimate laparoscopy trainers, a laparoscopic virtual reality trainer, a percutaneous and ureteroscopic virtual reality trainer, as well as a dedicated daVinci Si robot. Lastly, staffing includes a full time laboratory manager and assistant manager who are members of the minimally invasive urology team to assist with technical training in this facility. The fellow interacts closely with the laboratory director; they work together to run the laboratory and minister to the various projects.

Robotic surgery is currently strongly emphasized in the UC Irvine minimally invasive urology program due to its clear relevance in the future of all urologic surgery. We currently have three dedicated clinical robotic systems (in addition to the laboratory system), two da Vinci-S robots and a da Vinci Si. All three are high definition robotic systems which are very actively used by all minimally invasive urology faculty members for over 200 cases per year.



Needle ablative therapy is an important evolving aspect of minimally invasive urology. The minimally invasive urology team has one of the world's leading clinical and research programs in cryoablation. Dr. Jaime Landman is the founding and ongoing director of the UCI Ablation Center. This is one of the only multi-disciplinary ablation programs in the nation. The ablation center incorporates all ablative technologies (cryoablation, radiofrequency ablation, high-frequency focused ultrasound, etc. which allows for a remarkable range of academic and clinical innovative opportunities. For more information on the University of California, Irvine Ablative Oncology Center please visit - www.ablativeoncology.uci.edu/.

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At UC Irvine, the minimally invasive urology group has a well-funded and supported minimally invasive urology laboratory for both basic science and animal laboratory studies. Besides the full time laboratory manager and assistant manager, we have available veterinary technicians and UC Irvine veterinarians to assist with the planning of survival surgeries and the post-surgical recovery of animals.

Our laboratory and training facilities are located within a few hundred yards of the hospital and thus it is a short walk to help coordinate our clinical and research activities. In addition, at any given time there are typically 1 to 3 international scholars who observe surgery and help facilitate the team's research endeavors. Undergraduate students and graduate students (eg. School of Engineering) from the University of California campus are frequent collaborators in the minimally invasive urology laboratory. Additionally, there are continuous interactions with other University of California, Irvine resources such as the Beckman Laser Institute www.bli.uci.edu/. This provides a unique opportunity for the fellow to serve in an administrative leadership role as the medical director of the laboratory. Indeed, the administration of the laboratory is an important part of the training of the fellow and prepares him/her well to lead their own laboratory in the future.

Principal Accountabilities

Basic/Clinical Research:

Upon the initiation of the training program the fellow is granted full attending privileges and is given the academic title of clinical instructor. Significant time during this year is spent doing translational or clinical research in minimally invasive urology. Each fellow "inherits" a series of ongoing projects which the laboratory always has in progress. Typically, one major project and several minor projects are in progress. In addition, the fellow is encouraged to provide a research project prior to his/her arrival which incorporates the fellow's particular area of interest; this project is designed and prepared such that it can be completed during the training program with a goal of providing data worthy of presentation and publication during the second year of the fellowship or sooner. Combining the primary project with ongoing projects, it is typical for the fellow to be primary author or co-author on between 5 and 10 peer reviewed publications. Of note, a favorably reviewed manuscript submitted for the annual World Congress of Endourology essay contest is an essential component of the graduation requirements. During this year, all laboratory supplies and additional needs would be provided through the laboratory.

All laboratory projects are closely supervised by Drs. Landman and Clayman. Laboratory meetings occur on a weekly basis (7:00-9:00am Thursday mornings) to review progress and future directions; these meetings are attended by the entire faculty and staff of the minimally invasive urology team. The fellow's primary responsibility is to become familiar with all ongoing projects. Each member of the laboratory is a lead on a project; all the other members of the laboratory comprise a team to help that individual's project be successful. In this manner, all of the people in the laboratory are interconnected and tuned in to the collective success of the group and of the individual. The fellow participates as a major proponent/supporter of this culture of collaboration.

Clinical Component of Training Program (Year Two)

The major clinical responsibility during the year is the clinical care of minimally invasive surgery patients at UC Irvine Medical Center. The fellow will have active involvement in a wide range of laparoscopic, robotic, ablation and endourology procedures. The fellow will also work with the faculty and residents on minimally invasive oncology cases. The fellow will also have his/her own clinic one half day per week at our University urology patient care center. Historically, the fellow has been able to generate a significant number of minimally invasive urology cases through his/her own clinic; these sessions are initially scheduled with faculty discussion/support as needed. Later in the year, it is expected that the fellow will be able to perform the cases generated from his/her own clinic independently while also training residents in these endourological procedures.

Responsibilities The fellow will be expected to perform clinical duties in preparation for all cases he/she performs. Chart review to understand each patient's history, obtaining and evaluating all relevant radiographic studies, and review of relevant laboratory results are all responsibilities of the fellow who should consider each case as if he/she were the primary physician. The fellow should present cases for the coming week at an indications conference. The fellow will be on the faculty call rotation; usually 1 in 6 weeks. During this year, it is anticipated that the fellow will be preparing manuscripts regarding the basic/animal/ translational/clinical research completed during the initial year of the program. In addition, ongoing or new clinical research protocols will likely be initiated, advanced, and/or completed. It is anticipated that the fellow will attend the World Congress of Endourology during his/her second year in order to present his/her accepted abstracts. **The fellow will also be required to fulfill all of the responsibilities of the Endourological Society** including, but not limited to, preparation of a clinical case log and preparation of a manuscript for submission to the essay contest. The latter must be graded as suitable for publication in order for the fellow to receive an official diploma from the Endourology Society. Graduation from the UC Irvine minimally invasive urology training program will be **contingent on obtaining Endourological Society approval**. Administrative support will be available to the fellow via Dr. Landman's administrative assistant and with the department personnel analyst.

Teaching and Training

Training, Education, Experience, and Other Requirements:

Candidates must be board eligible urologists or have recently passed the FLEX exam with application made for Urology Board eligibility. They must also have a valid California medical license prior to beginning the fellowship.

Physical Demands

Must be able to assist in patient handling during emergencies and fulfill all of the duties outlined above.

Vacation and Educational Leave Policy

The fellow is required to notify Dr. Landman, in written form, for any period of absence whether due to vacation or educational leave. This is essential to insure the smooth operation of the UC Irvine minimally invasive urology team. The fellow should make arrangements to have all of his/her responsibilities covered (eg. clinic, call schedule, laboratory meeting presentation, OR, and laboratory responsibilities). Educational leave shall be granted and not be counted as vacation if the fellow is either presenting the results of research or if he/she is undergoing clinical training as part of an education program. All other time away (i.e. job interviews, etc.) will be counted in the three weeks that are available for personal vacation.

The UC Irvine minimally invasive urology team will fund reasonable expenses for the World Congress of Endourology during the clinical training program year and for the annual AUA meeting assuming the fellow has substantial material to present at the meeting.

Salary

The fellows are paid through UC Irvine as per their policies. The annual training program salary is $60,000 per year. **All fellows are employees of University of California, Irvine with** benefits provided through UC Irvine.

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Visit the Endourology Society Website

www.endourology.org

Interested Parties Should Contact:

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