

UC Berkeley

UC Medical Humanities Press Book Series

Title

UCSF Department of Urology: The First 100 Years, 1917-2017

Permalink

<https://escholarship.org/uc/item/6pm5r7kk>

ISBN

9780996324243

Authors

Dolan, Brian

Garcia, Maurice

Publication Date

2017-09-01

Copyright Information

This work is made available under the terms of a Creative Commons Attribution-NonCommercial-NoDerivatives License, available at

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Peer reviewed

UCSF
DEPARTMENT
OF UROLOGY

The First 100 Years
1917-2017

Brian Dolan, PhD
Maurice Garcia, MD, MAS

First published in 2017
by the University of California Medical Humanities Press
UCMedicalHumanitiesPress.com

© 2017 Department of Urology, UCSF
University of California
Medical Humanities Consortium
3333 California Street, Suite 485
San Francisco, CA 94143-0850

Designed by Virtuoso Press
Cover photo: artwork by Paul Stempen, courtesy of the Department of Urology, UCSF

Images found in this book are either cited with permission in their captions, are owned by the Department of Urology at UCSF, or are used courtesy of the Archives and Special Collections, Library and Center for Knowledge Management, University of California, San Francisco and Calisphere.org, accessed in 2017.

Images on pages 4, 5, 8, 30, 39, 40, 41, 43, 44, 49, 62, 67, 69, 89, 90, and 91 are courtesy of Archives and Special Collections, Library and Center for Knowledge Management, University of California, San Francisco.

Images on pages 6, 7, 11, 14, 29, 35, 37, 47, 48, 52, 53, 54, 55, 56, 58, and 65 are drawn from Calisphere.org.

ISBN: 978-0-9963242-4-3
Printed in USA

This book is dedicated to past, present and future patients who have entrusted their care to members of this department. We express our lasting admiration to the generations of physicians who have walked these halls before us; they have left a rich legacy. To our future leaders: we hope this book will serve as an inspiration to continue our missions to deliver remarkable and compassionate care, conduct novel research and educate the future leaders in our field.

Acknowledgments

Many people have made tireless contributions to this book. First, Leslie Lingaas, our long-time editor, whose insight, dedication and willingness to take on the most challenging of projects is greatly appreciated. Maurice Garcia, MD, MAS, whose “History of the Department of Urology at UCSF” served as the foundation to this book. To Brian Dolan, UCSF Professor of Humanities and Social Sciences and his team for historical research, writing and project coordination.

We thank all of our contributors, editors and fact checkers including: Joseph Presti, Sr., MD; Jack McAninch, MD; Matthew Cooperberg, MD, MPH; Sima Porten, MD, MPH; Ira Sharlip, MD; Emil Tanagho, MD; Marshall Sumner, MD; Anthony Eason, MD; and countless others.

We also thank the many whose tasks helped shepherd the project to completion. For editing skills: Susan Davis; for fact checking and research: Cristina Nigro; for historical documents and photographs: Polina Ilivea and her team at UCSF’s Archives & Special Collections; for current photographs: Marco Sanchez at UCSF’s Documents and Media, Sonya Yruel, and Elisabeth Fall. And, for soldiering through the management of this year-long project, Sarah Howard Joost.

Finally, we send our gratitude for the generosity and advocacy of our donors over the years, whose passion and commitment allow us to continue our leadership roles in the field of urology.

Contents

	Acknowledgments	iv
	Introduction	1
1	The Origins of Urology at the University of California, San Francisco	3
2	Continuing a Legacy of Teaching and Research	25
3	The Rise of a Department	61
4	New Millennium, New Horizons	85
	Appendices	121
	Bibliography	142

Introduction



In 2017 UCSF Urology celebrates its 100th anniversary as a specialty program at the University of California, San Francisco (UCSF). One hundred years is very little time in one sense. It represents a fraction of the lifespan of the giant redwood trees that amaze me in Northern California. But viewed through another lens, a century is a great deal of time, indeed, and can span transformative change. The specialty of urology itself is scarcely more than 100

years old. The first formal urology program was founded in 1897 at Johns Hopkins University in Maryland, and, the field has since advanced at a rapid pace. Urological diseases like gonorrhea and syphilis that were scourges in 1917 have largely disappeared, thanks to antibiotic treatments not available a century ago. Other diseases, like prostate cancer, are diagnosed more frequently these days—in many cases because our life spans have lengthened.

In this book, we seek to look back at the evolution of UCSF Urology from a small clinic treating primarily venereal diseases to a massive clinical enterprise powered by a research engine that ranks first in NIH funding for urology. However, the department's commitment to care, discovery and education has been consistent over time. It has produced generations of leaders in the field, whose impact was, and is, far-reaching.

The following chapters touch on the personalities that have labored to build our program and provide expert care to generations of patients. They describe the places where the department's urologists and staff provided that care, from a tiny curtained ward on San Francisco's

Parnassus Heights to our current state-of-the-art hospital and clinic in the city's burgeoning Mission Bay neighborhood.

I am indebted to the efforts of a team of people who made this work possible. They skillfully sifted through records to help us reconstruct the beginnings of our department. There are inevitably some gaps in our story, but I believe that the pages that follow will give readers a sense of the men and women who built our department over the last century.

We hope you enjoy this journey back in time, and that this glimpse of our past inspires you to consider all we can accomplish in the future.

--Peter R. Carroll, MD, MPH
Professor and Chair
Ken and Donna Derr-Chevron
Distinguished Professor
Department of Urology
University of California, San Francisco
June 1, 2017

CHAPTER ONE

The Origins of Urology at the University of California, San Francisco

Dr. Frank Hinman, Sr., Chair 1917-1950



Frank Hinman

Frank Hinman, Sr., MD

Frank Hinman was appointed the first head of what was then called the Division of Urology at the University of California in 1917.* This occurred just two years after his arrival at the University, following completion of his training in the emerging specialty of urology at Johns Hopkins University. When Hinman arrived in 1915, he was the first formally

trained urologist in San Francisco.

Within the space of several years, in the words of Herbert Crall, MD, who was a “Visiting Urologist” in the late 1910s, Hinman’s influence on the division and on the Medical School was so profound “that we might almost divide our history into... before and after Hinman.” A look into the pre-Hinman period of medicine

and urology in San Francisco provides an appreciation of what Crall meant.

Medical Care in Early San Francisco

In the late nineteenth and early twentieth century, the San Francisco medical field (and the state of medical education in general) was rough-hewn and ill regulated. There were four medical schools: the University of California Medical Department (of the Affiliated Colleges of the University of California); Cooper Medical College; the College of Physicians and Surgeons; and the West Coast Medical College. There was also a Homeopathic School and an Eclectic College.** These institutions reflected the three systems of medicine prevalent in the Bay Area at the time: allopathic, homeopathic, and “eclectic.” By 1900 the standard medical curriculum had evolved to a four-year course, though criteria for

admissions were minimal, requiring only one year of college work. If that study was in the areas of chemistry or botany, students could bypass the first year of medical school.

Faculty positions were considered voluntary, with members drawing income from private practices. One such faculty member, Dr. Robert Legge, characterized the “leading physicians of San Francisco” in the last decades of the nineteenth century in less than flattering terms, claiming he was “ashamed to admit” that many of them had ever been licensed to practice medicine. “The ignorance they revealed in prescribing valueless drugs for the diseases they were treating was amazing,” he wrote. “It was a period of fake cures and patent medicine, advertising quacks, narcotic addicts. There were no poison or pharmacy laws before 1890.”

Urologic care at this time was an area of specialty contained within the discipline

Abscess prostate	1 case	Hydrocosle	4 cases
Arthritis gc	3 cases	Paraphymosis	1 case
“ syphilitic	2 cases	Phymosis	1 case
Ca. Bladder	1 case	Prostatic hypertrophy	6 cases
Chancroids	4 cases	Retention urine	2 cases
Cystitis astute gc	3 cases	Stricture urethra	6 cases
“ chronic	2 cases	Syphilis	15 cases
Epididymitis	4 cases	Gc urethritis	1 case
Gangrene penis	1 case	Varicocoele	3 cases
Gangrene scrotum	1 case	No diagnosis	9 cases

Source: UCSF Archives, *Tales and Traditions*, Volume 4, p. 169.



Market and Post Streets, San Francisco, 1905

of surgery. *The Bulletin of the UC Medical Department* for the year 1900-01 lists John M. Williamson, MD, as Professor of Anatomy and Genito-Urinary Surgery, marking the first written mention of genito-urinary surgery at UC. Williamson and his assistants, Cecil M. Armistead, MD, John C. Sherman, MD, and George H. Richardson, MD, treated patients in out-patient clinics on Montgomery Street; all surgery was performed at the San Francisco City and County Hospital (known today as Zuckerberg San Francisco General Hospital and Trauma Center). Medical records of the time reflect the types and number of cases covered in a single year. (See the chart opposite for the cases seen in 1901.)

Williamson's arrangement was characteristic of San Francisco at the turn of the century. Most medical practice in the city,

even for those connected to teaching and research at the University, was conducted in private clinics, mainly located in office buildings around Sutter Street and Montgomery Street, not far from Union Square.

Williamson's teaching responsibilities, according to medical school records from 1902-3, included 36 hours of demonstration clinics in genito-urinary diseases and 108 hours of practical clinics, taught in conjunction with E.L. Wemple, MD, an assistant in GU surgery.

Home base for the medical school at this time was Parnassus Heights, where the Affiliated Colleges of the University of California were established in 1895 and encompassed the Departments (Schools) of Medicine, Pharmacy, and Dentistry. Previously, medical education had been offered at Toland Medical College, named



Dissecting in Toland Medical College at the end of the nineteenth century



Sutro Heights view of
Affiliated Colleges

after Hugh Toland, MD, who founded it in the 1860s and spearheaded the affiliation with the new University of California in Berkeley. The move to the panoramic vistas of Parnassus Heights came as a result of a philanthropic gift from Adolph Sutro, a German engineer who made a fortune by designing a drainage system for the Comstock Lode—a mining endeavor that sparked the silver rush of the 1860s. In 1895 Sutro donated to the University of California land on the wooded hillside of Sutro Heights overlooking the Golden Gate

Park and the mouth of the San Francisco Bay. Funds for the construction of clinical and laboratory buildings were boosted by \$250,000 from the California Legislature.

However, the earthquake of 1906 reduced much of San Francisco to rubble, including many of the city's patient-care facilities. The Affiliated Colleges were relatively unscathed, but all teaching and research was suspended in the wake of the earthquake as space was reconfigured to meet emergency needs. For the following decade, medical scientific research and early clinical teaching was moved to UC's Berkeley campus, creating a "split campus" that was only beginning to be reconfigured when Hinman arrived.



Affiliated Colleges c1900

San Francisco Here I Come

Born in Forest Grove, Oregon in 1880, Hinman received his bachelor's degree from Stanford in 1902 and his medical degree from Johns Hopkins in 1906. He



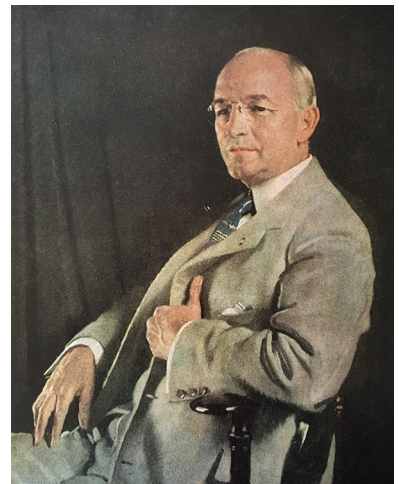
The streets of San Francisco following the 1906 earthquake



established a private general medicine practice in Spokane, Washington but closed it when the hearing loss he had sustained from a childhood bilateral mastoid infection became too much of an impediment to use a stethoscope. In 1912 he studied anatomy and surgery at the University of Vienna and later that year returned to Johns Hopkins to study urology under Hugh Hampton Young, MD, who is now widely recognized as the father of modern urology. Under Young, Hinman absorbed the philosophy of presenting a *comprehensive* picture of a patient and his or her medical problem—the history, pathology, etiology, complications, and diagnostic methods, as well as the proper surgical operation required.

Young, in turn, had been trained under renowned surgeon William Halsted, MD, and was part of the first generation of physicians to follow Lister's concepts of

antisepsis. Young developed new surgical tools, including an instrument foundational to the practice of urology—a urethroscope (endoscope) that could be used for viewing the bladder and the prostatic urethra and had a moveable electric light to illuminate the urethra. He was a meticulous observer and committed to the scientific



Hugh Hampton Young, MD

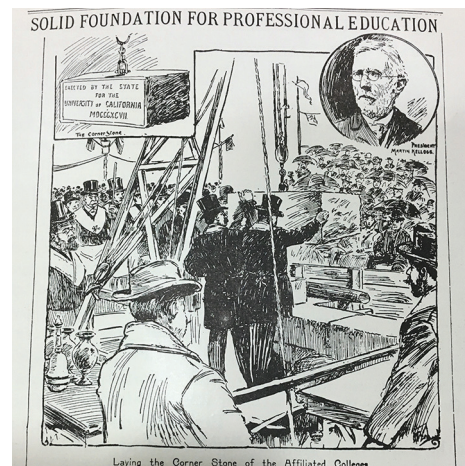


Architectural sketch of
UC Hospital, 1895

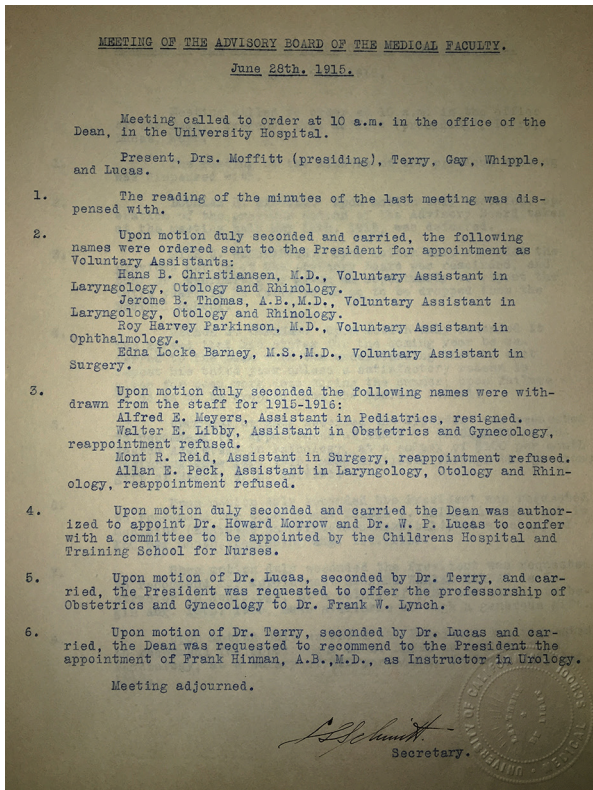
investigation of disease, traits he passed on to Hinman. A grateful patient of Young's, "Diamond Jim Brady," had endowed a research institute after undergoing prostate surgery at Hopkins, and Hinman became the first resident urologist of the James Buchanan Brady Urological Institute.

Hinman was not the first Hopkins graduate to come to the Affiliated Colleges. The Regents of the University of California had voted in 1912 to return labs and biomedical faculty positions to San Francisco from Berkeley, where they had been moved following the 1906 earthquake and fire. Part of the post-quake reconfiguring of the San Francisco facilities would include construction of a new UC Hospital on Parnassus Heights. Then Dean of Medicine, Herbert Moffitt, MD, traveled the country visiting universities and medical centers that might serve as a model for a reorganized San Francisco campus.

Moffitt also used his travel opportunity to recruit physicians and scientists. Indeed, a cadre of East Coast physicians migrated west to create UC's medical culture. These included other Hopkins alumni, such as the surgeons Howard Naffziger, MD, and George Whipple, MD, each of whom in



Laying the cornerstone of
the Affiliated Colleges



Faculty meeting minutes approving Hinman's appointment to UC

time would become world renowned.

Hinman arrived in San Francisco in 1915 with his wife Minnie (a nurse he had met in Baltimore), and infant son Frank, Jr., the firstborn in what would eventually grow to a family of five boys. It was a year that included significant milestones for the city's medical community at large. Celebrations marked the opening of the new San Francisco General Hospital – a red-brick, Italianesque hospital on Potrero Avenue built to replace the former San Francisco

City and County Hospital, which had been burned down to kill disease-carrying rats and fleas. Other than small, private clinics, medical care in the city was largely centered within this institution, which was also used as a teaching hospital by UC and other medical colleges. Along with the opening of the new hospital, motorized ambulances were introduced to replace horse-drawn vans. It was, figuratively and literally, medicine on the move. That year, the UC regents authorized groundbreaking on a new hospital on Parnassus Avenue, which would be completed two years later.

Hinman was given space to develop urological research in the laboratories of the new Hooper Foundation for Medical Research, which was under the direction of future Nobel Laureate George Whipple. The Hooper Foundation was initially located in an old veterinary building in the back of the medical and dental buildings perched on Sutro Hill. Three floors were divided into labs for experimental physiology, bacteriology and parasitology; a chemical laboratory; and animal kennels. However, minutes from a meeting in which the Medical School Executive Committee considered construction of the new UC Hospital included this note: "Hospital accommodations must be provided for the various specialties and also better facilities for teaching. Especially in the case of Urology, laboratory space and equipment should

BUDGET 1915 - 1916.					
	<u>SALARIES.</u>	<u>ASSISTANCE.</u>	<u>EXPENSE & EQUIPMENT.</u>	<u>TRAVEL.</u>	<u>TOTAL.</u>
1. Administration	-----	1440.	764.	-----	2204.
2. Library		900.	1000.		1900.
3. Students' Equipment			300.		300.
4. Dept. Arts & Photo.	1200.		300.		1500.
DIVISION OF MEDICINE					
5. General Medicine	8066.}	450.	600.}		9116.}
6. Neurology	)} 8266.		200.}		200.}
7. Dermatology	)} 300.}		200.}	1000.	200.}
8. Materia Medica	)} 300.}		)} 200.}		300.}
DIVISION OF SURGERY					
9. General Surgery	4500.}	1050.	750.}		6300.}
10. Orthopedic Surgery	900.}		200.}		1100.}
11. Ophthalmology	)} 6600.		200.}	1550.	200.}
12. Laryngology, etc.	600.}		200.}		800.}
13. Urology	600.}		200.}		800.}
14. PEDIATRICS	7800.	900.	600.		9300.
15. OBST. & GYN.	7400.	720.	600.		8720.
16. Pathology		1620.			1620.
17. S.F. Hospital	600.	60.	500.		1160.
TOTALS IN SAN FRAN.	31966.	7140.	6614.		45720.
TOTALS IN BERKELEY					
18. ANATOMY	13200.	4080.	3890.	500.	21670.
19. PHYSIOLOGY	8120.	450.	1500.		10070.
20. BIOCHEMISTRY	5200.	450.	2400.		8050.
21. PATHOLOGY	14050.	2460.	4000.		20510.
TOTALS IN BERKELEY	40570.	7440.	11790.	500.	60300.
AGGREGATE	72536.	14580.	18404.	500.	106020.

UC Medical College budget, 1915

be secured, and this should be the first of the specialties placed upon an academic basis."

This comment may reflect discussions that had begun in 1911 within the American Urological Association as to whether urology could be called a specialty. Earmarking hospital space could have been the necessary precondition to attract a talented leader like Hinman.

Hinman was formally designated as being in charge of the Urology Division of the Department of Surgery with the opening of the new UC Hospital in 1917. Staffing changes, comprised of new titles and positions, gradually fell into place. Other instructors included William B. Willard, MD, who oversaw the county hospital's Genito-Urinary Unit, and John V. Leonard, MD.

Hinman was certainly qualified for his new role. John Homer Woolsey, MD, one of Hinman's first urology interns at San Francisco County Hospital, described him as having "great industry, perseverance, attention to detail, orderly thinking and recording, loyalty to duty, and a good sense of humor." These characteristics were necessary to build something from virtually nothing, to transform somewhat fragmented clinical practice to a disciplined program that became an integral part of the university.

Indeed, reflecting on Hinman's 33-year tenure as chair, his colleague Robert Legge, MD, noted that he had transformed what was "essentially a venereal disease clinic, with one or two instructors teaching a few students in a



Hooper Foundation Building

very limited program, to an integrated urology program with many students, and trainees and numerous instructors....”

A description of what it was like to study as a UC intern under Hinman reveals how his training under Young informed his practice as a professor. “He was the ‘Bull-Dog’ of the staff—demanded and expected completeness in attention to detail,” according to Woolsey, who was a surgical intern at UC in 1915, when Hinman had just arrived, “He was a fine man to work with and shared opportunities of practical training with his intern(s). He attended his patients at the University promptly in the a.m. and again between 5:00 and 6:00 p.m. and expected his intern to be prepared always,” Woolsey wrote.

Hinman constantly emphasized the need to understand the totality of a patient’s condition and treatment. One time, he wrote, “I wished to know what he desired in his patient care and so he gave me this reprint.” Hinman handed the student an offprint of an article just published in the *Johns Hopkins Hospital Bulletin* in May 1915, one of his earliest publications and the result of a paper he delivered at a surgical conference the year before. In it, he underscored the necessity of understanding clinical as well as operative details that affect surgical outcomes. The student’s personal copy of the article has written notes that amend the text where Hinman elaborated on points during rounds, illustrating how “clinical” risks (patient’s medical history, physical exam, output, etc.)

THE PREPARATORY TREATMENT OF UROLOGICAL OPERATIONS.¹

By FRANK HINMAN, M. D.,

Resident Genito-Urinary Surgeon, The Johns Hopkins Hospital.

Surgical risks may be considered as both operative and clinical. The important operative circumstances that influence the recovery of the patient are the surgical sense and technique of the operator, the character and extent of the operation, the operative complications, the choice and nature of the anesthetic, and the resultant degree of operative shock. Of clinical conditions, the mental and physical state of the patient, his bodily resistance, and his power of reaction to operative and post-operative complications, determine the outcome. For most operations, perhaps for all, the first group of circumstances is the more important. Nevertheless, the surgeon, who neglects the careful consideration of clinical risks, proper preparatory treatment and the selection of a favorable time for operation, fails to reduce his mortality to the minimum.

In urological surgery the group of clinical conditions attains equal importance with the operative. This is due to the fact that a majority of urological cases have urinary involvement, of one kind or another, with resultant danger to or loss of renal function; and, also, to the frequency of urological conditions in old men whose resistance, frequently, has already been reduced by renal or cardiac burdens.

These clinical risks do not, as a rule, occur singly, but are more often associated with each other, with relative degrees of importance, one or more, possibly, being secondary to the primary clinical disturbance; and in their correct estimation a familiarity with many clinical and laboratory methods of examination is demanded. After the diagnosis and the clinical condition of the case have been determined by these means, the question arises, is the case a safe operative risk? And if not, what special line of preparatory treatment should be instituted in order to make it a safe risk? To meet this question this clinic has adopted certain routine and special

¹Read October 7, 1914, at the exercises of the Twenty-Fifth Anniversary of The Johns Hopkins Hospital.

methods of study and treatment in order to wisely estimate the surgical risk, to institute preparatory treatment intelligently, and to select the most favorable time for operation.

Urological operative risks may be clinically grouped under five headings: (1) renal, (2) cardiac, (3) cardio-renal, (4) hypertension, and (5) infections. Each group may be again subdivided: the renal into chronic nephritis, uremia, renal injury from back pressure due to enlarged prostate, stricture, etc.; and surgical kidney, unilateral and bilateral, as tubercular, polycystic kidney, renal calculus, etc.; the cardiac, into endocardial, myocardial disease, and cardiac involvement with or without chronic passive congestion of the kidneys; the cardio-renal, into combinations of the above conditions; hypertension, into the many different conditions causing it; infection, to include septic kidney and acute nephritis, pyelonephritis, pyelitis, cystitis, epididymitis, prostatitis, etc., and infectious diseases, as bronchitis, pneumonia, etc. There are also other clinical risks such as anemia, diabetes, etc.

In determining these various clinical associations, the routine history and physical examination are of first importance. This early study indicates special lines of investigation that will probably prove most fruitful, and eliminates others as needless in estimating the true clinical condition. A careful determination of the chemical and microscopic constituents of the urine is demanded in every case, no matter what the genito-urinary diagnosis may be; and is, of course, included in the routine physical examination; and specimens of urine are collected for examination every day during the treatment preliminary to operation. A blood-pressure estimation and a phthalein test are also considered to be an essential part of the routine physical examination. A case found to be negative after the above examinations, with a good history, sound organs, normal urine and satisfactory blood-pressure and phthalein test is considered an excellent clinical risk—a risk in which clinical conditions will not add to the operative dan-

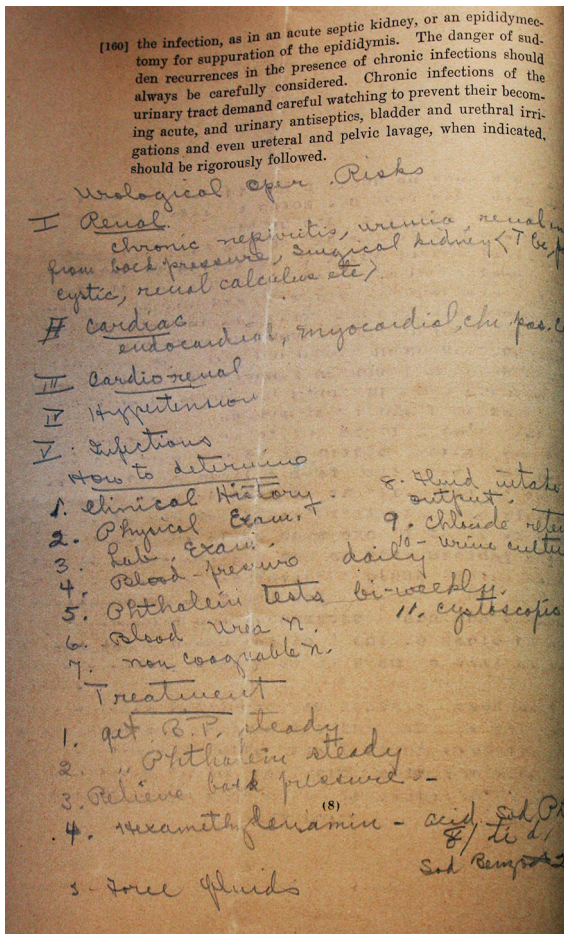
Article by Hinman
as a resident

From *The Johns Hopkins
Hospital Bulletin* Vol 26.
May 1915, No 291, p158.

are determined and relate to operative risks, such as whether the diagnosis stems from a renal problem, cardiac problem, or infection. It was a treatise in preparatory measures to reduce mortality and morbidity. "After the diagnosis and the clinical condition of the case have been determined by these means," Hinman wrote, "the question arises, is the case a safe operative risk? And if not, what special line of preparatory treatment should be instituted in order to make it a safe risk?"

These early glimpses of Hinman's demeanor during rounds and his emphasis on data collection and careful observation reflect not only the structure of his previous

training, but the culture of scientific and experimental medicine that emerged at the end of the nineteenth century. Hinman brought to UC a commitment to raise the standard of practice both by nurturing observational skills for clinical practice and encouraging the organization of knowledge and comparative study of cases for publication. His was a systematic approach to understanding the causes and classification of disease. It carried forward the research agenda established by Young, who in 1917 founded and became the first editor of *The Journal of Urology: Experimental, Medical and Surgical* (three years later this became the



Woolsey's notes on Hinman's article

official journal of the American Urological Association). A statement of the *Journal's* rationale clearly helped shape Hinman's own philosophy of urological practice:

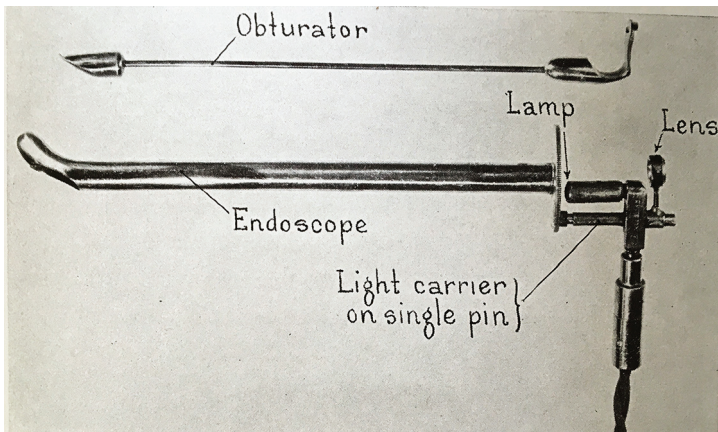
The medical and surgical urologists have much in common. Both are dependent on the progress made in experimental researches, and all concerned could be greatly broadened by a knowledge of what each is doing. A

realization of another's problems is often a fertile source of suggestions for subjects of research. The scientific branches, the laboratory men, are often greatly aided by contact with the difficulties of the clinicians, and the latter often point out unsuspected uses of great value for apparently sterile discoveries.

Hugh Hampton Young, "Foreword," *The Journal of Urology* 1 (February 1917)

Philip Arnot, MD, an intern at UC Hospital in 1919, also recollected training under Hinman, then assistant chief of the surgical service. "Some services were busier than others, urology being one of the busiest. Frank Hinman would show up every morning at 8 and wanted to know the 24-hour (urine) output, temperature, pulse, microscopic urine picture and general condition of every one of his patients as fast as you could reel them off. He was not hard on hearing on these occasions and it meant that we had to get up around 6 or 6:30 every morning in order to have all this information for him."

Woolsey likewise recalled Hinman's dedication to his patients, writing: "Dr. Hinman would endeavor to the last and with everything known to preserve the life of a patient," and this was despite the less than lavish technology at their disposal. "One patient had a suprapubic prostatectomy with failure to close of the incision wound," Woolsey wrote. "At that time our facilities were limited so a cofferdam (a watertight



Young Endoscope, 1900.

Donald Smith, MD, Copyright
McGraw Hill Education

enclosure) about the wound was constructed ... a #14 catheter suction was connected up with a laboratory faucet pump and the patient was kept relatively dry for days...."

Hinman played an unintentional role in efforts to obtain better appropriations for the School of Medicine when he treated a patient with some influence who was convalescing in the outpatient clinic. In the 1920s, administrators were making concerted efforts to improve the standard of medical care at



UC Hall Lobby

UC. Dean Langley Porter asked a group of physicians to escort members of UC's Board of Regents, which included members of the State Legislature, on a tour of various clinics. According to W.E. Carter, MD, director of the outpatient department, Porter wanted the regents escorted "particularly to those places most in disrepair." Carter added:

We had previously heard by the grapevine that one of our guests, a most influential member of the Board, had recently been hospitalized and had been under the care of Frank Hinman of the Department of Urology, and that he had great admiration for the doctor. Needless to say, that particular Regent got unusual attention. As we walked along, we played up Hinman as one of the world's leading urologists, which indeed he was and still is, and that we were apprehensive that we might lose him because of the inadequacy of what we had to offer. At that time the Urology clinic was housed in a corner of the old basement engine-room – a

Hinman
HISTORY (Front) Case No. *2120*

12-7-25 Pt. to surgery for laceration of bladder into rectum. Dr. Hinman *2120*
 Genitourinary tract studied & legs yellow
 tubercle says from us sig. many of tubercle
 were prominent. *12-11-25* *12-11-25*
12-11-25 - Exam from re. nephrology wound
 Primary wound of Rt. hand. Dring good
 Chicago's return of first time

12-17-25 with
12-26-27 - Rt. sinus - Lead sinus pain
 in left. Pains up in chest - in paravertebral

1-7-26 - Calc. lvs. to St. Hoop. - Pains
 very weak urine per drain. No pain
 with 20x - 24 hr.

Patient expired 1st Em - 1/30/26

1-30-26 Autopsy findings

1. Mucosa of
2. Ureter
3. Bladder
4. Kidney
5. Cervix
6. Uterus, ovary & prolaps
7. Cervix, uterus, ovaries - large of left kidney
8. Suprapubic wound - *12-11-25*

A-26-38

Turn Over—Both Sides of History Sheet Must Be Used

Family History:
 If living, health & if dead, cause of death; age of father, mother, brother, sister, husband, wife; History of tuberculosis, cancer, or mental degeneration.

Past History:
 Place of residence, Occupation, Habits: Sleep, eating, bowels, urination, etc. Injuries: Tobacco, alcohol, drugs, etc. Illnesses: Childhood and other diseases prior to present. Venereal: Menstrual history, pregnancies, abortions, vaginal discharges. Wounds: Past and present injuries, Operations.

Present Illness:
 Complaint, Date of beginning, Cause (patient's view), Course, treatment, etc.

Condition on Admission:
 Physical Examination: Skin, eye, ear, nose, Throat, glands, chest, lungs, heart, pulse, abdomen, liver, spleen, kidneys, genito-urinary organs, back, extremities, reflexes, measurements, pathological discharges.

Note on progress of case:
 Change in condition of patient, treatment (dietetic, medicinal, etc.), operations.

Condition of patient on discharge:

Clinical note written by Dr. Frank Hinman, Sr. 1915

dark and dingy place with only two small air entries, and it was lighted by lamps dangling on cords. Even the sheets spreading about as partitions could not lessen the gloom. To this department we headed, explaining as we went that we would next visit the clinic of Dr. Frank Hinman. I shall never forget the expression on the face of our particular Regent as he looked about on arrival. 'You don't mean to tell me that this is Dr. Hinman's office,' he asked in amazement. 'Yes, and there is his desk,' we

replied, pointing to a rickety pine table in the corner before which was an old kitchen-type chair. There is no record of whether or not his incident helped to get the appropriation, but we always had a suspicion that it did not hurt any!

Porter himself recognized Hinman's work toward institutional improvement. Reflecting on the state of the medical school the year he arrived, he wrote, "In 1927, the Medical School was a disintegrated institution." In the wake of the 1906 earthquake, preclinical training had moved to the Berkeley campus, and thus students spent most of their first three years studying science in the East Bay. Porter offered this description:

Students spent the fourth year at the University of California Hospital under the eyes of full-time staff working in the wards and in the Out-Patient Department.... There were special organizations dealing with the therapeutic specialties - eye, ear, nose, and throat, heart, endocrine and genito-urinary diseases. There were of course also the major Departments of Medicine, Surgery, Obstetrics and Gynecology and Pediatrics to be served, and what at that time was most important, a large well equipped clinic for syphilis and dermatology. Very soon it became apparent that the old medical school building could not meet the service needs of the many clinics. Thanks very largely to the help of Frank Hinman through his friendship with Regent Mills...the Regents



Male urethral instruments for sale

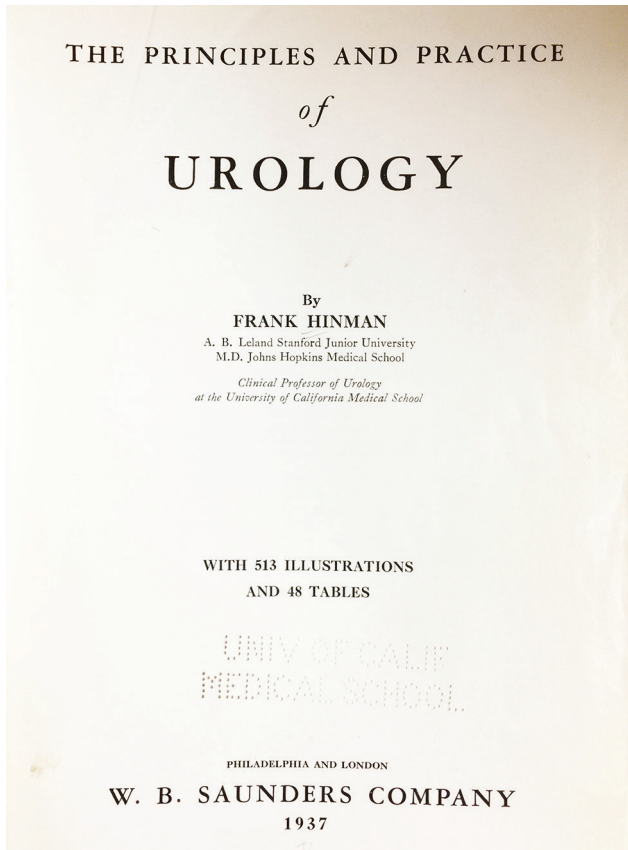
were induced to perfect a project that called for the erection of a new Out Patient Building...

Another incident pointing to the need for improvement occurred the next year. "Early in 1928 there was a waiting list of some three hundred patients" for admission to San Francisco General Hospital (SFGH) for elective surgery," reported Dr. Crall. "The new Health Officer was Dr. W.C. Hassler. It is rumored that when he had the misfortune to have a ureteral stone, he was cytoscoped" at SFGH but "some

of the urological instruments were not in tip-top shape. Subsequent to this time, it is also rumored, the urology department had little difficulty in securing all types of equipment in good operating condition."

Hinman's Research

Hinman built a reputation throughout his career as an outstanding clinician, but he was also a scientist. Even when convalescing from tuberculosis in 1922-1923, he managed to translate foreign articles on the embryol-



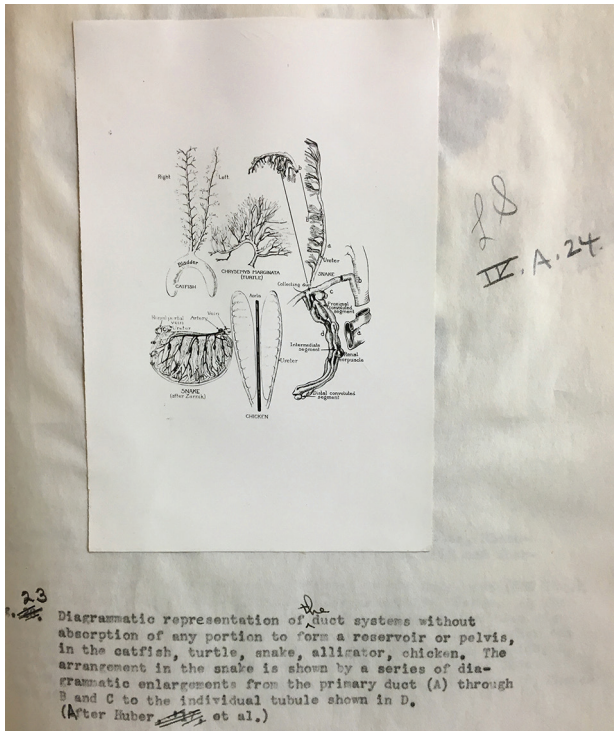
Principles and Practice of Urology
by Frank Hinman, Sr., MD 1937

ogy of the genito-urinary tract and arranged animal dissections to substantiate his findings and support the ideas presented.

Whenever he faced a problem in his clinical practice, he immediately shifted attention to the laboratory. His research interests were broad, covering diverse topics such as priapism, renal and prostatic operative techniques, radical surgery for testicular tumors, pyelovenous back flow, operative treatments for megaureter, and gonadotropins in testicular cancer. In the early 1920s he teamed up with a recent Cal

graduate, Elmer Belt, MD (who went on to become professor of urology at UCLA and pioneered sex reassignment surgery) to study “experimental hydronephrosis.”

Hinman’s experimental work on renal counterbalance, the response of one kidney to injury in the other, was published in the *Archives of Surgery* in 1926. This article established a conceptual framework that stood the test of time. The first principle was that renal reserve (the ability to increase function) had both anatomic and functional components. The second principle was

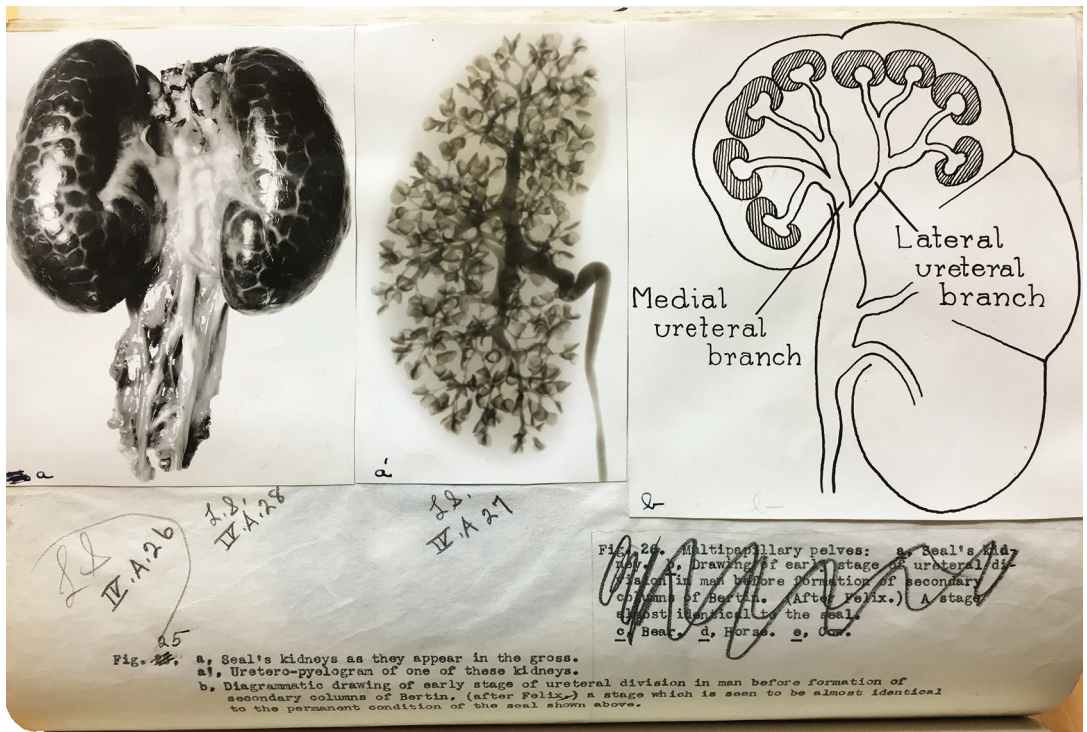


Hinman book preparation
1935 (and opposite)

that nephron units respond more readily in younger than older subjects. The third principle was that counterbalance was the result of the interdependence of the relative efficiency of these functional units. Some 40 years after initial publication, Hinman’s essay was identified as a urological “classic,” and his son, Frank Hinman, Jr., wrote that the underlying concepts “are as sound today as when first conceived by Hinman in 1926.”

There is a subtle but important element within Hinman’s articulation of renal counterbalance that reflects both how he understood the foundations of urological knowledge and his approach to teaching. The framework highlights the interdepen-

dence between form and function—between anatomical and embryological development and functional performance of interdependent organs. Hinman’s collaboration with Belt went beyond a particular course of experiments in renal function. While a student in the sciences at Berkeley, Belt studied with the anatomist and embryologist Herbert McLean Evans, MD, who was recruited to the University of California from Johns Hopkins the same year as Hinman (1915). Evans’s medical research in embryology and his interest in reproductive systems not only crossed over (in the early days) with Hinman’s own interest in embryological development of urinary organs, congenital



abnormalities, and other topics, but fed into the teaching of medical students who (like Belt) went on to specialize in urology.

The importance of anatomical and embryological research in understanding the principles of urological “form and function” is best expressed as an overarching theme in Hinman’s monumental *The Principles and Practice of Urology* (1935). The work followed the publication of an extensive list of Hinman’s articles in urological and surgical journals over the previous decades, and was, in the words of a reviewer in the *British Medical Journal*, “highly original, and differs in many respects from the ordinary type of textbook on the market.” The same reviewer

went on to comment on what it was that defined the principles of urological practice:

The urologist will be deeply interested in the principles, and will appreciate the author’s conception of the urinary tract as a series of organs intimately bound together, both functionally and anatomically, and of the influence of disease on one part of the tract upon the whole. The result of obstruction and the spread of infection are examples... The book begins with an account of the comparative anatomy of urinary excretion and of reproduction. This is a brilliant biological essay, which will be read with pleasure and profit by all who are interested in the subject. It is followed

Physicians Trained	Years	Status in 1963
John Pruett	1916-17	Deceased
Sidney Olsen	1919-22	Clinical Prof. Emeritus. With UC over 40 years.
Elmer Belt	1919-21	In Los Angeles
D.M. Morrison	1920-21	In Scotland
T.E. Gibson	1922-25	Asst. Clinical Prof. San Francisco
Adolph Kutzmann	1922-25	In Los Angeles
R.K. Lee Brown	1922	Deceased
A.B. Hopler	1921-22	Port Blakely, Washington
Morrell Vecki	1925-27	Asst. Clinical Prof. San Francisco
O.W. Butler	1921	Hot Springs, S.D.
Clark Johnson	1925-28	Deceased – Asst. Clinical Prof. 1932; Prof. 1947
William Manuel	1927-28	Deceased
W.A. Carroll	1928-31	Asst. Clinical Prof. S.F.
F.L.A. Gonzales	1927-30	Deceased
Oscar K. Mohs	1927-29	Deceased
John Sullivan	1928-31	In Oakland
Perry Bonar	1929-32	In San Rafael
E.A. Dart	1926-27	In Oakland
Verne Ross	1930-33	In Stockton
Don Corbett	1931-32	In Spokane
Justin Cordonnier	1933	Prof. G.U. Wash Univ of St. Louis
W.K. Murphy	1932-35	Asst. Clin. Prof. Yountville
Tracy Powell	1933-35	In Los Angeles
Brent Wayman	1934-36	Weems, Virginia
Henry Wayrauch	1935-37	In S.F. former Prof. Stanford
Carl Hartwig	1935-38	In Oakland
Sam McMahon	1936-	In Durban, South Africa
Richard Peterfy	1937-41	In Los Angeles
Ector Le Duc	1937-39	In San Diego
Donald Smith	1937-40	Now Clin Prof. & Head of Dept
Robert Burns	1938-41	Clin Instructor Woodland
James Elliot	1938-42	Asst. Clin. Prof. Berkeley
Joseph Sorkness	1940-41	Jamestown, N.D.
Herel Harrington	1939-42	Deceased
T.T. Nickles	1940-43	Oakland Asst. Clin. Prof.
S.H. Harris	1939-42 1946-47	Deceased
R.G. Weaver	1941-45	Asst. Clin. Prof. G.U. & Head of Dept, Univ Utah, Salt Lake City
Fred Howard	1941-45	Associate Clin Professor
John Schulte	1942-46	Associate Clin Professor
Juan Aycenina	1942-46	In San Mateo
Myer Brodtkin	1942-45	In Beverly Hills
Robert Delaval	1944-47	In San Diego
Le Grand Hall	1945-47	Deceased
Frank Hinman, Jr.	1946-48	Clinical Professor
Wm. R. Smart	1943-44	In San Rafael
Kenward Babcock	1943-44	Upland, CA
Stan Achmidt	1945-49	Eureka
Thad McNamara	1946-48	Deceased
John Barr	1947-50	In Portland
Mathew Marshall	1947-51	In Pittsburg, PA

by an account of the embryology of the genitourinary tract, which is illustrated by several extremely ingenious and quite novel diagrams.

The diagrams to which the reviewer referred were sent to the publisher as 35-mm slides that Hinman's assistant, a trained librarian named Mrs. Green, took of the hand-drawn illustrations by the medical school's resident artist, Ralph Sweet.

In the context of "textbook" urological practice in the early decades of the twentieth century, Hinman's emphasis on inter-development and inter-related disease causation was a paradigmatic shift from a primary concern of symptomatology and treatment. Drawing on the emerging experimental research culture and scientific foundations of education he helped to forge at UC, Hinman, along with his colleagues, went beyond a clinical framework to lay down the principles of urology. Although the 400 pages that amount to the last section of the voluminous work provide a clinically oriented view of the diseases of the urogenital tract, they also underscore the inter-related nature of anatomic form, function, and pathology.

Other reviewers also praised *The*

Principles and Practice of Urology. "This new textbook of urology by Dr. Hinman presents the subject in a thorough, complete, up-to-date and yet concise fashion by one of the outstanding authorities in the country," wrote a reviewer in the *American Journal of Surgery*. "The presentation of Urology by Dr. Hinman may well be a model for books on other specialties for the general practitioner."

Like most successful departmental leaders, Hinman was full of energy. In the words of Crall, "Dr. Hinman's interests were protean and his labors Herculean. His many papers and articles written with his many assistants and associates included the results of various studies, research, animal and human surgery, and covered such subjects as renal circulation, hydrophrosis (for which he received Gold Medals from the American Medical Association in 1922 and 1923), tumors of the testicle, ureteral implants, perineal surgery, renal counterbalance and many other subjects. He was a member of many scientific societies and several clubs and managed to enjoy all of them."

The table illustrating the list of physicians who trained under Hinman during his tenure as chair of department (prepared by Crall) is a notable summary of his achievements.

Hinman's personality, particularly his sense of humor and collegiality, is portrayed in the vignette presented in Box 1.1.

Opposite; Physicians trained under Frank Hinman, MD, 1916-1951. From H.D. Crall, "The Department of Urology," *Tales and Traditions*, Volume 5 (1963), p. 172, UCSF Archives and Special Collections



JOHN F. PULLETT



SIMEY OLSEN



A. ELMER BELT



D. M. MORRISON



T. E. GESSON



A. A. KUTZMAN



R. A. LEE BROWN



A. B. HEPLER



W. E. VESCHI



OLIVER W. BUTLER



CLARK M. JOHNSON



D. A. CHARNOCK



WILLIAM MANGLE



W. A. CARROLL



F. L. GONZALES



YVONNE ROSS



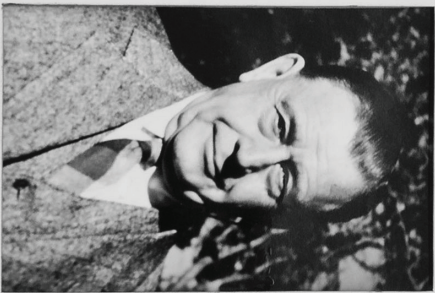
D. G. CORBETT



J. CONRAINER



W. A. MURPHY



FRANK HINMAN



O. KEMPER MOHS



JOHN J. SULLIVAN



PERRY A. SOHAN



EDWARD GALT



TRACY O. POWELL



TRENT YAMAN



HENRY M. METVALICH



CARL HARTWIG



SAMUEL W. MUNSON



R. A. PEFERNY



L. E. LARUE



DONALD R. SMITH



ROBERT A. BURNS



JAMES ELLIOT



JOSEPH SPANGNES



H. HARRINGTON



T. T. NICKELS



S. H. HARRIS



R. G. WEAVER



FREDERICK S. HOWARD



JOHN W. SCHULTE



JOAN AGNENA



PETER BRODIN



ROBERT DEKAM



LEGEND L. HALL



FRANK HINMAN, JR.



WILLIAM R. SMART



RENWARD O. BREDOCK



STANWOOD S. SCHMIDT



THAD W. WATANABE



JOHN R. BARR



MATTHEW MARSHALL, JR.

BOX 1.1: A story about Dr. Frank Hinman as remembered by Dr. H.D. Crall.

On one occasion after a meeting of the Association of G.U. Surgeons, Dr. Hinman arranged a dinner at the private, all-male club called "The Family." He also arranged to have Mr. Roy Folger, a local raconteur, present and introduced him to the assembled gathering as "Dr. Schmaltz," an Austrian Urologist. After dinner was well under way and after the usual cocktail Folger arose and said, 'Since I was not permitted to give my paper during the regular session, I shall do it now.' With this he proceeded to mouth a lot of medical verbiage about his case. It was three or four minutes, during which time all but Dr. Hinman were quite embarrassed, before someone said, 'Why, that's a lot of horse manure.' This of course broke the spell and made everyone realize that this was just one of Frank's gags.

Each generation of leadership learns that the work of growing an institution (and a department within the institution) is never complete. Hinman retired as Chair in 1950, facing the need to once again modernize hard-used facilities. Up to that year, the San Francisco General Hospital, which was first occupied when Hinman arrived in 1915, had remained without major modification. Over the previous 35 years, there had been a chronic battle to provide normal maintenance of the buildings and facilities. As a result, the hospital wards, the surgery, the hallways and laboratories showed the wear and tear of years and the need for refurbish-

ment. In 1950-51, necessary modernization of part of the Surgery unit was undertaken to include non-conductive floors, air-conditioning, and proper equipment to reduce the hazards of anesthetic accidents.

Bricks and mortar aside, Hinman had clearly modernized the practice of the medical specialty he loved. Frederick Cordes, MD, a graduate in medicine from UC who served as a resident under Hinman, commented that "Frank Hinman came to us with a new concept of G.U. He raised it to the level of a dignified specialty. He also took good care of those who worked on his service."

*The University administration, from the President's office down, did not standardize the language for organizational structure until the 1960s. Until this time, the terms division, department, and even college, were used somewhat interchangeably. However, the opening of the UC Hospital in 1917 created a distinguished category of University service that comes closest to officially marking the origin of the Department of Urology at UCSF.

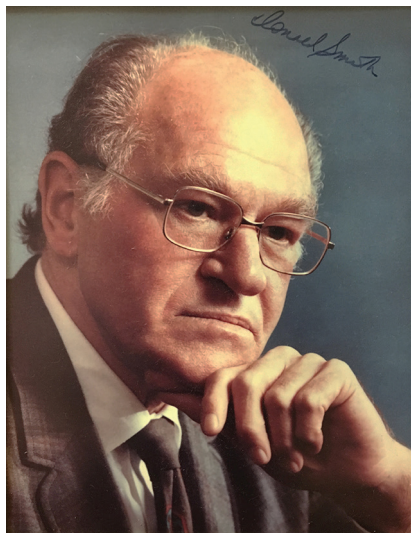
** Eclectic medicine was a branch of American medicine which made use of botanical remedies along with other substances and physical therapy practices, popular in the latter half of the 19th and first half of the 20th centuries.

*** After years of debate, the Regents reaffirmed their commitment to a San Francisco site for the UC Medical School in 1947. UC released plans for the new medical center in San Francisco in 1953, and in 1955 the UC Medical Center hospital and the Medical Science building opened at Parnassus.

CHAPTER TWO

Continuing a Legacy of Teaching and Research

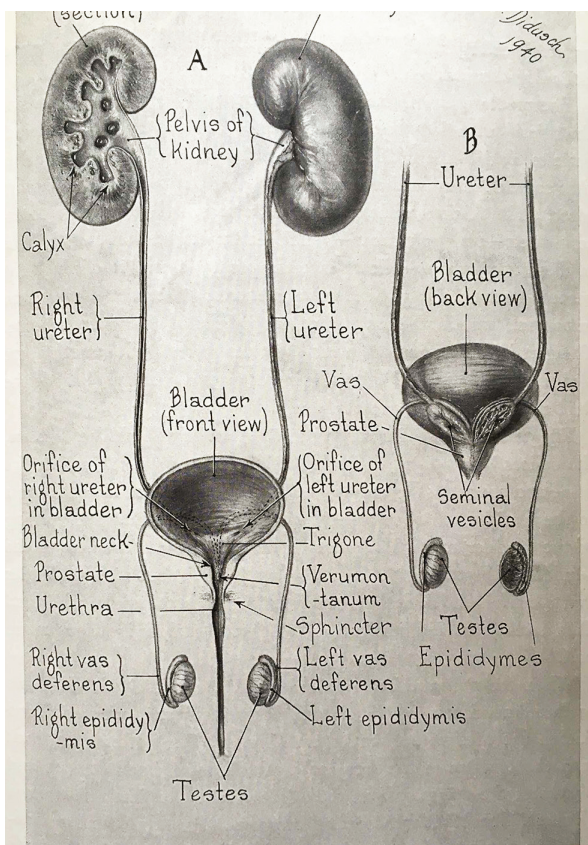
Donald R. Smith, Chair 1951-1976



Donald R. Smith, MD

Donald Ridgeway Smith, MD, the second chair, guided Urology at the university for 25 years. During that time, he built on the tradition of excellence established by Frank Hinman, MD, as urology faculty continued to produce original research that defined many important principles and practices still appreciated today. Smith also extended the leadership that Hinman had begun with publication of

Donald Smith's General Urology (now known as *Smith and Tanagho's General Urology*, in its 18th edition), a textbook that remains a classic in the field. The faculty under Smith's leadership made a substantial impact in medical education through widely acclaimed publications targeted at both specialists and the general student population. When the Division of Urology was being evaluated in the process of establishing departmental



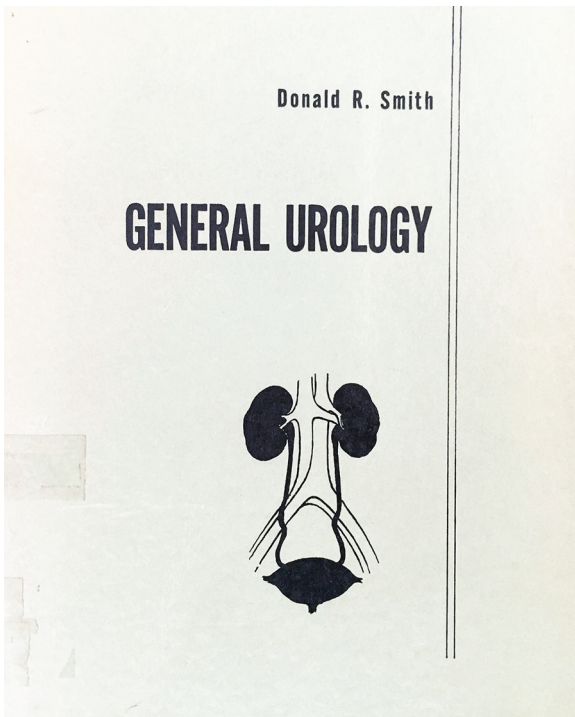
Early page from *General Urology*
 Donald Smith, MD, Copyright McGraw Hill Education

independence – an endeavor that took several decades – its accomplishments in producing exemplary textbooks was singled out as an international achievement.

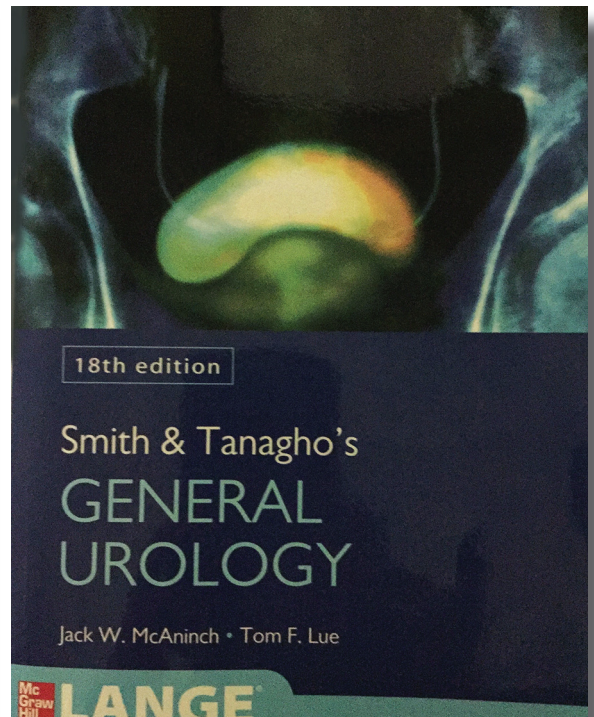
Unlike Hinman, Smith was a native of the Bay Area. He was born in Berkeley in 1909, the son of Wilfred Joseph Smith, who had come to San Francisco as a volunteer during the Spanish American War and

served as secretary to General Frederick Funston. Smith's mother, Ethel Rosamund Smith, had been born in San Francisco to parents recently emigrated from Wales. Smith graduated from UC Berkeley in 1931 with honors in Medical Sciences. He received his MD from UC Medical School in San Francisco in 1935 and stayed at the school to complete his internship and residency training in urology under Hinman. Smith joined the UCSF staff in 1940 as a clinical instructor. His major clinical interests included fluid and electrolyte balance, renal physiology, reconstructive surgery (especially hypospadias repair), urinary tract infection, and pediatric urology.

Smith had not been the intended successor to Hinman. The older physician had planned to retire in 1948 at age 67, the normal retirement age under university policy. Clark Johnson, MD, who was Hinman's second in command and planned successor, died unexpectedly, however. This prompted Francis Scott Smyth, MD, the dean of the Medical School, to write a letter to Robert Sproul, MD, the president of the University, requesting an exemption to the mandatory retirement requirement. President Sproul obliged, and Hinman's chairship was extended to June 1950, when he retired at age 70. The next year, the university appointed Smith to succeed him as chair of the Division of Urology, a position he would hold for 25 years.



1957 *General Urology*. Copyright McGraw-Hill Education



2013 *General Urology*. Copyright McGraw-Hill Education

Smith's General Urology

One of Smith's first major projects after becoming chair was to compose his own urological textbook for medical students. The result was the 1957 publication of *General Urology* (Lange Medical Publications), a book that would become known internationally. To date, it has gone through eighteen editions and was officially renamed by later editors to recognize contributions by Emil Tanagho, MD.

Purposely avoiding heavy detail, Smith's book provided a well-balanced synopsis of the specialty, often emphasizing the effect of disease on the urinary tract as a whole, rather than on a local anatomical basis. He covered subjects such as obstruction and stasis, infection, and stone formation. The book also included information on diagnosis and injuries to the kidney, bladder and urethra, and tumors of the kidney, bladder, and prostate. The book closed with chapters on intersexuality, infertility, renal hypertension, and psychosomatic urologic syndromes.

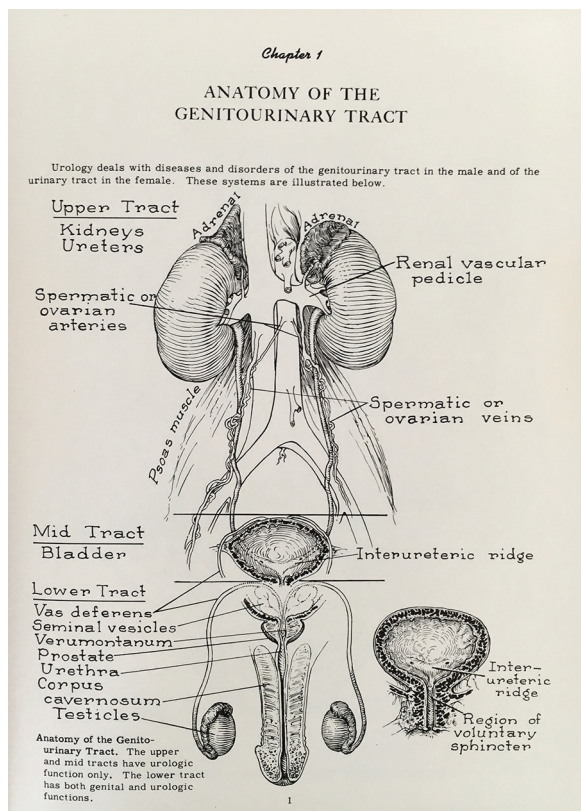


Illustration by Ralph Sweet.

General Urology, Donald Smith, MD

Copyright McGraw-Hill Education

General Urology provided many examples illustrated with both x-ray pictures and, as in Hinman's book, magnificent drawings by artist Ralph Sweet. Because the book served as a practitioner's instructional treatise and student's guide to the general investigation and management of urological cases, it also provided introductory sections on history taking, physical examination, and contemporary methods of laboratory and radiological diagnosis.

Smith's work was immediately well

received, both in the United States and abroad. A reviewer in *The Ulster Medical Journal* commended Smith's instructional strengths as a reflection of the commitment the division had to establishing itself in this area. "This volume has obviously been written by a good clinical teacher," the reviewer wrote, "and contains a sound, well-balanced introduction to its subject. It is warmly recommended as an excellent handbook in urology for the senior student and general practitioner." At 328 pages, the book was concise and direct, yet, as the *British Journal of Surgery* observed, "it contains such a vast amount of information in a reasonable compass that there can be few urologists who would fail to benefit from its study. Its concise, almost synoptic form makes it ideal for the teacher as a book of reference, while its methodological arrangement eases the student's task of finding out the essential features of any urological disease... We congratulate Dr. Smith in having produced a work of outstanding value."

Smith did not rest on his laurels. His vision was that the textbook was a living entity, an evolving body of knowledge that required regular updating and refinement. Just two years later, the second edition appeared, followed by a succession of editions nearly every two years. The book inevitably grew in length, coming in at just over 400 pages within ten years, and was revised with new content as the frontiers of



UCSF aerial view 1970s

urological knowledge expanded. In 1966, for instance, Smith added a section on vesico-ureteric reflux, and he rewrote the chapter on oliguria. He also added discussion of glomerulonephritis and other forms of renal disease. In further revised editions, Smith was able to demonstrate where American urology was diverging from the practice of a still underdeveloped specialty abroad.

Indeed, when the seventh edition of *Smith's General Urology* was published, a reviewer in *The British Medical Journal* commented that the book itself represented the achievement of the field becoming an institutional specialty in the United States, whereas in Britain urology was far from established. "The absence of a good British textbook of urology aimed

principally at the student is probably merely a reflection of this sad and outmoded state of affairs," the reviewer wrote.

In 1972, Smith provided discussion of routine lymph node dissection in testicular tumors and radical prostatectomy for carcinoma of the prostate, which, according to a commentator in the *British Journal of Surgery* in 1974, was "foreign to British practice." Smith's chapters on radioisotope kidney studies and the section on chemotherapy and antibiotic treatment in urinary infections were especially regarded by peers. As noted, new editions prepared in collaboration with other UCSF faculty (which will be discussed shortly) continue to this day.



Donald Smith, MD (center)

William Smart's Contributions to Text and Instructional Film

Another faculty member to concentrate attention on urological textbooks was a vice-chair of Urology under Smith, William Smart, MD. A 1939 graduate of the University of Virginia Medical School, Smart, like Smith, received his residency training under Hinman. Becoming a member of the UC faculty in 1959 (and vice-chair in 1975), Smart built a reputation as an international authority in the area of ureteropelvic junction obstruction and pyeloplasty. He contributed a chapter on this topic to the early editions of *Campbell's Urology*, one of the classic urological textbooks. His description in later editions (beginning in

1971) on the repair of ureteropelvic obstruction for hydronephrosis was regarded as the definitive work on the subject.

Smart's expertise in this area also led him to pioneer a new modality of instruction in partnership with the American Urological Association (AUA). The AUA initiated a film library called "The Practice of Urology," to which Smart contributed twelve internationally acclaimed teaching movies that depicted in detail the various surgical techniques applicable to the repair of ureteropelvic obstruction.

Smart had a highly regarded clinical reputation and was an ambassador for the division; he was invited for international visiting professorships and served as a consultant to the United States Army and Veterans Administration Hospitals.



William Smart, MD

He was poised to contribute much more – clinically, educationally, and administratively – to the division of urology, when in 1977, he died at the age of 63.

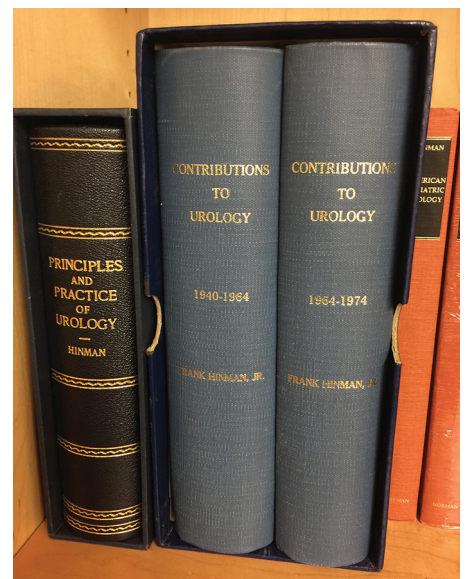
Contributions to textbooks and other pedagogical resources showcased the faculty's expertise in the medical management and surgical intervention of disease. This expertise was in turn reflected in a methodical approach to teaching that benefitted successive generations of students first hand.

Urological Instruction: Clerkships and Residency

During his tenure as chair, Smith trained 72 residents. In 1971 he described the division's provision of instruction to medical students as follows:

The courses for medical students are designed to present the common urological disorders and methods for their diagnosis based on pathology and physiology. All required urological instruction is incorporated in the courses of the Department of Surgery. During the core clerkship, seminars and ward rounds are conducted. They cover urological diagnostic steps, the diagnosis and treatment of common urological disorders, and the basic pathological and abnormal physiological changes, which occur in association with those abnormalities. Students work up all new urological patients during the time they are assigned to the Urology service. Elective courses are also offered.

From the shelves of the Urology Department on Parnassus



DIVISION OF UROLOGY



Matthew Marshall, Jr.



William F. Boyer



Paul B. Stratte



Richard P. Lyon



Joe Gaves, Jr.



Rudolf O. Oppenheimer



Bernard H. Lyneal



Herbert S. Brady



Frank deMitt Hill



Edwin R. Roberts, Jr.



Donald R. Smith



Marvin P. Jasse



Frank R. Tavel



Robert D. Ayres



Alvin B. Rieber



Theodore G. Oslus



Clair E. Cox



Leonard Payne



Lees Simmons



Patrick McLin



David Ferguson



Robert Cahertl



Joseph Smith



Irving Katz



L. Richard Hayne



A. Warner Dewey, Jr.



Dean Peckard



Eugene V. Catalica



Allan Menzies



Alan Shapiro



Jack Hagerwood



Albert Wood



Herbert F. Cronin



Paul F. Albert



Harry P. Novick



Joseph T. Spaulding



Steven M. Rudy



Robert S. Klein



Irvin D. Sharlin



Edward J. Collins



Arnold I. Slatz



John P. Heine



Anthony A. Eason



Gerald M. Miller



Harry H. Pitts



Kenneth E. Kostin



Gilbert I. Smith



Phillip A. Lahr



Revellie Russell



John C. Hoffer



Ronald Tocantins



Mark I. Tobackin



Donald A. McDonald



Roger B. Goodfriend



Sumner Marshall



James L. Mee



Donald J. Vinciguerra



Jerome G. Weiss



Robert Fisher



Gregory G. Fouls



John F. Schnatzle



Vernon E. Walden



Norman G. Miller



Byron Olson



Donald G. Linker



Kenneth N. Rankin



Nicholas D. Simopoulos



Alfred A. Atkava



Gary M. Licklider



James R. Pollock



James B. Kerei



Charles N. Gausman



R. Cameron Emmert

A more detailed view of the core clerkships for medical students, who were assigned rotations at both the UC Medical Hospital and the Veterans Affairs Hospital, was outlined for the Council on Medical Education and Hospitals of the American Medical Association in the early 1960s. This general structure existed throughout Smith's tenure as chair.

Clinical Clerkships

A portion of the medical school curriculum was under partial control of the Division of Urology for six weeks. Medical students were also assigned to general surgery during this time and followed this teaching schedule.

1. Half hour seminar with the 18 students covering steps in urologic diagnosis and discussions of common urologic diseases. Nine hours total taught by Dr. Donald Smith.
2. One and a half hours of ward rounds with four students to an instructor at which time the patients are worked up by these students and discussed in detail. Nine hours total taught by Dr. Frank Hinman, Jr.
3. Case presentations. Two instructors meet with three students each for 90 minutes per week for detailed discussion of the patients assigned to them. Supervised by Dr. Smith.
4. All new patients in the urology ward are assigned to the students in rotation. During the six weeks they average three patients each. Only one student is assigned to each patient.
5. The students follow their patients daily. They usually also make rounds in the afternoon with the resident staff.
6. The laboratory for blood counts, urinalysis, and renal function tests [e.g. phenosulfonphtalein (PSP)] is on the ward. The students are responsible for these tests.
7. Students are not permitted to scrub on operations but they must be present for the surgical pathology in situ. In addition, they are expected to discuss the pathology with the pathologist later.
8. Students are encouraged to look through the cystoscope when their patients are being examined.
9. In addition, groups of six students attend the urologic OPD (outpatient department) for one morning each for training in the passage of catheters and sounds.

Second-year medical students were required to attend certain courses in conjunction with their surgery rotations. These included "Surgery 101," comprised of three one-

Representing the Council on Medical Education and Hospitals of the American Medical Association and the Association of American Medical Colleges

ROSTER OF ACTIVE DEPARTMENTAL PERSONNEL (to be filled in by head of department)

Department of **Surgery, Division of Urology** Medical School **University of California School of Medicine, S. F.**

Name	Age	Doctoral Degrees, Dates and Where Obtained	Length of Time on Faculty		Salaried		Volunteer	Appointments Served Annually	Area of Major Teaching Responsibility
			Full Time	Part Time	Full Time	Part Time			
Chairman									
Clinical Professor and Chairman Donald R. Smith	54	M.D. 1935, Univ. Calif.	23 yrs.		50%		1250	Seminars, rounds with residents. Seminars with junior students. Administration of department.	
Clinical Professors									
Frank Hinman, Jr.	48	M.D. 1941, Johns Hopkins	15 yrs.		50%		1000	Seminars, rounds with residents. Rounds with junior students. Research.	
Associate Clinical Professors									
Stdney Olson	73	M.D. 1918, Univ. Calif.	40 yrs.		Vol.	Vol.	400	Informal discussions with residents. OPD with student	
Assistant Clinical Professors									
John W. Schulte, Vice Chairman	48	M.D. 1940, Stanford	16 yrs.			Vol.	1000	Seminars, rounds with residents at V.A. Hospital	
Assistant Clinical Professors									
Alex L. Finkle	43	Ph.D. 1944, Univ. Calif. M.D. 1946, Univ. Calif.	9 yrs.			Vol.	400	Research. Rounds with students.	
Frederick S. Howard	48	M.D. 1940, Univ. Calif.	17 yrs.			Vol.	250	Rounds with residents.	
Assistant Clinical Professors									
William A. Carroll	63	M.D. 1927, Univ. Calif.	32 yrs.			Vol.	100	Resident instruction in O	
Assistant Clinical Professors									
James S. Elliot	53	M.D. 1936, Univ. Calif.	21 yrs.			Vol.	200	Research.	
Thomas E. Gibson	67	M.D. 1922, Univ. Calif.	7 yrs.				150	Resident teaching.	
Oscar E. Goodwin	60	M.D. 1927, Baylor	30 yrs.				150	Resident teaching, OPD.	
Mark H. Hand	50	M.D. 1931, Creighton	25 yrs.				100	Resident teaching, OPD.	
Frank Galt Hill	37	M.D. 1952, Stanford	4 yrs.				200	Resident teaching.	
John A. Hutch	45	M.D. 1943, Univ. Iowa	5 yrs.				1000	Resident, student teaching, Research.	

* Append definition of "full time" including policy of statement governing practice privileges as utilized in this department.
 ** This column for part time salaried and volunteer
 Note: Where insufficient space has been allowed for

Lists of teaching faculty, 1963

Name	Age	Doctoral Degrees, Dates and Where Obtained	Length of Time on Faculty		Salaried		Volunteer	Appointments Served Annually	Area of Major Teaching Responsibility
			Full Time	Part Time	Full Time	Part Time			
Charles D. King	42	M.D. 1951, Univ. Oregon					Vol.	300	Resident teaching.
Herbert C. Lee	37	M.D. 1950, Stritch/Loyola					"	150	Resident teaching, OPD.
Richard S. Lyon	45	M.D. 1943, Stanford					"	60	Resident seminars.
William K. Murphy	64	Ph.D. 1933, Creighton Univ.					"		
Thomas T. Nickels	50	M.D. 1928, Creighton					"	300	Resident teaching.
Rudolf Oppenheimer	38	M.D. 1936, St. Louis U.					"	100	Resident teaching.
William R. Smart	49	M.D. 1951, Univ. Calif.					"	200	Resident teaching.
Morrill E. Veckl	49	M.D. 1939, Oklahoma					"	200	Resident, student
	58	M.D. 1934, Univ. Calif.					"	100	Resident teaching.
Clinical Instructors									
Robert D. Ayres	37	M.D. 1937, Jefferson					"	100	Resident teaching.
Phillip A. Beglin	40	M.D. 1951, St. Louis U.					"	50	Resident, student
Robert A. Burns	53	M.D. 1936, Rochester					"	100	Resident teaching.
Heinz E. Cron	50	M.D. 1930, Washington U.					"	50	Resident, student
Charles S. Harrod	47	M.D. 1943, Stanford					"	100	Student teaching.
John C. Huffer	34	M.D. 1952, Univ. Chicago					"	100	Resident teaching.
Charles E. Humphrey	39	M.D. 1933, Washington U.					"	100	Student teaching.
Milton L. Rosenberg	40	M.D. 1946, Univ. Va.					"	70	Resident teaching.
Paul E. Stratte	47	M.D. 1941, Rush/Chicago					"	50	Student teaching.
Frank S. Tavel	33	M.D. 1925, Univ. Colo.					"		
Clinical Assistant									
Stanwood S. Schmidt	45	M.D. 1943, Univ. Rochester					65%	10	Resident teaching.
Earl A. Taniguchi (Fellow)	34	ChB. 1932, Alexandria U.						2000	Resident teaching, research

Vacant Positions—Indicate academic rank, area of major academic interest and whether full time or part time.

hour lectures and one hour of bedside demonstration of urologic physical signs.

Third-year students were required to take two courses: "Surgery 130" and "Surgery 135," totaling 12 hours of lectures, seminars, and rounds, attending urological patients. Topics for Surgery 130 included: "Congenital Anomalies" (Frederick Howard, MD); "Neurogenic Bladder" (John A. Hutch, MD); "Urologic Injuries" (John W. Schulte, MD, with Oscar Rambo, MD, of

the Department of Pathology on urologic pathology); "Hydrophrenosis" (William S. Smart, MD); "Etiology of pyelonephritis" (Hutch); "Surgery Pathology" (Drs. Hinman, Jr., and French). More particularly, urology faculty offered two specialized clerkships for senior students, "Urology 148.3" and "Urology 3," offered at the UC Hospital and VA Hospital, respectively.

Residency

The residency program started under Hinman underwent substantial growth and development under Smith. This expansion corresponded to the increased numbers of faculty recruited or retained in the division as generations of residents graduated. In 1963, the department had 32 faculty and one fellow (Emil Tanagho) on the roster. Of those, each one had some role to play in clinical instruction, with nearly everyone involved in teaching residents.

A description of the residency program written for prospective urology residents provided an overview of the training, requirements and pay scale in the mid-1960s. First, the candidate was required to have completed an internship for at least one year in General Medicine, with a preference for those who had another year of training in General Surgery. Candidates had to demonstrate continuing interest in clinical or experimental investigation and be a US citizen. (The latter requirement was because neither the Veterans Affairs Hospital, which was an integral part of the program, nor San Francisco General Hospital (SFGH) would pay non-citizens. (San Francisco General Hospital is now the Zuckerberg San Francisco General Hospital and Trauma Center).

The residency program took three years, and residents worked at three hospitals: the outpatient department of the UC

Hospital; the VA; and SFGH, as well as experimental labs. In addition to routine training in the wards, cystoscopy, and surgery, residents attended regular weekly seminars in basic urologic physiology and radiology. During their clinical work, senior residents were responsible for teaching medical students, interns, and assistant residents; arranging consultations with other services; and preparing material for seminars and conferences. The program accepted three residents each year. They progressed through the program together according to the following schedule:

San Francisco General Hospital front entrance



1. San Francisco General Hospital: 30 urologic beds
 - a. Each first-year resident spent 4 months here as Assistant Resident working with a second and third year resident. They also spend one or two mornings per week in the University outpatient clinic which includes follow-up care of the post-operative patients from SFGH.
 - b. Each of the second year residents spent 4 months at SFGH. They control the wards and first assist the senior resident. The second year may do some surgery with the supervision of the senior resident.
 - c. Each of the third year residents spends 4 months at the SFGH as Chief Resident, where they do all the surgery. They also spend one morning per week in the clinic for follow-up of the patients.
2. UC Hospital – part clinic and part private: 15 beds
 - a. Each first year spent 4 months as Assistant Resident at this hospital. They devoted 5 mornings per week to work in the outpatient clinic and 2 afternoons in the experimental laboratories.
 - b. Each of the second year residents spent 4 months as first assistant to the senior resident in the hospital. They are also in charge of the private service. They do many cystoscopies and may do some surgery at the discretion of the Chief Resident. These residents also spend one or two mornings in the outpatient clinic.
 - c. Each of the third year residents have 4 months as resident of this hospital where they do all of the surgery. The resident also works one morning per week in the clinic where postoperative cases are followed.
3. Veterans Hospital (Fort Miley, San Francisco): 24 beds
 - a. Each first year resident spends 4 months at this hospital. They devote one morning per week for service at the UC outpatient clinic.
 - b. Each second year resident spent 4 months at the hospital to assist the senior resident, and do much of the diagnostic instrumental work. They may do some surgery at the discretion of the senior resident.
 - c. Each third year resident acts as senior resident at the hospital for 4 months. They do all of the surgery.
4. Experimental Laboratory. All residents in training were expected to work on a problem, either clinical or experimental.
5. Every Tuesday and Thursday afternoons seminars were held as follows:
 - a. X-ray conference – two per month
 - b. Physiopathologic conference – one per month
 - c. Visual clinic-pathologic conference – one per month
 - d. Seminar on neurogenic disease – one per month
 - e. Fluid and electrolyte seminars – two per month
 - f. Pathology – two per month
6. Each third year resident worked with Dr. Ernest Bors at the VA Hospital in Long Beach for a one or two week period. [Until his retirement in 1970, Dr. Bors, as the program information stated, “is one of the world’s leading authorities on the neurogenic bladder.” He pioneered the multidisciplinary care of individuals with spinal cord injury and neurourology as relates to SCI.]



San Francisco General
Hospital 1960s

In the early days of Smith's tenure, the monthly stipends for the residents varied according to the hospital but followed this pay scale:

First Year Resident

University of California Hospital	\$320
San Francisco General Hospital	\$275
Veterans Affairs Hospital	\$311

Second Year Resident

University of California Hospital	\$361
San Francisco General Hospital	\$275
Veterans Affairs Hospital	\$465

Third Year Resident

University of California Hospital	\$361
San Francisco General Hospital	\$493
Veterans Affairs Hospital	\$510

Among the array of clinical experiences that residents gained during their service at the different hospitals, the division stressed expertise in a few areas, as revealed in this program description:

This division "stresses transurethral prostatectomy. We teach a complete intracapsular removal of the gland. We believe in radical perineal prostatectomy for early cancer and this operation is therefore stressed. We practice suprapubic and retropubic prostatectomy. In other words, all methods of prostatic surgery are taught. We are fortunate in observing a considerable amount of pediatric urology and we see an unusual number of boys with hypospadias and similar anomalies. We have a good liaison with the metabolic unit, for whom we do many adrenalectomies. We cooperate with the laboratory on calcium



Veterans Affairs Hospital

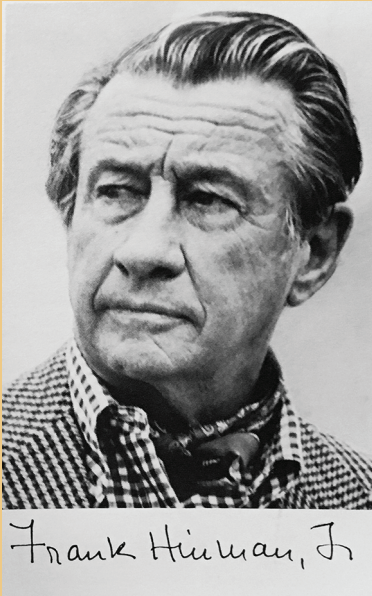
metabolism for study of our patients with urinary calculi. A joint pediatric-urology clinic sees all children suffering from chronic pyuria. During the training period the residents spend time in the gynecology and the renal (medical) clinics.

Tracking the subsequent career of residents is one way of evaluating the success of the program. Many went on to hold academic appointments at UC, while others pursued professional development and leadership positions elsewhere. But reminiscences of former residents also illustrate that the program was a success in terms of the collegial environment nurtured by Smith.

Clair Cox, MD, a urologist who went on to practice in Tennessee and was affiliated

with the Memphis VA Hospital, graduated medical school from the University of Michigan and undertook his residency at UCSF. "My easiest recollections," he wrote, "are Saturday morning rounds at the University with Dr. Smith and subsequent coffee; working in the dog lab with Dr. Hinman; long discussions with John Hutch while dissecting a cadaver bladder; Dr. Schulte teaching me perineal prostatectomy; spending hours placing a suture line for a pyeloplasty with Bill Smart. All of my memories of San Francisco and the University are pleasant."

Frank Hinman, Jr.



Frank Hinman, Jr., a world-renowned leader in urology, was a major contributor to the program at the San Francisco campus of UC. He attended Stanford University, graduating magna cum laude in 1937. He completed his medical degree at Johns Hopkins, where he finished first in his class and went on to Cincinnati for a surgical residency under the master surgeon Mont Reid, MD. After serving two years in the Pacific on the aircraft carrier *Intrepid* during World War II, Hinman began his urologic residency at UC under his father's chairmanship. He finished his training in 1950 and then joined his father's office and worked with him until his retirement three years later. In the meantime, Hinman, Jr. joined the faculty at

UC as a clinical instructor and progressed to clinical professor in 1962. He was chief of the urology service at San Francisco General Hospital from 1958 to 1977.

Dr. Hinman's interests were broad, spanning many segments of urology, including urinary tract infection, urodynamics, pediatric endocrinology, benign prostatic hyperplasia, and operative urological techniques. His early interest in pediatric endocrinology led him in 1951 to become one of eight founders of the Society for Pediatric Urology, of which he served as president in 1961 and 1973. He also started the Endocrinology Group in 1957, which in 1965 evolved into the Endocrine Forum held yearly at the annual meeting of the AUA. His interest in urodynamics, stemming from





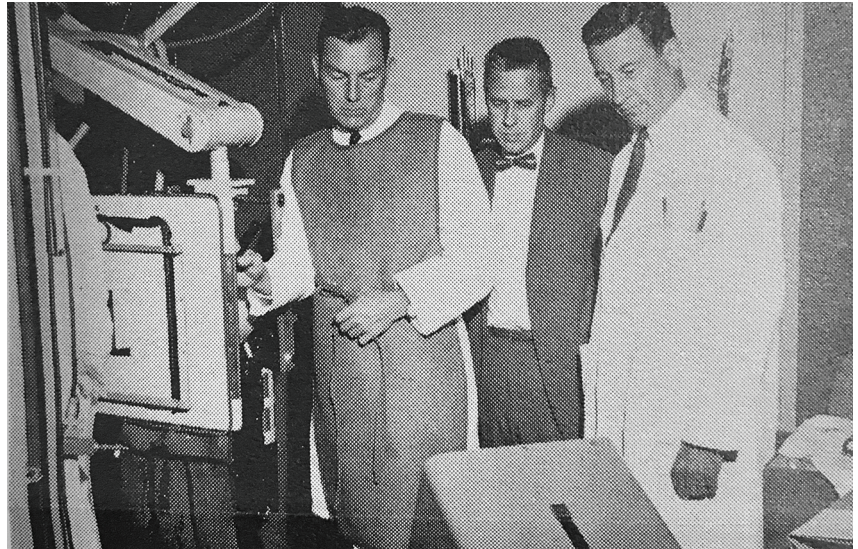
original studies begun in 1954, resulted in the publication of *Hydrodynamics of Micturition* in 1971, which was based on a workshop he had coordinated. Subsequently, with Saul Bayarski, MD, and Jack Susset, MD, he organized the Urodynamics Society and served as its second president. He also was a founding member of the Society of University Urologists and was subsequently elected its president. In the American College of Surgeons, Hinman was elected regent and vice-chairman of the Board of Regents and then Vice-President of the College. As a former member of the Resident's Review Committee on Urology, he served a six-year term on the American Board of Urology with special interest in authorization of sub-specialization.

Always curious about how things work, Hinman was an ardent inventor and

held patents for three medical devices: an instrument with an “outrolling” catheter; an automatic midstream urine sample collector; and a bottom-emptying urine collection container.

His studies on the bladder’s defense mechanisms, pediatric bladder dysfunction, and the non-neurogenic neurogenic bladder, are classic. (Indeed, the latter bears his name— “the Hinman Syndrome”.) Although he was a prolific writer, publishing in excess of 250 scientific papers while still in practice, after his (so-called) retirement he produced works that have become standards in the field of urology: *Atlas of Urologic Surgery*, *Atlas of Pediatric Urologic Surgery*, and the *Atlas of Urosurgical Anatomy*.

Hinman was also an accomplished painter, an avid sailor, and an active member of a San Francisco sailing club.



Drs. Miller, Hutch
and Hinman, Jr.

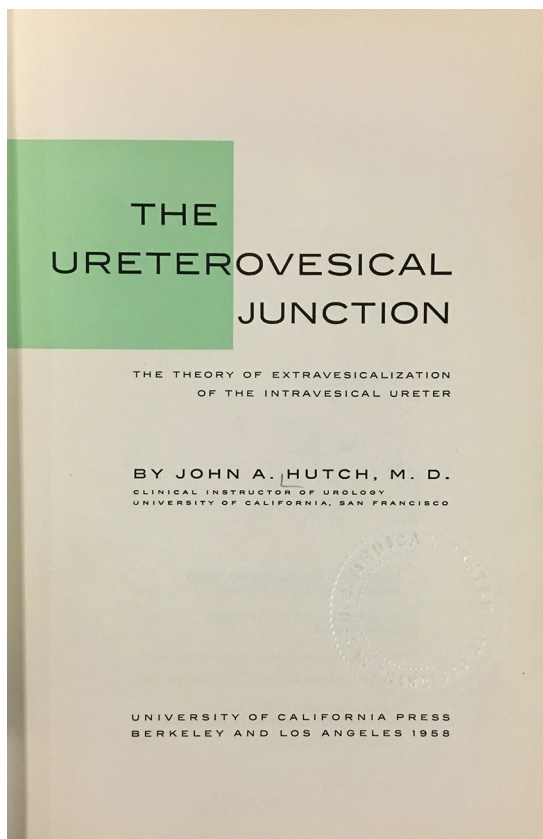
Clinical and Experimental Research

Both Hinman, Sr. and Donald Smith were committed to encouraging clinical and experimental research among the faculty and residents. This not only pushed the literature produced within the division to higher standards, but enhanced the clinical services it provided. In keeping with a UCSF-wide trend throughout the 1960s and 1970s, basic science research was increasingly seen as the engine that drove improved patient care and cutting-edge practice. This emphasis on research proved fruitful during the Smith years. It earned the division an international reputation as the urology faculty pursued basic science research and applied findings to patient care. In the mid-1950s to mid-1960s, an average

of 20 research articles were published each year. Research activities focused on a number of major areas, as described below.

Hinman, Jr. worked with urology residents Cox and Robert Ayres, MD, on a line of experiments on smooth muscle regeneration originally devised by Rudolf Oppenheimer, MD, a UC urology resident in the 1950s. Utilizing new techniques such as the formation of bladder tubes and the insertion of Millipore barriers (membrane technology), Hinman and Ayres were able to demonstrate that **smooth muscle regeneration** occurred in experimental ureteral defects. Other projects that ran concurrently concerned **testicular biopsy** and **functioning of ileum** used for ureteral substitutions and urinary diversion.

Urology faculty were also able to explore



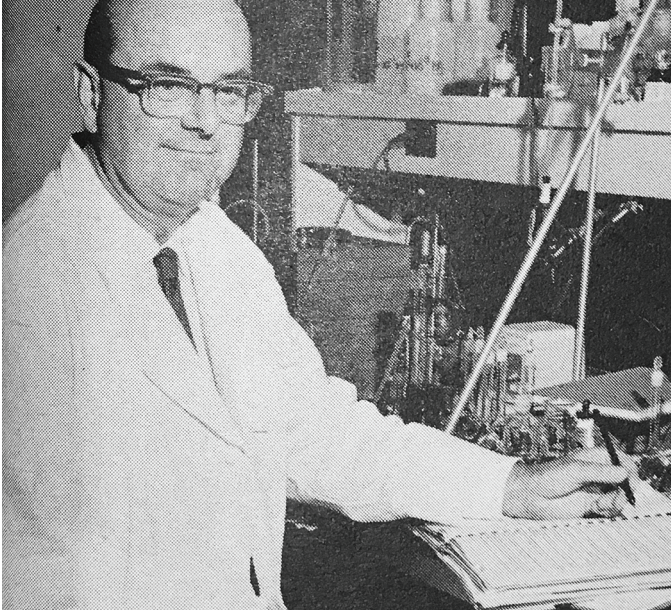
The Ureterovesical Junction
by John A. Hutch, MD
1958 University of California Press

the **mechanisms of micturition** with radiology professor Earl R. Miller, MD, who had developed a novel apparatus for “television cinefluorography,” using an x-ray machine, an image intensifier, a movie camera, circuits to interrupt the beam during film movement, and a light meter. The list price for a basic unit was \$20,000, with costs for developing the film running up to \$10 a foot. Yet it was used in an array of studies on the function of various muscle groups, including

the pharynx in speech, the cardio-esophageal junction, the heart in angiocardiology, and the motion of the urinary bladder both in obstruction and after prostatic operations.

Beginning in the early 1950s, Miller and Hinman used cinefluorography to describe the difference between detrusor and vesical neck function in voiding on command and on desire. This work was greatly expanded throughout the decade, extending to Hutch’s studies on reflux in children with recurrent infection. This, in turn, resulted in an understanding of the incidence and significance of certain outpouchings of the bladder above the ureter (“Hutch” diverticulum) and the role of reflux in the development of acute and chronic pyelonephritis. Pressure gauges, flow meters, and a sound track helped the researchers study every aspect of bladder function during voiding. Complementary experiments done by Cox and Hinman on the bladder defense mechanism against the introduction of infection resulted in new appreciation of the factors involved in ridding the bladder of introduced bacteria.

Ureterovesical reflux (vesicoureteral reflux or VUR) was also a prominent research focus at the UC Medical Center, and Hutch became internationally recognized for his pioneering work in the disorder’s etiology and pathophysiology. Hutch recruited resident Ayres to study the anatomy of this area through careful dissection of the bladder in all ages, from infant to adult. In

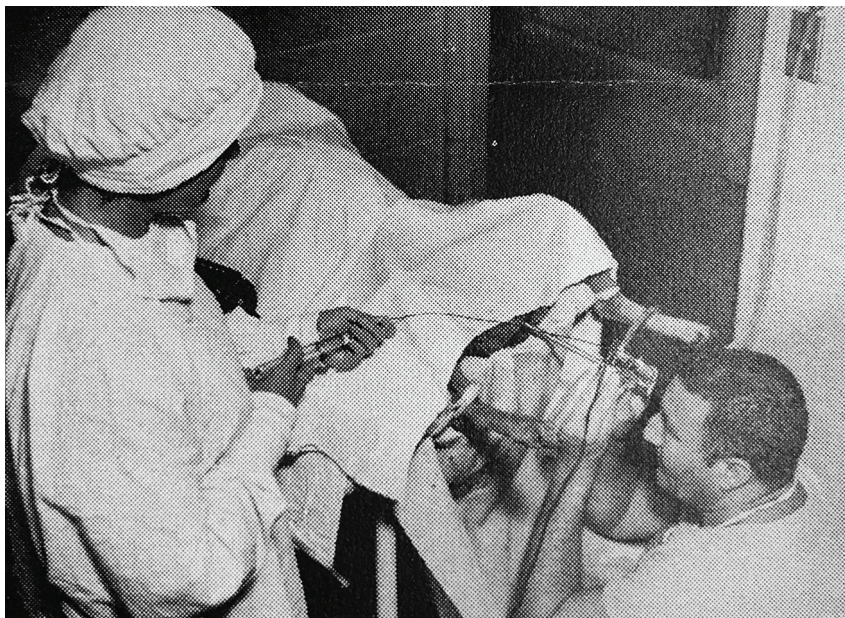


James S. Elliott, MD

the mid 1950s, Hutch postulated a causal relationship between ureterovesical reflux and chronic pyelonephritis in a cohort of patients with spinal cord injury. Hutch's *The Ureterovesical Junction*, a monograph published by UC Press in 1958, articulated the fundamental tenets of this phenomenon. From these observations, Hutch devised a technique known universally as the "Hutch" operation or procedure to correct the reflux. His interest in the problem of reflux led his attention to the anatomy and physiology of the entire bladder and its sphincters. He synthesized historical anatomic studies and information gleaned from contemporary tools for understanding the physiology of micturition. These included the lateral voiding cystourethrogram and the cineflu-

oroscopic and pressure studies developed by Miller. This x-ray based visualization technique was new when Hutch adopted it as a research tool, and it led to a radically new conceptualization of the shape of a functioning bladder, one very different than that observed in dissection. After more than a dozen articles on the topic, his investigations culminated with the publication of his monograph *Anatomy and Physiology of the Bladder, Trigone, and Urethra* (1972), with a foreword by Smith. Sadly, Hutch's death at age 50 in 1972 cut short a flourishing career and was a great loss to the field.

James Elliot, MD, a UC medical graduate (1936) and faculty lecturer for the Division of Urology, shared his research from the VA Hospital in Oakland (and later the VA in



Alex Finkle, MD, PhD

Palo Alto), on **metabolic disorders and renal stone disease**. Researchers had determined that 80% of all urinary calculi are composed principally or entirely of calcium oxalate, but the chemical pathogenesis of the calcium oxalate stone remained a mystery. Since calculi are crystalline in nature, Elliot reasoned that the formation and growth of calcium oxalate calculus would be similar to other forms of crystal growth. He designed a laboratory study of the chemical factors in urine that could be responsible for the development of phosphatic or calcium oxalate stones and applied the principles of quantitative chemistry to this important clinical problem. Elliot published a simple method of determining whether or not a given patient is likely or unlikely to form phosphate stones from urine tests. He also studied calcium oxalate solubility in salt solutions in a search for an accurate

John Schulte, MD



method for determining oxalate in urine.

The use of **radioactive cobalt** for the treatment of bladder cancer originated at UC School of Medicine as a cooperative venture in the 1950s between Bertram Low-Beer, MD, (from the then-burgeoning Department of Radiology), Hinman, Jr., and Schulte. These successes solidified what would become a long-standing collaboration between departments.

Alex Finkle, MD, PhD, an associate clinical professor in urology, made contributions in a number of areas. He examined the physiologic responses consequent to **reducing renal mass** by resecting 75% of renal tissue. He also studied the **alteration in renal blood flow** during experimentally induced hydronephrosis. He devised special pressure transducers to measure variations of **ureteral contractions** secondary to experimental peri-ureteral fibrosis, and he examined patient data for **correlations between massage-induced elevations in serum acid phosphatase and early diagnosis of prostatic cancer**. Finkle also used electrophoretic analysis to study sera from uremic patients in a quest for earlier and more definitive indices than were previously recognized.

Finkle, who had an early interest in human sexuality, also compared the incidence of **erectile dysfunction** after perineal, suprapubic and transurethral prostatectomy. This was prescient, as the

outcomes were directly related to what is commonly understood now: i.e., preservation of the cavernous neurovascular bundles lying on either side of the prostate.

Schulte, who was then vice-chair of the division and chief of the Urology Service at Veterans Administration Hospital in San Francisco, trained under Hinman, Sr. from 1942 to 1945 and then joined him in private practice. He was an outstanding clinician, described as having a fine combination of personal integrity, pleasing personality, and excellent professional competency. His forte was perineal surgery, especially **perineal prostatectomy**. One of his most valuable contributions to clinical urology was the introduction of the **methylene blue stain** to urine sediment to detect malignant transitional cell tumors of the urinary tract. Schulte was so revered for his teaching excellence that in 1967, Smith established the department's first Visiting Professorship in his name.

In 1961, a new Urology Research Laboratory was equipped above the operating theater at SFGH, spearheaded by Hinman, Jr. and Howard. Equipment for the study of **bladder physiology in patients with obstructive disease** was funded by the Research Committee of the American Urological Association and the UC School of Medicine. Meanwhile individual faculty members forged collaborations with other departments at UC Medical Center. Vice-

RESEARCH FUNDING, DIVISION OF UROLOGY, 1963

Principal Investigator	Research Project	Funding Source
James S. Elliot	a) Chemistry of Urinary Calculus Disease b) V.A. Cooperative Study of Carcinoma of the Prostate	Veterans Administration supported: \$32,000.00
James S. Elliot	Calcium Phosphate and Calcium Oxalate Solubility	National Institutes of Health: \$14,810.00
James S. Elliot	A Double Blind Study on the Effect of Placebo, Butazildin and Cutter 811-C upon the Clinical Course of Patients with Epididymitis	In Cooperation with Cutter Laboratories
Alex L. Finkle	Criteria for Reversibility of Experimental Hydronephrosis	National Institutes of Health: \$33,410.00
Frank Hinman, Jr. John A. Hutch Earl Miller	Studies on Physiology of Voiding and Ureteral Reflux (Cine)	American Urological Association: \$2,400.00
Frank Hinman, Jr.	Effect of Eliminating the Stretch Factor on Regeneration of Ureteral Muscle	Cox Fund: \$1,164.00
Frank Hinman, Jr. Lee Simmons	Effect of Disuse and Restoration of Function on Capacity of Canine Bladder	Raschen-Tiedman: \$1,680.00
John A. Hutch Emil A. Tanagho	Study of the Histology, Physiology, and Pathology of the Intravesical Ureter	Baron Fund: \$2,930.00
Rudolph Oppenheimer	Renal Viability in Urinary Obstruction as Determined by Hippusian Renograms	Breon Fund: \$1,069.00

Opposite: Funding for research, 1963
 Right: Easter in the pediatrics ward

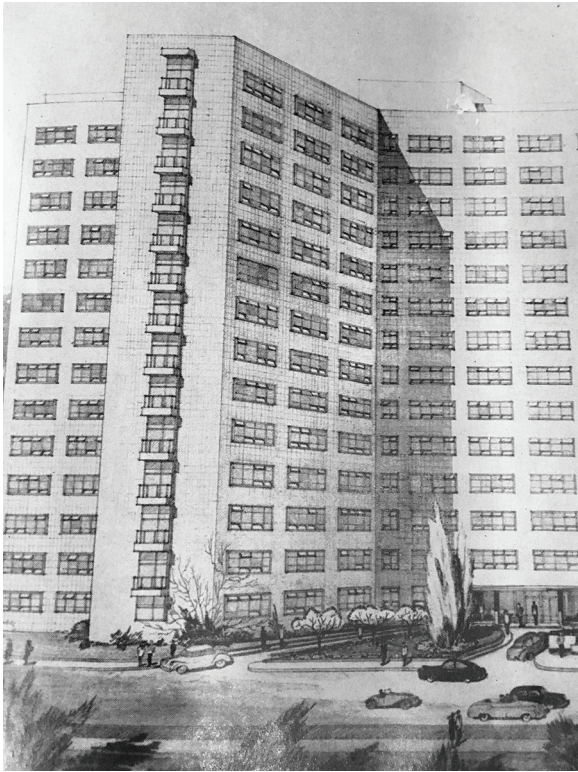


Chair John Schulte and Charles King, MD, (who received his degree from the University of Oregon in 1951 and was a former UC urology resident) teamed up with Eileen King, MD, in the Department of Pathology to study **urinary cytology** from which the presumptive diagnosis of neoplasm could be made from a methylene blue smear of the urinary sediment. Gilbert Gordan, MD, and endocrinologist Felix Kolb, MD, both of the Metabolic Research Unit, which had been established in 1949, collaborated with Urology in clinical investigations of **urinary calculi**. The Unit also turned to Urology for the diagnostic steps leading to localizations and delineations of **adrenal diseases**, and Urology faculty removed tumors for the group at the request of the Unit director, Peter Forsham, MD, a pioneer in the treatment of diabetes. In conjunction with the

Division of Neurological Surgery, Urology surgeons also accomplished the first **surgical diversion of the cerebrospinal fluid** into the ureter or peritoneal cavity in hydrocephalics.

Urology resident Jerome Weiss, MD, collaborated with Malcolm Powell, MD, chief of Nuclear Medicine and an expert in isotope studies of renal function, in a correlation of **triple renal scans** obtained with gamma camera, angiograms and urograms.

Smith and Edwin Boldrey, MD, worked together on operations for the **relief of hydrocephalus in children**. Urology and Pediatrics collaborated on research into **urologic congenital anomalies and urinary tract infections**, resulting in collaborations between Howard, Hinman, Smith, Donald Pickering, MD, and Henry Kempe, MD. Smith also advanced the treatment of **hypospadias**,



Moffitt Hospital 1950s

and Pickering and Hinman collaborated on **pediatric endocrine problems**.

A Vision of Expansion

In 1963 the Dean of the School of Medicine, John Saunders, asked Smith what the division's projected direction would be over the next ten to twenty years. Smith expressed interest in further physiologic studies of the kidneys and the excretory structures (ureters, bladder, prostate), studies of male infertility, the etiology of

urinary stones, the biochemistry of uremia, and "above all, the problem of immune reaction in tissue transplantation (kidney)."

J. Engleburt Dunphy, MD, chair of the Department of Surgery, initiated renal transplantation at UC Medical Center in 1962. From the beginning it was an impressively collaborative enterprise, drawing on many surgical and medical sub-specialties, including immunology, nephrology, plastic surgery, and urology. In the 1960s, the only immunosuppressants available were corticosteroids, azathioprine and crude anti-lymphocyte preparations. Smith presciently declared that this would be a valuable area of future research. In 1967, when the San Francisco campus of UC received a 10-year NIH Center grant on the "Clinical Utility of Kidney Transplantation," the departments of medicine and surgery devoted new faculty and additional resources to the project. Surgical space at Moffitt Hospital, part of the UC Medical Center, was reorganized. Urology, along with Gynecology, was moved from the 10th to the 14th floor, where the new kidney transplant center had 16 beds. The potential for the Division of Urology to expand in this area clearly existed, as did a collaborative connection with the director of the Transplant Center, Oscar Salvatierra, MD, a professor of Surgery and Urology in San Francisco who later joined the faculty at Stanford. Yet the division was pushed to its limits with its existing clinical

services and funded research programs. As a result, Urology did not play a role in the development of kidney transplantation at the San Francisco campus of UC.

An important feature of the organization of the Division of Urology at this time (and indeed, other divisions and departments in and outside of the San Francisco campus of UC) was that few faculty were on university payroll. As was common in other clinical divisions, Urology faculty derived their income almost entirely through private practice, and provided teaching on a voluntary basis. This was a situation that the new chair of the Department of Medicine, Lloyd “Holly” Smith, MD, who was recruited from Massachusetts General Hospital in 1964, set out to address. Smith recognized that in the future, medical practice would transform into a chain of growing sub-specialties. Because of this, he sought to strengthen the divisions under his control. In part this meant devolving administrative functions and promoting financial support for faculty, particularly junior faculty. The Department of Surgery was following suit, but it would take time to transition all its divisions.

Throughout most of Donald Smith’s tenure, the Division of Urology faced structural limitations to its own growth, as well as relative constraints on faculty time and resources. As a division of the Department of Surgery, it lacked the full autonomy necessary to fulfill its own visions or adapt



Early kidney transplant at UCSF

new technological pursuits. The example of the artificial kidney is a case in point. In 1958, the chair of the Department of Surgery, Leon Goldman, MD, wrote to the dean of the School of Medicine, John Saunders, advising him that, after consultation with Smith and Hinman, Jr., they very much wanted to obtain an artificial kidney (later

<u>UROLOGY.</u>	
<u>Staff.</u>	
Wm. P. Willard, Instructor	No salary
John V. Leonard, Assistant	<u>600.</u>
	600.
<u>Expense & Equipment.</u>	
	<u>200.</u>
	800.

Urology budget from 1915

called dialysis machine) for clinical service. They were also excited about developing a research facility at the San Francisco campus of UC surrounding its use. "I would like to suggest to you," Goldman wrote, "that this be set up in the Sub-department of Urology with the understanding that those with interest, knowledge, and aptitude from any area on campus might be asked to participate in this program." Norman Shumway, MD, of Stanford's Department of Surgery, provided a letter of support with details about the technology. However, despite the support of the chair of Surgery, this particular investment was not made at the time.

Although budgetary constraints remained a challenge, the Division of Urology had grown substantially in the decades since Hinman's arrival and the start of Smith's chairship. Indeed, when

Hinman arrived at UC in 1915, the entire medical school budget for fiscal year 1915-1916 was \$187,000. The total budget for Urology was \$800: \$600 for an assistant and \$200 for expenses and equipment.

In 1925, by which time William Willard, MD, was chief of service at San Francisco General Hospital and Hinman was head of Urology at UC Hospital, the total operating budget was \$2,225: \$1,200 allocated salary for Hinman, \$600 for an assistant, and \$425 for expenses and equipment. The division had two faculty instructors (Hinman and Willard) and two assistants.

In 1935, the total budget was \$3,072.50. Urology had four clinical professors: Hinman, L.P. Player, MD, S. Olsen, MD, and C.M. Johnson, MD. None of them drew salary from the university. The division also had two appointed

instructors and twelve assistants. The budget provided salary for three assistants at \$480.00 each, one secretary at \$832.50, and \$800 for expenses and equipment.

When Smith was appointed chair of urology in 1951, the total division budget was \$9,722 for: one assistant salary of \$600, secretary salary of \$3,420, "Assistant Resident at S.F. Hospital" \$1,500, "General Assistance" of \$3,402, and \$800 for supplies and expenses. No salaries were budgeted.

In 1971, the situation was substantially different. That year the division reported \$54,774 in research grant income and a budget from the university of \$78,975 for professional, clinical, and technical salaries. (The chair and vice chair were

salaries at 50% time, along with one other faculty.) The division had nine residents and one "mixed intern" and controlled a total of 2,393 feet of office and laboratory space between UCSF and SFGH.

Predicting that Urology was capable of outgrowing its "sub-department" status and considering administrative as well as professional benefits to increased autonomy, Smith initiated the process to advance the division into the Department of Urology. It would prove to be a longer than anticipated process, one that exceeded Smith's chairship. But as a joint effort, it was a process that would shift the whole footing of Urology at the University. The next chapter looks more closely at the making of the new department.

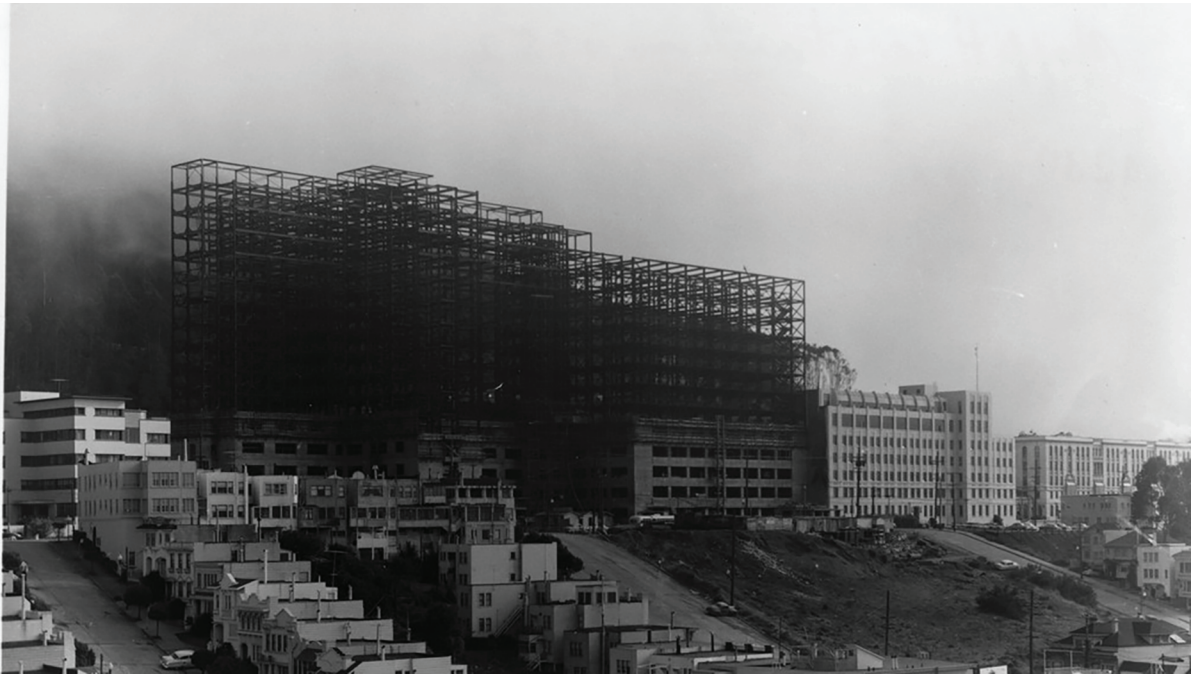
The Long Road to Departmental Autonomy

An aerial photograph of the UCSF Parnassus campus. In the foreground, a large, deep, rectangular excavation site is visible, with earth and construction equipment. In the middle ground, a large, multi-story, light-colored building with many windows is situated. To the left, a street with cars and utility poles runs parallel to the building. In the background, a dense forest covers a hillside under a clear sky.

The journey to make Urology a separate department within the UCSF School of Medicine was circuitous and took decades to complete. The process began in 1956 during the tenure of Donald Smith, MD, as division chief, but was not achieved until 1978, under his successor, Emil Tanagho, MD. Because full-fledged departmental status was so critical to Urology at UCSF, it is helpful to understand how the process of gaining it fit with the growth of medical and surgical specialties in the United States and the evolution of the University itself.

By the 1950s, during the first years of Smith's tenure as chair, a large-scale post-war reconstruction of higher education was launched in the United States. In California, this involved creating new UC campuses and changing existing relationships. In 1947, the Regents reaffirmed their commitment to designating the Parnassus campus as the site of the "UC Medical School." This designation was a start to the resolution

of a 40-year debate about the relationship between the sciences and medical departments in the San Francisco and Berkeley campuses. In 1955, the new 485-bed Herbert C. Moffitt Hospital opened its doors on the Parnassus campus as part of the UC Medical Center. The new hospital was adjacent to the construction site for a 14-story Medical Sciences Building. As the University of California expanded, an administrative tier of provosts and chancellors replaced the President's "advisory committee," as part of a move toward the autonomy of the individual UC campuses. In 1958, when basic science laboratories and offices returned to the San Francisco campus from Berkeley (where they had moved after the 1906 earthquake), anatomist John Saunders, MD, was promoted from dean of the School of Medicine to provost of the San Francisco campus. Six years later, the San Francisco campus was given full administrative independence to control educational and

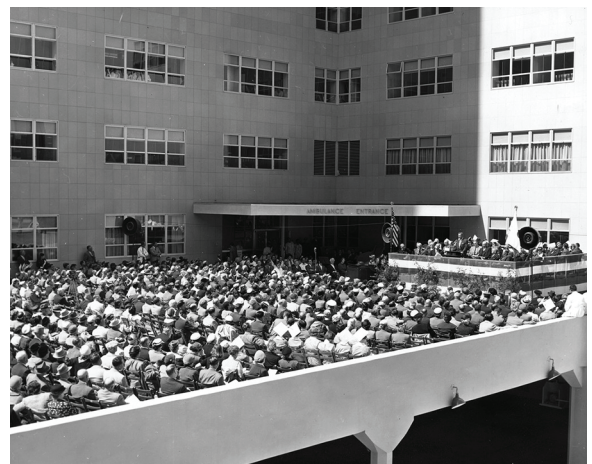


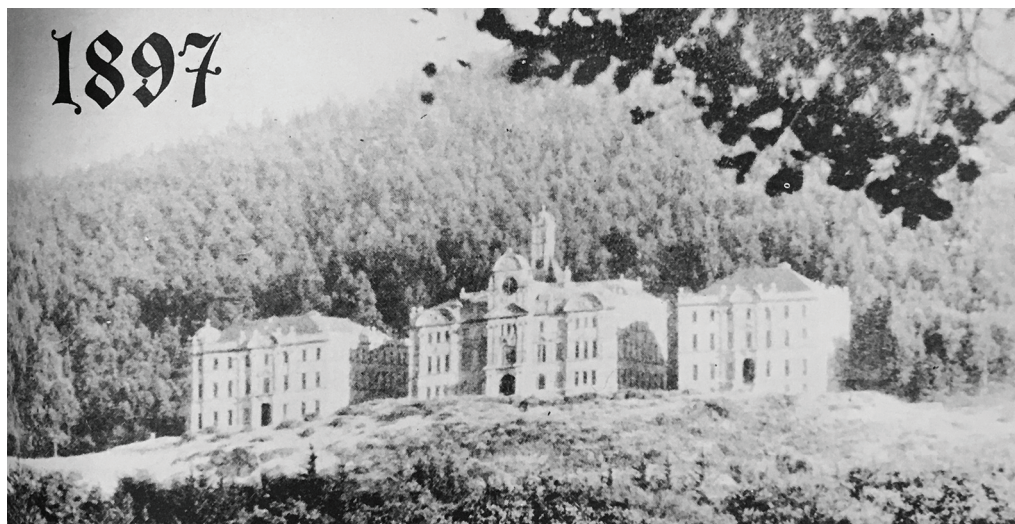
Moffitt Hospital construction 1952

financial matters, and Saunders was named its first chancellor. The final major step in the institution's evolution occurred in 1970, when the Regents renamed the University of California, San Francisco Medical Center the "University of California, San Francisco."

Another major change in the provision of medical services throughout the city also impacted UC medical faculty in San Francisco. For decades, Stanford University's clinical services were located in San Francisco, and faculty from UC and Stanford shared space at hospitals including the San Francisco General Hospital. In 1958 Stanford relocated its medical school's training and clinical services to Palo Alto, thereby creating a unique opportunity for UC Medical Center to expand clinical services. In 1965, with the passage of the Medicare

Moffitt Hospital dedication ceremony 1955





The campus compared, 1897 and 1957

and Medicaid Acts, vast new clinical revenue was suddenly available to support health care, and the university began implementing new pay scales for academic clinicians. Each department needed to think carefully and strategically about how to expand its teaching, research, and clinical

missions in light of these major changes.

The School of Medicine instituted an implicit policy of separating “sub-departments” (or divisions) from larger parent “departments” beginning in the early 1950s. At the time, specialties such as neurological surgery, orthopedics, and ophthalmology



A nurse at Moffitt Hospital, 1950s



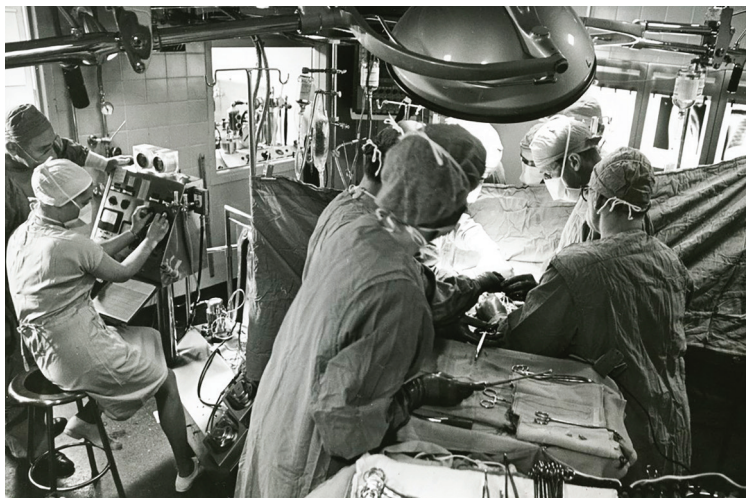
Medical Sciences Building physiology lab

were gaining more independence or attaining full departmental status. Such moves allowed these new departments to make significant strides in residency training, in research, and in gaining national recognition. In Smith's view, it was logical for urology to apply for the same status. In 1956 he submitted a proposal to John Saunders, MD, then the new dean of the School of Medicine, spelling out the potential advantages of departmental status for Urology.

First, Smith asserted, departmental status made administrative and logistical sense as services at the medical center in San Francisco were expanding following Stanford's move. Additionally, the new Moffitt Hospital was in development. Both of these events caused hospital administrators to gradually increase their authority on campus, and "more paperwork

has become necessary," said Smith. All of this paperwork was necessarily channeled through the Department of Surgery, which was time-consuming and cumbersome.

Second, urology, along with dozens of other specialties in American medicine in the mid-20th century, was developing a stronger professional identity. National urologic organizations, such as the American Urological Association (which at the time had some 1,500 members, compared to its 2017 membership of over 22,000, as well as its own journal and active leadership roles by UC medical faculty), advocated for stronger institutional positions at universities so as to foster independent research and training and not exist as a "stepchild" of General Surgery. In some institutions this became a matter of contention, but fortunately at the UC Medical Center, in Smith's words, "the



UCSF surgery circa 1968

Chair of the Department of Surgery at this school has always been most cooperative.” With such encouraging attitudes among peers and the “parent” department, time was ripe for this institutional change.

Third, establishing departmental status would boost morale and enthusiasm through the “pride of autonomy.” Department status conferred special recognition for attracting external funds to pursue new ideas and theories. It would provide a stimulus for more research and teaching. It would also offer recognition for the contributions that faculty made to build the program, limiting their office practices to allocate more time for teaching, research, and university affairs.

The argument Smith outlined in this proposal was compelling, but the burdens of institutional reorganization proved more complicated for the campus leadership,

which had broader concerns than the School of Medicine. The university was developing robust schools of pharmacy, dentistry, and nursing and had plans (which never materialized) for a school of human biology. The relocation of basic science departments from Berkeley to San Francisco was also challenging, and it was time consuming to set up master’s and PhD programs in a new graduate division (which had been established in 1961). Across the board there was intense pressure for more hospital and laboratory space, leading sometimes to heated debates about support for both the clinical and research arms of the university. Throughout the deanships of both Saunders (1956-1963) and his successor, William Reinhardt, MD, (1963-1966), UC Medical Center faced what is best characterized as growing pains. These consisted of struggles with both

space and operational costs, compounded by the requirement that the medical center operate on a self-supporting basis.

These pressures resulted in a long delay in progressing plans for Urology to form its own department. They also resulted in a loss of one-third of the space originally earmarked for the division when Moffitt Hospital opened. Smith's vision of autonomy as a department would be suspended for more than a decade, but the seeds for change had been planted, and the efforts would not be abandoned.

As Smith had foreseen, the longer Urology remained a division of General Surgery, the more the division faced challenges with faculty recruitment. The over-arching problem was that early on, the Division of Urology did not have the luxury to assign or retain FTE ("Full Time Equivalent," university-paid) faculty positions beyond the few that it was assigned, which were under the control of Surgery. Therefore, Urology had no FTEs to use for recruitment. This situation was not unique to Urology. As indicated earlier, most clinical faculty (and all within Urology) drew income from private practice. In this regard the UC Medical Center was

slow to catch up to other universities, and the growth of Urology in particular was stymied in part by its status as a division.

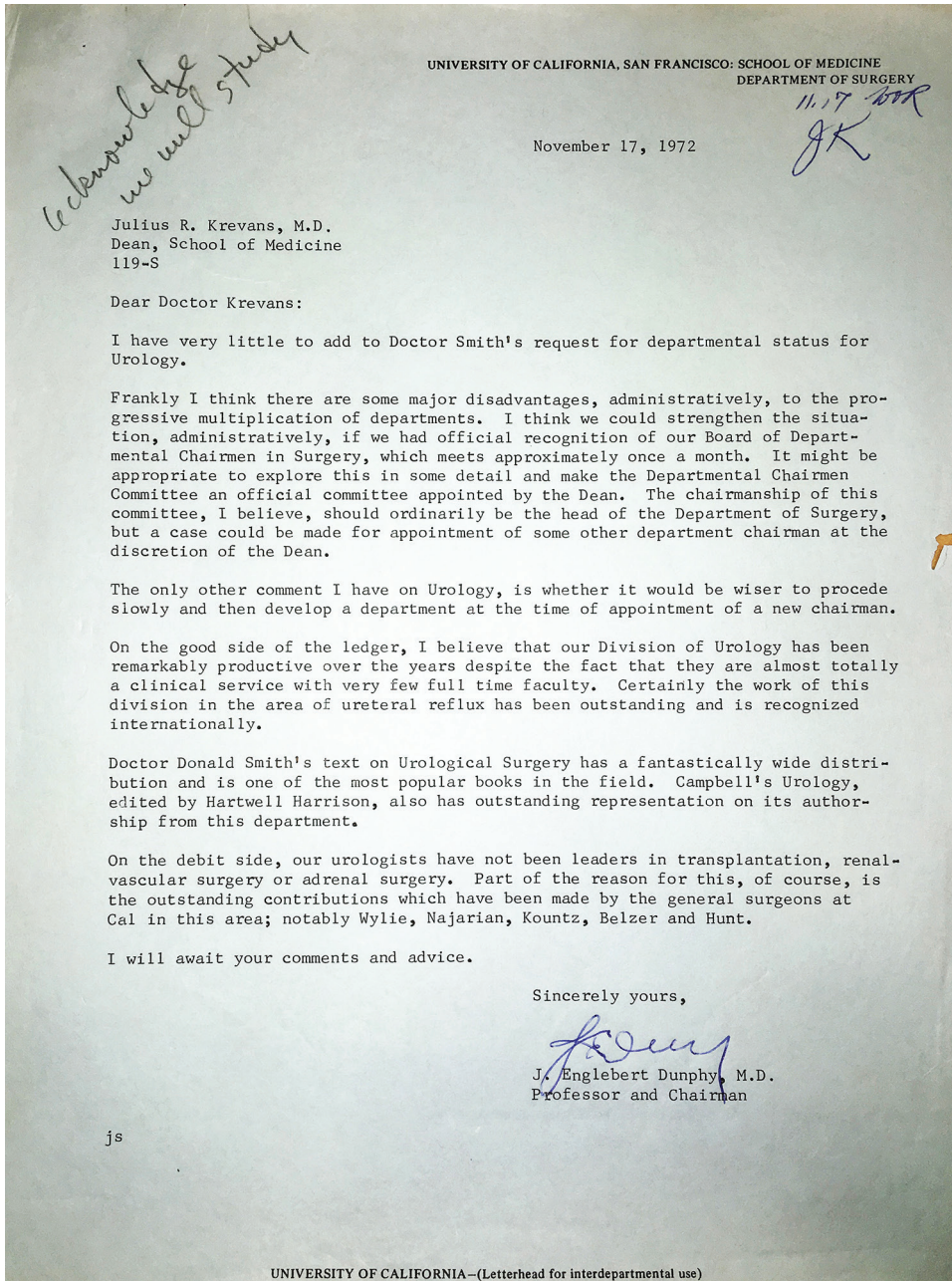
In 1963, H.D. Crall, MD, a clinical instructor in urology, described the division as follows:

The Department [sic] of Urology is the only group in the school without a full-time faculty. The thirty-odd members of the faculty under the leadership of Dr. Donald Smith continue to carry on the traditions of the department with a well-rounded balance between student and resident teaching and experimental and clinical research. In addition to Moffitt Hospital (U.C.) the department controls the G.U. departments of the Fort Miley Veterans Hospital and the San Francisco General Hospital. It thus provides a urologic training for nine men.

"The tradition of having specialties as divisions of Surgery is now almost completely dissolved; Urology is the only division left. The time has come for our liberation also."

– Dr. Donald R. Smith

In many respects, Urology at the UC Medical Center in San Francisco had advanced significantly, Crall wrote. "At first there was a limited surgical program (most genito-urinary surgery being performed by the general surgeons), limited beds, and



Letter to Krevans regarding request for departmental status

limited facilities for teaching, and usually undesirable locations for the department, in space not neither needed nor wanted by other departments. Today there are modern offices, laboratories, and surgical facilities for teaching and research in three hospitals, with fairly adequate beds.”

The one missing element in modernization was the ability to recruit new leadership and compete nationally for expertise. A case in point was the effort by Smith and the division to retain Emil Tanagho, MD, on the faculty in 1971.

In 1972, a year after Tanagho’s promotion, Smith updated his request to establish departmental status. By this time most surgical specialties that had been under the Department of General Surgery (and most recently Anesthesiology and Otolaryngology) had been given autonomy. As a result, the departments had experienced an “immediate crescendo” in their productivity and international reputation. As Smith pointed out, “the tradition of having specialties as divisions of Surgery is now almost completely dissolved; Urology is the only division left. The time has come for our liberation also.”

Urology at UCSF was also not keeping pace with growth at its sister programs at other UC campuses. For instance, UCLA had four full-time urology faculty and UC Davis had three. Despite being the oldest in the system, urology at UCSF – having

just gained an additional .5 FTE following negotiations to retain Tanagho – had a total of only 2.5 full-time equivalents.

Most of Smith’s tenure as chair had passed between his first proposal to establish a full department of urology in 1956 and the updated request in 1972. In that time, four different deans of the School of Medicine and four university chancellors had held office. The new chancellor, Francis Sooy, MD, was a UC Medical School alumnus and served as the first chair of the Department of Otolaryngology when it was established in 1967. As chancellor, much of his time would be consumed with overseeing the modernization and expansion of Moffitt Hospital. But departmental status was Smith’s most pressing concern, and he would not let the matter drop. “Less than four years from now,” wrote Smith, “I’ll have reached the retirement age. There are more academic jobs [in urology] than job seekers. It has become clear that prospective candidates feel more secure joining a department whose autonomy is assured. We must have the best!”

The proposal made its way through the prescribed channels, with the dean forwarding the request to the Senate Committees on Educational Policy and the Faculty Council, requesting expedited consideration. The chair of the Department of Surgery, J. Englebert Dunphy, MD, wrote a letter of support that essentially agreed with Smith’s proposal and underscored urology’s accom-

plishments. But Dunphy also wondered “whether it would be wiser to procede [sic] slowly and then develop a department at the time of appointment of a new chair.”

No detailed records exist of the leadership’s deliberations, but Smith’s proposal again was unsuccessful. Whether or not they heeded Dunphy’s advice to hold off until Smith’s retirement to reshape the division is a matter of speculation, but the effort to transform the division into an independent department would wait until the new chair was in place. In 1976, the baton was passed to Tanagho, who renewed the push for departmental status as soon as he became chair of the division. His efforts were rewarded with establishment of the Department of Urology in 1978.

CHAPTER THREE

The Rise of a Department

Dr. Emil A. Tanagho, Chair 1976-1996

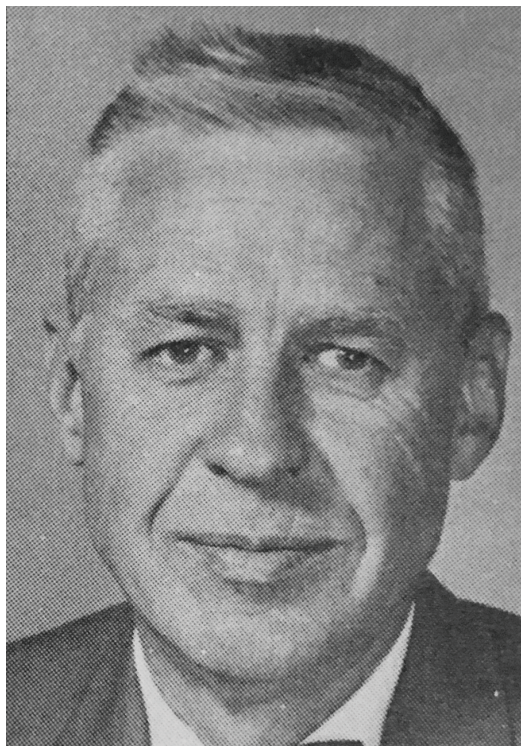


Emil A. Tanagho, MD

A native of Egypt, Emil Tanagho, MD, began building a reputation for excellence early in his professional career—one that gained international stature in the years he led Urology at UCSF. He graduated from the University of Alexandria Medical School, completing a master's thesis on surgical repair of lower ureteral stricture, which stimulated his interest in the ureterovesical junction. His first

connection with UCSF was serendipitous. While Tanagho was serving as a lecturer in Alexandria, Donald Smith, MD, came to visit the medical school. Tanagho was assigned to show him around the city. "I took good care of him," said Tanagho. "He liked history, the pyramids, the antiquities. He had a great time."

Shortly thereafter, Tanagho began a sabbatical year at the University of London



John Hutch, MD

to study the anatomy of the ureterovesical junction through microscopic dissection under the guidance of Roger Pugh, MD, chief of Pathology at the Institute of Urology, and Sir David Innes Williams, pediatric urologist at the Great Ormond Street Children's Hospital. Based on the connection he had made with Smith, Tanagho came to UC Medical Center in 1962-1963 to finish this work as a postgraduate research urologist. With John Hutch, MD, and Robert Ayres, MD, he completed physiologic studies that confirmed his London anatomic work and

expanded his microscopic anatomical dissection to the bladder neck and sphincteric mechanism.

On his return to Egypt, Tanagho found that political circumstances under President Nasser threatened to severely limit his promising medical career. In a "Legends of Urology" feature published in *The Canadian Journal of Urology* in April 2010, he explained:

Under the Nasser regime, with confiscation of property and severe travel restrictions, the country seemed to be moving rapidly toward the Soviet bloc. In one year, I thrice was denied permission to attend European and American urology meetings after having had papers accepted, and it was made clear to me that I would never be permitted to leave the country again. That finalized my decision to search for a means of escape.

As a Christian, Tanagho was allowed a once-in-a-lifetime right to travel with his immediate family to the Holy Land at Easter, and he determined that would be his opportunity to escape. Telling only one brother of his plans, in 1966 Tanagho, his wife, and their two daughters (ages 7 years and 10 months) left their homeland under the pretense of an Easter journey to Jerusalem. They had a family passport for this purpose that was valid for 15 days, two suitcases and \$200 (the maximum permitted). Unbeknownst to the authorities, the family also carried the passports that had enabled them

LEGENDS IN UROLOGY

*Emil A. Tanagho, MD
Professor, Chairman Emeritus
Department of Urology
University of California, San Francisco Medical Center
San Francisco, California, USA*



As other contributors to this section have mentioned, the designation “legend,” although tremendously flattering, is an uncomfortable one. However, as my personal history differs somewhat from that of my colleagues, my story may be of interest to the reader. Likewise, the arc of our department’s growth is unusual in the field of urology and, I believe, may be instructive to younger academicians.

I was born in Egypt and graduated from the University of Alexandria Medical School, where I was trained by Professors A. el Sadr and M. el Ghorab (the former a student of Dr. Ruben Flocks). It was there that my master’s thesis stimulated my interest in the ureterovesical junction. For the topic, “Evaluation of Surgical Repair of Lower Ureteral Stricture (Bilharzia),” I collected 175 cases. Even though surgical treatment was various (meatoplasty, direct reimplantation, nipple reimplantation [later described by Paquin], bladder flap), overall outcome remained unsatisfactory because of the persistence of vesicoureteral reflux.

From Canadian Journal of Urology, 2010

to travel previously to Europe and America. Tanagho had found the strength to do what was needed. “You just lock your door and walk,” he wrote.

From Jerusalem, the family journeyed to the American University of Beirut. There Tanagho served without pay as a visiting scholar. In 1966, with the help of Senator Frank Church, chair of the Senate Foreign Relations Committee, and UCSF’s Robert Ayres, MD, and Richards Lyon, MD, he was given permission to reside in California. He

was appointed an assistant professor but spent two years as an intern/junior resident to meet the requirements to obtain his U.S. medical license.

On completing these requirements in 1970, Tanagho received Smith’s enthusiastic support for promotion to associate professor in residence Step III. One thing was clear to Smith and his colleagues: Tanagho was a valuable addition to the faculty and a remarkable contributor to teaching and research. Smith was so supportive, in fact,

Attachment II

Division of Urology
Request for Departmental Status May 1, 1977
Budget Development

	1972-73	1973-74	1974-75	1975-76	1976-Current
<u>Academic</u>					
Positions, FTE	2.50	2.50	2.50	2.50	4.50
Salaries	62,450.00	67,250.00	71,900.00	79,850.00	67,300.00
<u>Non-Academic</u>					
Positions, FTE	4.00	4.00	4.00	4.00	6.00
Salaries	35,352.00	36,278.00	45,972.00	49,650.00	76,170.00
<u>General Assistance</u>					
Positions, FTE	3.00	3.00	3.00	3.00	5.00
Salaries	1,148.00	1,340.00	1,438.00	1,438.00	1,438.00
Supplies and Expenses	8,000.00	9,000.00	10,000.00	10,800.00	15,000.00
Equipment and Facilities	425.00	425.00	425.00	425.00	425.00
Endowments - Unallocated	7,539.12	8,774.71	8,263.50	7,547.87	5,894.12
Total Budget	\$ 114,914.12	\$ 123,067.71	\$ 137,998.50	\$ 149,710.87	\$ 166,227.12
Total FTE	9.50	9.50	9.50	9.50	15.50

-6-

Urology budget from 1977

he wrote "I, myself, was impressed with my documentation for promotion...." The problem was that the "in residence" appointment (a non-FTE, adjunct position) did not offer the sort of job security or signal the kind of career endorsement that would retain a rising talent in the field.

The dilemma was magnified by a competing job offer that Tanagho received at another university, and Smith was left scrambling to find a means to support his newest faculty member. He appealed to

the dean for a solution to their recruitment problem. "In my opinion," said Smith, "his departure would be a grievous loss to this department and this school." Fortunately, the entreaty was successful, and the division was able to retain and promote Tanagho in 1971. When Smith retired five years later, Tanagho succeeded him as chair.

In his first year as head of the Division of Urology, Tanagho presided over a very different enterprise than Smith had found in his first year. In 1951, the full divisional

budget had been \$9,722. In 1976, the total budget was \$166,227. And despite the delay in obtaining full departmental status, Urology had been allotted resources that would allow it to grow. In 1976, the division had a total of 4.5 academic FTE positions available to it, six non-academic full-time positions, and five general assistance positions. Moreover, the division was seeing just under 4,000 patients a year in the outpatient clinic and had discharged an average of 500 patients a year from Moffitt Hospital, a part of UC Medical Center. Urology provided a fully staffed service at UCSF, San Francisco General Hospital (SFGH; where Frank Hinman, Jr., MD, was chief of Urology), the Veterans Administration (VA) Hospital (Frank Tavel, MD, chief of Urology), and the Kaiser Foundation Hospital in Oakland (Eugene Cattolica, MD, chief of Urology).

In accepting the appointment to lead the Division of Urology, Tanagho had been clear that departmental status was a necessity. "I told them, 'If you want me to be a chair, we need to be a department.' I had sat at a desk next to Don Smith and watched him have to ask permission from Surgery for everything he needed." Accordingly, one of Dr. Tanagho's first acts as chair was to write to the dean of the School of Medicine with a renewed request to establish departmental status for urology. The proposal was submitted

in October 1977, and it pointedly highlighted the growth and expansion of research commitments.

"Since I have assumed the responsibility of the Chairship of the Division of Urology," Tanagho wrote, "there have been some basic changes in the program that I feel will lead us in the near future to assume a stronger position in the national and international circuits. We have always been a strong clinical department. We aim to maintain and improve this reputation and add to it also excellence in academic training." The main thrust of Tanagho's narrative was the incredible productivity of the research programs.

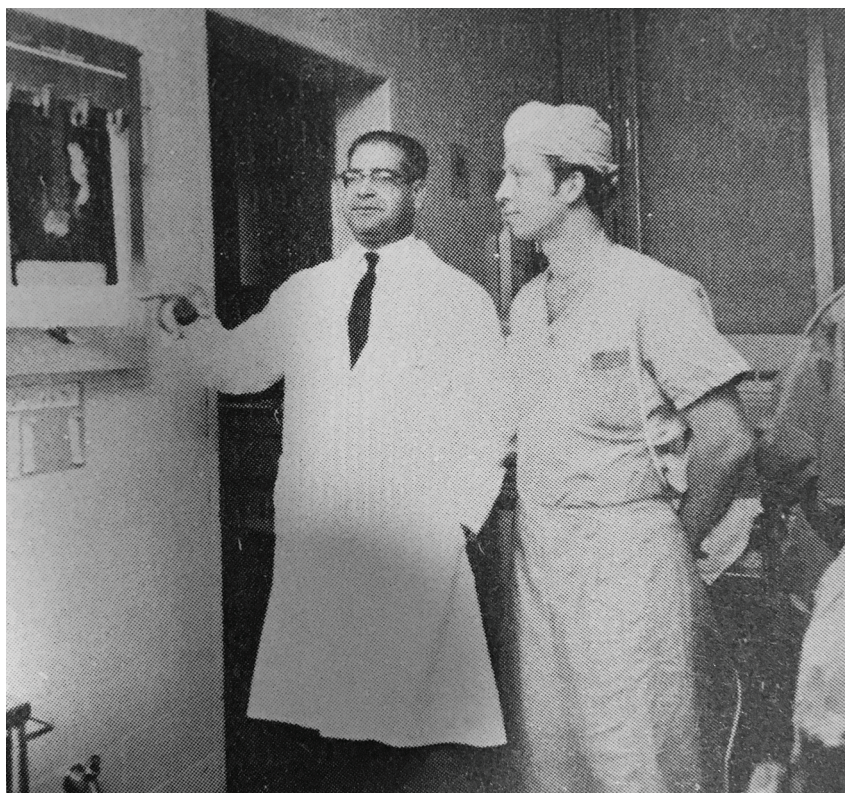
Street scene from Parnassus campus



PART IV - UROLOGY

ATTACHMENT 1

LINE NO.	TYPE OF OPERATION	TOTAL	PERFORMED BY		LINE NO.	TYPE OF OPERATION	TOTAL	PERFORMED BY	
			STAFF	RESIDENTS				STAFF	RESIDENTS
			A	B				C	A	B	C
1	URETHRA								
2	Operations on Urethra and Penis	31		31	55	Removal of cyst of kidney	1		1
3	Repair of hypospadias				56	Pyelotomy	1		1
4	Repair of epispadias				57	Adrenalectomy			
5	Amputation of penis				58	SCROTAL CONTENTS			
6	Partial				59	Vas ligation	4		4
7	Radical				60	Varicocelectomy	2		2
8	Urethrotomy				61	Hydrocelectomy	6		6
9	External	2		2	62	Spermatocelectomy	2		2
10	Internal	11		11	63	Orchiectomy			
11	Plastic for stricture of urethra	3		3	64	Simple	13		13
12	Diverticulectomy				65	Radical	5		5
13	Repair of urethro-vaginal fistula				66	Epididymectomy	2		2
14	PROSTATE				67	Orchiopexy			
15	Suprapubic prostatectomy	4		4	68	DIAGNOSTIC PROCEDURES			
16	Retropubic prostatectomy				69	a. Cystoscopy, diagnostic	119		119
17	a. Simple				70	b. Pyelogram, retrograde	12		12
18	b. Radical	1		1	71	c. Pyelogram, intravenous			
19	Transurethral prostatectomy	76	1	75	72	d. Cystograms	5		5
20	Perineal prostatectomy				73	e. Aortography			
21	a. Simple	1		1	74	f. Retroperitoneal pneumography			
22	b. Radical	3		3	75	Other	24		24
23	BLADDER				76	Biopsy	35		35
24	Cystostomy				77	Insert penile prosth.	7		7
25	a. Drainage								
26	b. Removal of stone	3		3					
27	c. Treatment of bladder tumor	5		5					
28	d. For repair of rupture	1		1					
29	Cystectomy								
30	Partial	1		1					
31	Complete	3		3					
32	Transurethral removal of bladder tumor	35		35					
33	Diverticulectomy								
34	Repair of exstrophy of the bladder								
35	Repair of vesico-vaginal fistula								
36	URETER								
37	Repair of ureterocele								
38	Ureterotomy for stone	5		5					
39	Ureteral repair								
40	a. Ureterocystostomy	3		3					
41	b. Ureteropelvic								
42	Ureterostomy								
43	Cutaneous								
44	Intestinal								
45	Others	2		2					
46	KIDNEY								
47	Nephrectomy								
48	a. Thoracoabdominal	8		8					
49	b. Lumbar								
50	c. Transperitoneal								
51	Partial nephrectomy	2		2					
52	Operation for horseshoe kidney								
53	Nephrostomy								
54	Nephrolithotomy	1		1					
						TOTAL	439	1	438



Opposite: Tally of urologic procedures at the VA
Right: Emil Tanagho, MD with chief resident

A Vision Realized: Departmental Status in 1978

Over the next ten years, Tanagho envisioned Urology at UCSF pursuing new directions in research that would capitalize on the fruitful collaborations built over the previous decades. In a letter to the dean outlining his plans, he wrote that Urology was aiming to strengthen research in the areas of urinary tract infection, immunology, genitourinary trauma, urolithiasis, infertility, and genitourinary oncology. In fact, in 1977 efforts were underway to recruit a faculty member to lead

urologic oncology, and there were discussions about expanding clinical allocations at the hospital to support a new unit focused on the care of such patients.

New rotations were added to the residency program to include training in nephrology and renal transplantation. Tanagho was able to report that over the last few years, Urology trained 17 postgraduate research fellows and research associates from all over the world. "I will not be exaggerating to say that I can visualize in a few years that the Urology Department at UC School of Medicine will be one of the very

f *Urology*
SAN FRANCISCO: OFFICE OF THE CHANCELLOR

RECEIVED		
OFFICE OF THE DEAN		
SCHOOL OF MEDICINE		
AUG 7 '78		
ROUTE	DATE	COPY
<i>1100</i>		

August 3, 1978

DR. EMIL A. TANAGHO:

Dear Emil:

I am pleased to inform you officially that President Saxon has approved departmental status for the Division of Urology within the School of Medicine effective Fall Quarter 1978.

Best wishes.

Sincerely yours,

Frank

Francis A. Sooy, M.D.
Chancellor

FAS:rp

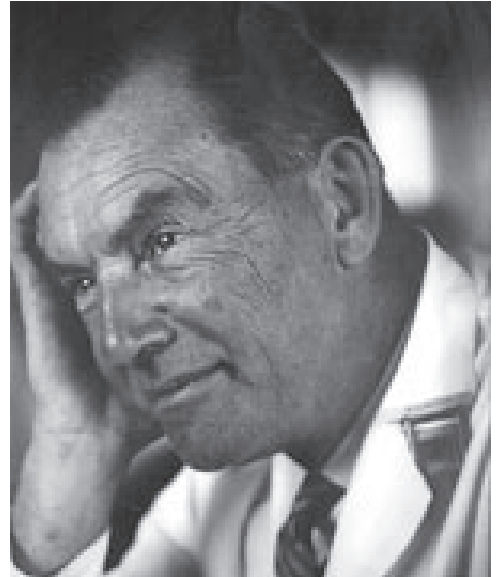
cc: Vice Chancellor Chater
Vice Chancellor Suelzle
✓ Acting Dean Reinhardt

best top training programs in this country," Tanagho wrote, "assuming a departmental status will be the backbone of this growth and achievement."

This time, the proposal was successful. In August, 1978, UCSF's Chancellor Francis Sooy wrote to Tanagho advising him that UC President David Saxon had approved departmental status for urology effective the fall quarter of 1978.

Collaborative Research Thrives

Throughout the 1960s and 1970s, Urology participated in a number of cross-departmental collaborations and cooperative clinical ventures. The Department of Radiology, for instance, pursued common interests with Urology, as diagnosis of a range of diseases became increasingly dependent on imaging. In a typical pattern, collaborations started under one chair and carried over into the tenure of the next chair. Building on earlier work, Earl Miller, MD, and Hinman, Jr. studied renal, ureteral and vesical physiology using cineradiography and serial radiography. Edwin Boldrey, MD, from the Department of Neurosurgery, worked with Miller and Hinman, Jr., to investigate the pathologic physiology of the neurogenic bladder through x-ray movies. Smith, along with Howard Steinbach, MD, developed retroperitoneal pneumography (for diagnosis of adrenal tumors and hyperplasia) and studied the venous pattern of the symphysis



Earl Miller, MD

pubis by means of osseous phlebography.

In other investigations, Smith and cardiologist Maurice Sokolow, MD, studied a large group of hypertensive patients cured or improved after nephrectomy performed for unilateral renal disease. Ernest Jawetz, MD, an expert in infectious diseases and antimicrobial therapy, collaborated with Hinman, Jr. and James Hopper, MD, to investigate the use of polymixin B in chronic pyelonephritis, while Smith collaborated with Jawetz in evaluating the usefulness of nitrofurantoin in urinary infections.

In addition, Hinman continued other microbiological investigations in conjunction with international collaborators on urethral and vesical defense mechanisms against colonization by bacteria and infection.

Vesicoureteral Reflux*

*Role in Pyelonephritis**

JOHN A. HUTCH, EARL R. MILLER and FRANK HINMAN, JR.

San Francisco, California

DESPITE intensive clinical and laboratory research, many features of pyelonephritis remain unexplained. Two types of pyelonephritis are recognized: obstructive and non-obstructive. Obstructive uropathies are well understood. When obstruction is present anywhere in the urinary tract (renal pelvis, ureter, bladder neck or below), infection is difficult to eradicate unless the obstruction is removed. Above the obstruction the urinary tract loses its best defense against infection, namely, the ability to empty completely. As a result, the urinary tract infection becomes chronic.

However, many infections occur in unobstructed urinary tracts. The etiology of

EXISTING INFORMATION ON VESICoureTERAL REFLUX

The Intermittency of Reflux. During the last decade much has been learned about the fickle nature of reflux. Most pathologic changes demonstrated on roentgenograms are reproducible, and it has been difficult for us to realize that this is not always true when reflux is involved. For example, a patient whose cystogram reveals right reflux today may not show reflux when re-examined tomorrow. A week from now this same patient may show left reflux and a month from now, bilateral reflux. This point was brought out statistically by McGovern, Marshall

Article on vesicoureteral reflux

Hinman also collaborated with R. Lloyd-Davies from London to work with the Donner Laboratory in Berkeley to photograph the surface of the urethra and bladder at magnifications up to 30,000 times using a scanning electron microscope. These scans revealed a highly irregular surface, likely to trap bacteria and prevent their washout during urination. Scans showed that dilation smoothed the surface, promoting washout, and infection produced greatly increased surface irregularity, which served to perpetuate the process of infection and re-infection. This research, and the images (which were showcased at urologic meetings) won prizes

and resulted in Hinman being offered international visiting professorships.

During this time, UCSF Urology was one of the few centers in the country for the study of testicular biopsies performed in conjunction with orchiopexy. All specimens from urologists in the western United States were sent to UCSF, and a joint research program with pathology was formed for the study of these tissues. Tanagho formed his own collaborations with Pathology, as well as faculty in Pharmacology and Radiology, to do unique studies relating to the anatomy and physiology of the urinary tract. Studies published with Hutch, Professor of Pharma-

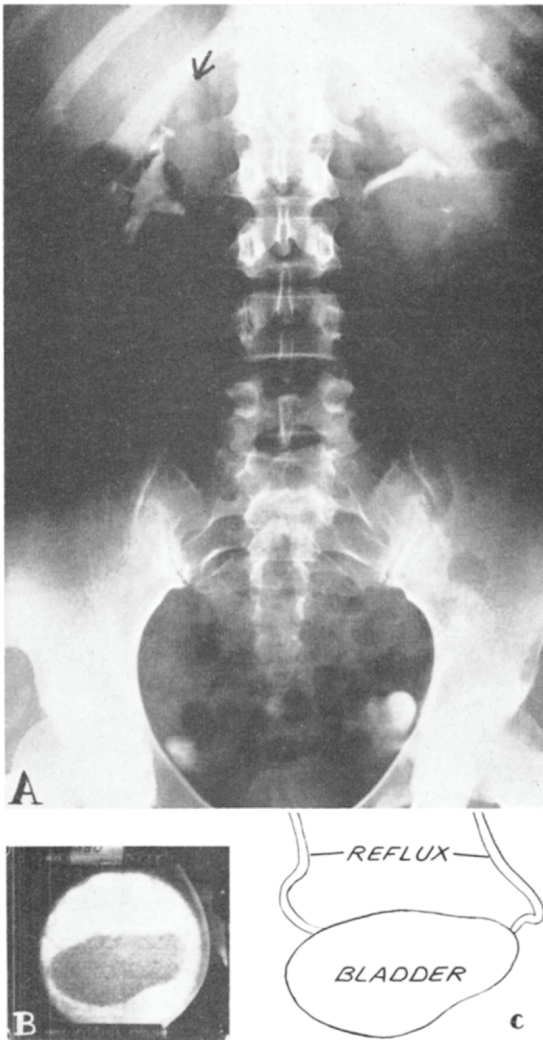


FIG. 4. Case IX. A thirty-four year old woman who had some symptoms of urinary tract disease in childhood, but no further trouble until eight years ago when she had three bouts of pyelonephritis during her first pregnancy. Intravenous pyelograms taken at that time were normal. Her urine has been infected for the last year in spite of therapy. Recent intravenous pyelograms, when compared with previous ones, showed a decrease in size of both kidneys, especially on the right, without ureteral dilatation. Cystoscopic examination showed large, gaping orifices. Cinefluoroscopy showed bilateral reflux into undilated ureters. A, intravenous pyelogram showing bilateral chronic pyelonephritis. B, cinefluoroscopy reveals bilateral reflux. C, illustrative drawing of B.

X-ray and illustrative drawing of vesicoureteral reflux

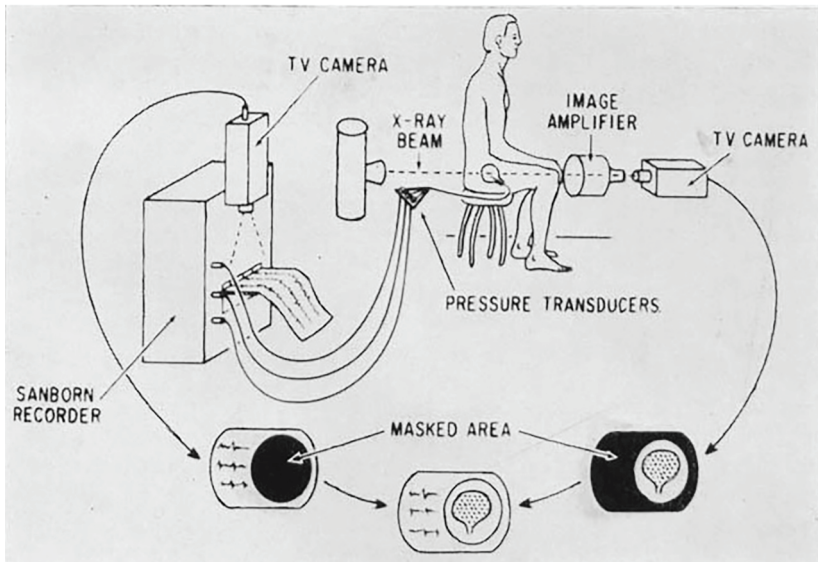
cology Frederick Meyers, MD, and Professor of Pathology Oscar Rambo, MD, explained why vesicoureteral reflux occurred and why the operations designed to stop reflux were so successful.

Together with Radiology's Miller, Tanagho also studied closure pressures in the urethra and vesical neck and found evidence of severe spasm of the periurethral striated muscle in girls with recurrent urinary difficulties. Based on his anatomic studies of the bladder, Tanagho designed an anti-incontinence operation in which a tube is formed of the thick circular muscle fibers that lie anteriorly just inside the bladder neck. The tube is then anastomosed to the urethra to provide sphincteric action. This technique was thought to be revolutionary at the time.

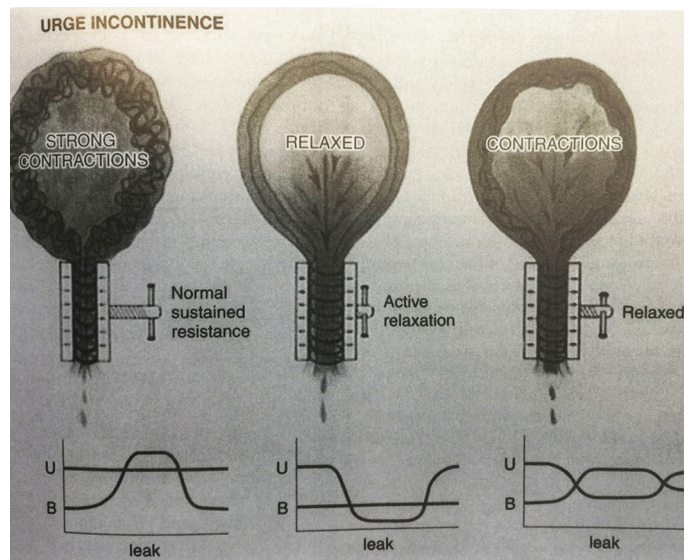
Much of this collaborative research was a continuation of studies begun before Tanagho became chair. Under his leadership, however, the department's research expanded to include a new focus on the pathophysiology of voiding and erectile function. In addition, Tanagho planned to establish separate research laboratories at SFGH and the VA Hospital to attract new research fellows and make it possible for urology residents – whose urologic training program was expanding from three to four years – to spend a year in research. This was a major step towards the department's goal of training academic urologists, a goal that continues to this day.



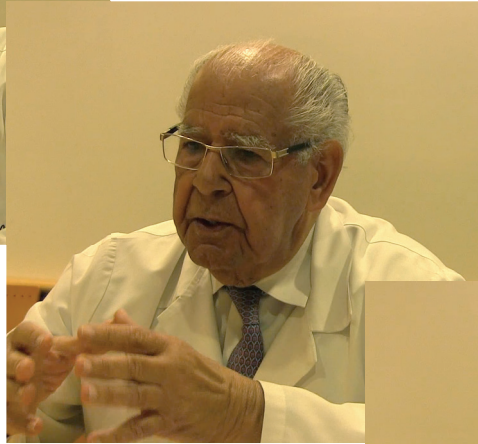
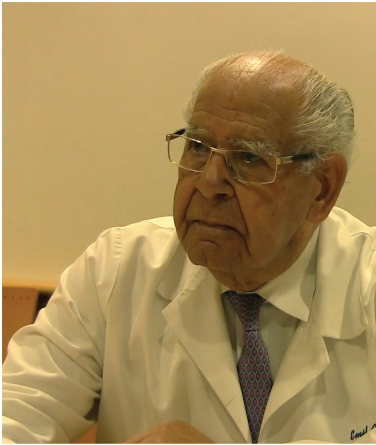
1984 Chief residents Smith-Harrison, Nicolaisen and Carroll with chair, Emil Tanagho



1966 diagram of apparatus used for pressure measurement and cinefluoroscopy
 Tanagho et al. *British Journal of Urology* V38 No1
 (Feb 1966) p73



Three mechanisms of urinary urge incontinence
 Smith and Tanagho's *General Urology*
 (2013) 18th edition p 473. Copyright
 McGraw-Hill Education



Emil Tanagho, MD at interview

Taking advantage of the emerging technique of video urodynamics to study bladder physiology, neurophysiology and the mechanisms of micturition, UCSF had developed a renowned research program in urodynamics. Tanagho, Hinman, Jr., and Miller were instrumental in establishing the first Urodynamics Research Laboratory by the early 1970s, which led to the development of comprehensive clinical urodynamic studies to evaluate a variety of voiding

dysfunctions. Physicians Luis M. Perez, MD, and George D. Webster, MB, FRCS, wrote that “It was the work of Earl R. Miller and associates at the University of California, San Francisco which truly popularized the use of cinefluoroscopy in conjunction with the other lower urinary tract urodynamic studies.” Tanagho built on these earlier efforts substantially.

Richards P. Lyon



One of the Department of Urology's stellar clinical faculty members, Richards P. Lyon, was born and raised in the East Bay and attended Stanford University on a basketball scholarship, where he majored in engineering. He decided to forgo an opportunity to work in his family's business (Lyon Storage and Moving Co.) to pursue medicine, but throughout his career he brought an engineer's perspective to his medical practice. His training was paused

during World War II, when he served as an assistant battalion surgeon in the Marines, surviving the landing on Iwo Jima. On his return, he began surgical training in Boston. There he proposed what would be the first of many engineering solutions to medical problems—the use of compression stockings to speed up blood flow in the deep venous system to avoid venous stasis and embolism, a concept he studied using a borrowed pair of aviator's pressure puttees. This invention was refined and went on to have broad impact on surgical practice over the next decades.

Returning to the West Coast, Lyon began his urology residency training with Frank Hinman Sr. and completed it with Donald Smith, his mentor in pediatric urology, whereupon he was invited to join the clinical faculty. He soon made a name for himself as one of urology's original thinkers. His lifelong interest in fluid and electrolyte balance inspired some of his greatest work. He fashioned a garage-made litter scale to weigh patients postoperatively to determine blood loss and fluid shift in the extracellular space, a prototype later refined as the Lyon In-Bed Scale. With the creation of the standard of a half-pound weight loss per

postoperative day, acute tubular necrosis became readily detectable. Patients who might previously have been lost could then be managed and saved. The culmination of this work was his development of an operating-table scale to monitor fluid shifts during surgery. When used during TURP, the Lyon surgical scale permits resection of far larger glands than could be attempted in the past.

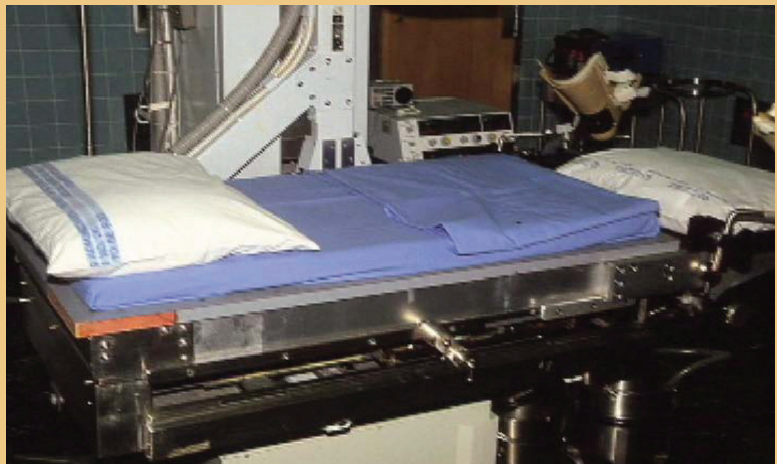
In the 1960s, Lyon began investigating the problem of urinary infections and enuresis among girls who experienced slow or interrupted urinary streams. He speculated that these patients had a tight fibrous ring just inside the external urinary meatus and theorized that the cause of the impaired stream and secondary symptoms might be involuntary spasm of the periurethral voluntary musculature. Rupture of the fibrous ring, he thought, would lead to relaxation of the periurethral voluntary musculature and resolution of complaints.

Lyon was also noted for his cine recordings characterizing different ureteral orifice configurations.



Above: The garage-made scale for weighing daily fluid gains and losses evolved from the idea of Owen Wangensteen, MD, to weigh patients.

Below: The Lyon Operating Room Table Scale for Continuous Weight Monitoring



Faculty Recruitment and Program Growth

As mentioned previously, the Department of Urology benefitted greatly from the participation of private practice urologists in its clinical and training programs. The educational program for medical students in particular was strengthened by urologists in private practice who would devote precious time to teaching, including Sumner Marshall, MD, (who continues teaching medical students to this day) and Drs. Joseph Presti, Sr., Jerome Weiss, Ira Sharlip, Tony Eason, Paul Alpert, Eugene Cattolica, William Smart, Frank Tavel, Pat McLin, Vernon Weldon, Irving Katz, Dick Hayne, Richards Lyon, Joseph Spaulding and Stanwood Schmidt. Eason, in particular, stayed active in teaching through his affiliation with San Francisco VA Medical Center and his attendance at Grand Rounds. Even after his retirement, he remained dedicated to teaching. However, in order to strengthen and expand the key clinical programs, Tanagho recruited a number of additional (permanent) faculty.

Soon after his appointment as chair in July 1977, Tanagho recruited Jack McAninch, MD, an expert in urologic trauma, from Letterman Army Hospital. Noted Tanagho, "I used to go to Letterman Hospital twice a month to sit down with him

and give a teaching seminar, present cases, and X-rays. I was impressed by Jack. He was the very best choice I could have made." On joining the faculty, McAninch became vice-chair and chief of service at SFGH and helped integrate SFGH's renowned trauma center into the urology residency training program.

Many of the talented faculty Tanagho recruited went on to chair programs at other institutions around the country. In 1978, for instance, Tanagho recruited Edwin Meares, MD, to be chief of Urology at the San Francisco Veterans Administration Hospital (VA; [now called the Veterans Administration Medical Center (VAMC)]. When he returned the following year to Tufts University to serve as department chair, he was succeeded at the VAH by Richard Williams, MD, from the University of Minnesota. Williams played a substantial role in strengthening the service, combining his clinical expertise as a urologic oncologist with a growing laboratory research program. In 1985, when Williams assumed the position of chair of the Department of Urology at the University of Iowa, Perinchery Narayan succeeded him as chief of service at the VA, serving for nine years until he became chair at the University of Florida in Gainesville in 1994. Presti, Jr., who completed his residency at UCSF in 1989 and subsequently served a three-year fellowship at Memorial Sloan Kettering Cancer Center, became chief of service at the VA until



Laurence S. Baskin, MD

he was recruited to Stanford University.

In 1979, Richard Schmidt, who had spent two years in Tanagho's lab, was recruited. Schmidt's most important contribution was his work with Tanagho directing an advanced urodynamics laboratory that provided clinical insight into the pathophysiology of voiding dysfunction. He continued working with Tanagho to design and test neuroprostheses for urinary bladder and sphincter control, becoming a major contributor to the field of neurourology and urodynamics. In 1993, he left to join the faculty at the University of Colorado at Denver.

In 1982, Tanagho recruited Barry Kogan, MD, to head the pediatric urology service. Before coming to the department, Kogan had completed a fellowship under J. Herbert

Johnston at the Alder Hay Children's Hospital in Liverpool. His interests included gastrocystoplasty as well as laparoscopic surgery for non-palpable testes. His research activities focused in part on the development of a unique fetal model (for which he was awarded the Grand Prize in the Jack Lapides Essay Contest in 1988), which lends itself to studies of the physiology of the lower urinary tract as well as of the congenital anomalies of prune belly syndrome, cryptorchidism, and renal dysplasia. Indeed, Kogan's reputation and industry very quickly led this subdivision to a level where a second full-time faculty member was needed to share a growing clinical and academic load.

In 1993, Laurence Baskin, MD, a former UCSF resident who spent two years in Philadelphia with John Duckett, MD, joined the pediatric urology group. R. Dale McClure, MD, was recruited in 1982 to head andrology and male infertility. He developed a busy andrology service and established an ongoing research effort in cooperation with the Department of Obstetrics and Gynecology and Reproductive Sciences. Paul Turek, MD, now in private practice, was to head efforts in andrology and infertility when McClure left for the Virginia Mason Clinic.

The department expanded its capacity for treating stone disease with the addition of former urology resident Robert Kahn, MD, who had obtained further training at



Group celebration

Mainz University in endourology, a rapidly growing field. He served on Urology's full-time faculty from 1982 to 1985. UCSF acquired its first lithotripter in 1985, and Kahn worked closely with Robert Kerlan, MD, Roy Gordon, MD and Ernest Ring, MD, from Radiology to refine important endourological techniques, many of which are still in use today. His work helped to establish the use of radiologic techniques such as sonography and fluoroscopy in the everyday clinical practice of urology.

Professor Joachim Thüroff from Germany succeeded Kahn as director of

the Stone Center for two years, followed by Marshall Stoller, MD, who continues to head the endourology program today.

In 1986, former UCSF urology resident Peter Carroll, MD, MPH, returned from a two-year fellowship at Memorial Sloan Kettering Cancer Center. Carroll quickly established himself as a resourceful surgeon, committed to building a multidisciplinary program in urologic oncology. Early on, he partnered with McAninch at SFGH and was greatly influenced by his support and mentorship. The two co-authored several publications on genitourinary trauma, and



Zuckerberg San Francisco General Hospital

Carroll eventually became UCSF's fourth chair of Urology.

During the early 1990s UCSF began its first major move of clinical operations from the Parnassus site to other campuses. UCSF developed a clinical program with Mount Zion, a hospital with a rich and distinguished history, to combine clinical operations at the latter site. Once again full-time faculty shared clinical services with part-time faculty. The private practice urologists at the time, Milton Rosenberg, MD, and his son, Stuart Rosenberg, MD, Lawrence Werboff, MD, Edward J. "Chip" Collins, MD, Alex Finkle, MD, and Herbert Konkoff, MD, operated in adjoining rooms with Drs. Lue, Carroll, Presti, and Turek. The Mount Zion site became the future home of the Helen Diller Family Comprehensive Cancer Center.

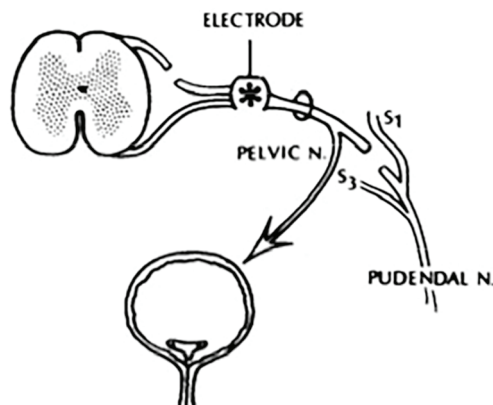


FIGURE 6. Best combination of stimulation with selective neurotomy, which includes dorsal rhizotomy as well as selective sectioning of somatic fibers of that particular root. (Reprinted with permission.²⁰)



Drs. Lue and Tanagho

The Bladder Pacemaker Project

Beginning in the late 1970s, Tanagho, Schmidt, electronic engineer Curtis Gleason, and many fellows from various countries participated in a NIH-funded project to develop a neuro-prosthesis that could help spinal cord injury patients normalize bladder and urethral function. After years of trial and error, the team selected sacral root stimulation with or without neurotomy as the best approach to decrease urethral resistance and facilitate bladder emptying. The bladder pacemaker surgery to facilitate bladder emptying was performed in dozens of patients with varying degree of success. A variant of the bladder pacemaker was to implant electrodes percutaneously or surgically in patients without spinal cord injury to treat urinary or bowel incontinence. The concept and device were later developed and marketed by Medtronic. The company's

Bladder Control Therapy (Sacral Neuro-modulation, delivered by the InterStim® System) has been FDA-approved since 1997 for urge incontinence and since 1999 for urinary retention and significant symptoms of urgency-frequency. The FDA approved an InterStim system for bowel control in 2011.

"The [bladder] pacemaker has helped thousands of people," said Tanagho. "I am very proud we have been a part of its creation."

The National Institute of Neurological and Communicative Disorders and Stroke (now the National Institute of Neurological Disorders and Stroke, NINDS) honored Tanagho in 1985 with a Senator Jacob Javits Award in the Neurosciences. The award, for "distinguished contributions" in the neurological/communicative sciences field, provided Tanagho with funding for fourteen consecutive years.

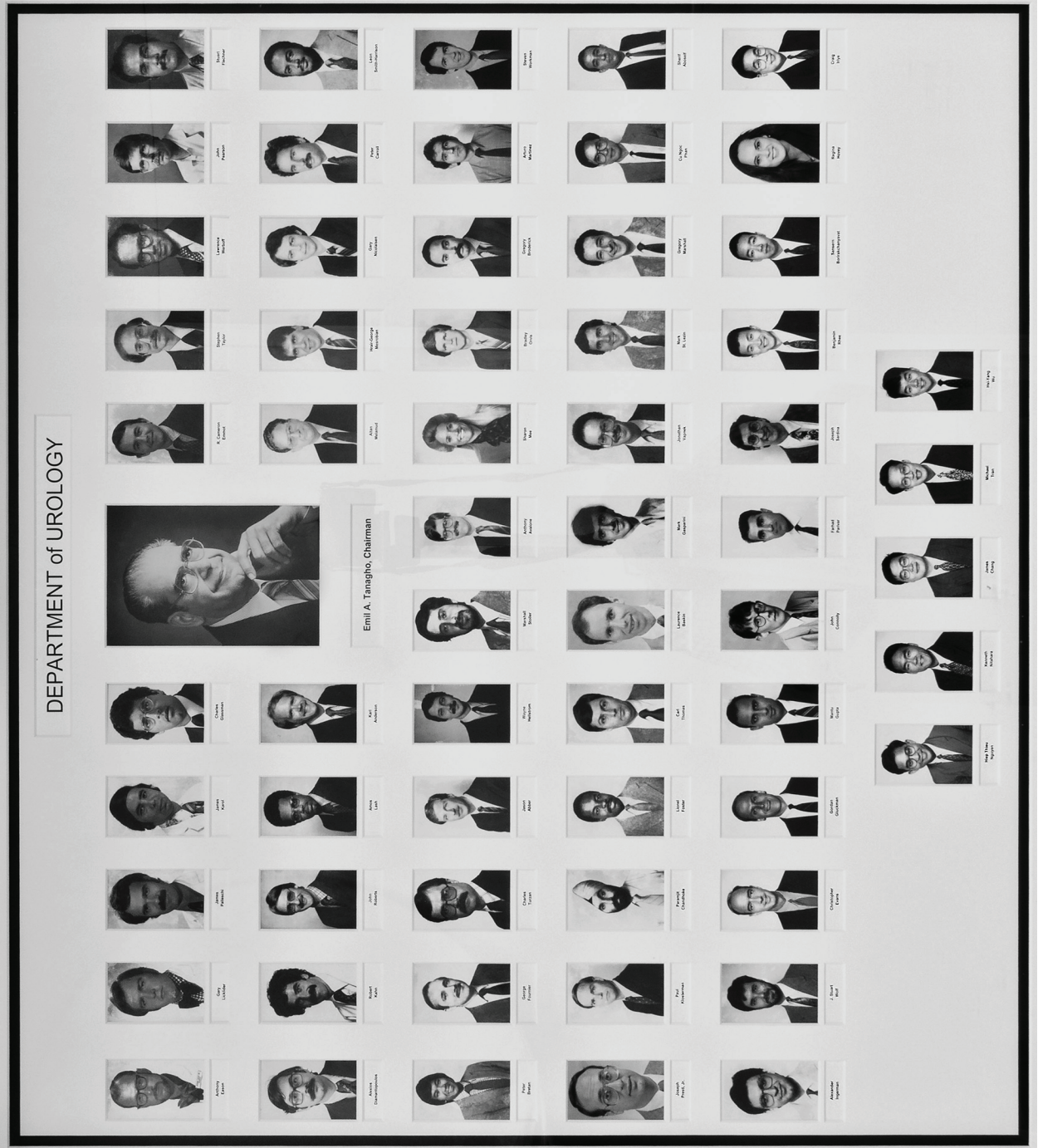
The Penile Erection and Erectile Dysfunction Project

Tom Lue, MD, who was the Ferdinand C. Valentine scholar at New York Academy of Medicine, was recruited to the full-time faculty in 1982. He brought a strong interest in neurophysiology and sexual function that put UCSF in the forefront of the field of erectile dysfunction research and won him UCSF Urology's first American Urologic Association (AUA) Gold Cystoscope Award. Working on neuroanatomy studies with the Tanagho research team, he and his colleagues isolated the erection nerves from the pelvic plexus to the area of the prostate. When electrical stimulation was applied to the nerves, penile erection was obtained without the voiding or defecation that are common during sacral root stimulation. The team implanted chronic electrodes in five monkeys and found that the device continued to work for about four years. The penile erection pacemaker was never implanted in humans, because the team's interest switched to less invasive means of achieving penile erection.

With the ability to electrically stimulate penile erection in dog, monkey, rat and mice models, the team made many contributions to the field of erectile dysfunction in the next decades. These included the development

of various animal models that allowed them to: study erectile dysfunction associated with hypertension, hyperlipidemia, diabetes, smoking, and old age; discover the anatomical basis of venous occlusion during penile erection; confirm that nitric oxide/cGMP is the principal pathway of penile erection; also confirm that inhibition of phosphodiesterase 5 enhances penile erection in dogs and monkeys [which is the basis of the mechanism of action for sildenafil (Viagra) and related medications]; and develop duplex ultrasound, and pharmacologic cavernosography for evaluating erectile dysfunction and priapism. Lue's team has also developed novel therapies for all three types of priapism, as well as innovative surgical techniques for Peyronie's disease.

The research described above was groundbreaking, and it attracted young clinician-scientists from around the world for training. Christian Georg Stief, MD, began his study of erectile dysfunction as a fellow at UCSF and went on to focus on novel treatment methods for bladder and prostate cancers, as well as for urinary stones. He received several awards for his work. Joachim W. Thuroff, MD, also completed a fellowship in neurourology and urodynamics with Tanagho. After directing the Urinary Stone Center at UCSF from 1985 to 1987, Thuroff went on to become chair of Urology at Johannes Gutenberg University



DEPARTMENT of UROLOGY

Emil A. Tanagho, Chairman

Residents trained under Emil Tanagho, MD

in Mainz, Germany. Markus Hohenfellner, recipient of several awards for his research, has focused on cancer surgery of the kidney, retroperitoneum and small pelvis, as well as reconstructive surgery of the lower urinary tract, which can include implantation of bladder pacemakers. Udo Jonas, MD, a founding member of the Urologic Research Society, worked with Tanagho on urologic neural stimulation in the early 1970s. Jonas also worked with Stief on the study of erectile dysfunction and continued his activities in urodynamics and urologic cancer treatment.

The work of these distinguished trainees, and of the faculty in general, reflected Tanagho's skillful leadership of the department over two decades. Under his watch, UCSF Urology not only gained departmental status, but developed a training program of considerable notoriety and continued a legacy of remarkable research activity.

CHAPTER FOUR

New Millennium, New Horizons

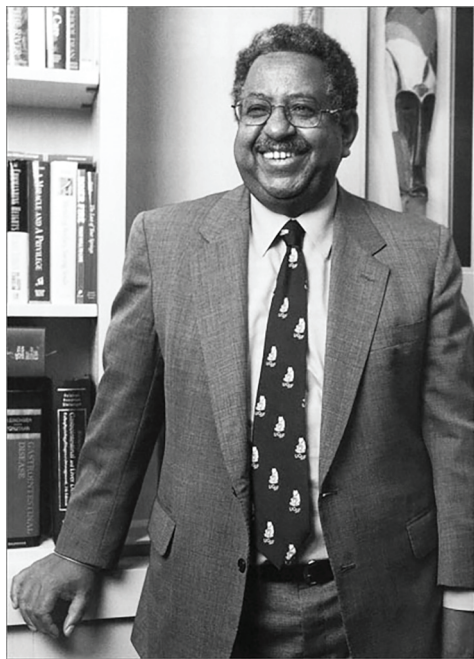
Dr. Peter Carroll, Chair 1996 – present



Peter R. Carroll, MD, MPH

The department's fourth chair, Peter Carroll, MD, MPH, was a relatively junior faculty member when he was appointed to the position in 1996. But he had impressed many with his administrative and academic abilities, including Haile Debas, MD, then dean of the UCSF School of Medicine. "I remember the first day I met Peter Carroll, he was a young faculty member, very bright, very energetic, full of ideas," said Debas. "We got Peter, and the department has just taken off."

Carroll came from a San Francisco family. His parents, William and Olga Carroll, were tireless workers who provided for their three children. Although they were not college graduates, their children all earned advanced degrees. Peter Carroll has two brothers: Michael, who earned his PhD in Sociology at Stanford and now is a Professor at Wilfrid Laurier University in Canada, and William, his twin, who leads the Division of Pediatric Oncology at New York University. Carroll married Laura Presti, whose father,



Above: Haile Debas, MD

Below right: The Carroll family: Peter is front left

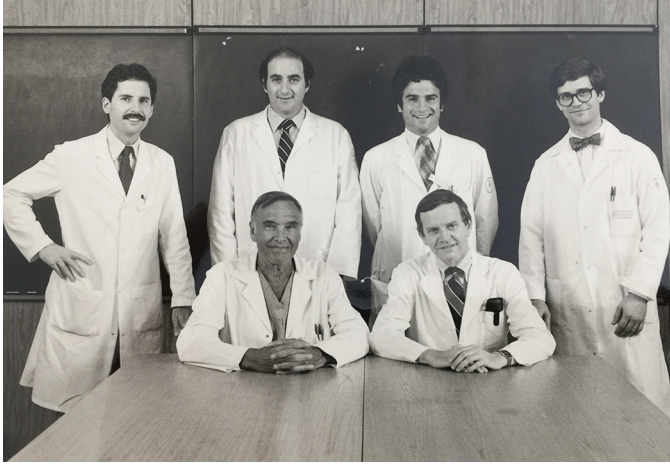
Joseph C Presti, Sr., was on the UCSF clinical faculty and who precipitated Carroll's initial interest in medicine. Carroll earned his medical degree at Georgetown University School of Medicine after completing his undergraduate work at UC Berkeley. He finished his urology residency training at UCSF in 1984 and then a fellowship in urologic oncology at Memorial Sloan Kettering Cancer Center before joining UCSF's Department of Urology in 1986.

Carroll was surprised Debas asked him to apply for the position of chair, as he was still an associate professor. Once he was appointed chair, however, the

young leader brought not only passion for research and clinical excellence, but also the knowledge that financial stewardship was needed if the department was to achieve its fullest potential. "I had no training in business, but I did have a practical approach to management," he said. This practical perspective allowed Carroll to strategically plan a more prosperous future.

At the time of his appointment, the department faced serious fiscal challenges, a situation that was not unique to Urology. As Dean Debas observed, in the late 1980s and early 1990s, "with the advent of new healthcare systems, HMOs, the health financing system, with the changing facilities at UCSF, with the lack of new equipment in the department...financially the department





Memorial Sloan Kettering Cancer Center fellows Carroll, Stone, Russo and Stephenson with Drs. Fair and Whitmore

was strained. The financial strain I think resulted from, first, that the clinical services had not expanded very much, and second, payment for services had significantly decreased. There were other departments that also struggled.”

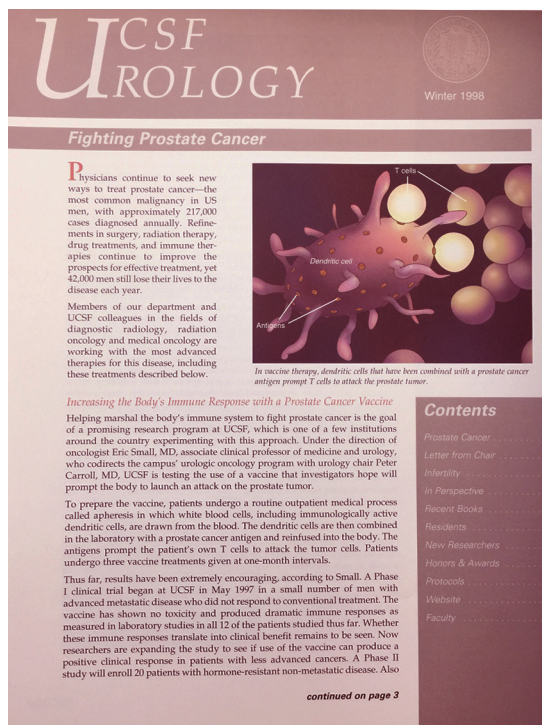
It was a demanding and stimulating challenge, and Carroll thought it would be wise to examine the department in a broader context. “I looked at other programs around the country,”

Carroll said. “There were some that I felt were icons in the field: UCLA, Johns Hopkins, Cleveland Clinic and others. They were ably headed by inspirational leaders, and they were performing quite well in all academic domains.” He then looked at what aspects of those models might be applicable to UCSF—an institution that was itself embarking on a new path.

Carroll in the lobby of the new Helen Diller Family Cancer Research Building at Mission Bay, 2012



Under Carroll’s guidance, the Department of Urology moved hand-in-hand with the university in new endeavors. That helped the department realize fiscal stability, which in turn enabled growth. “For a department our size to make an impact, we had to pay attention to our relationship with the university, the hospital, and other programs,” Carroll said. To that



One of the first urology newsletters under Dr. Carroll

end, he took on expanded responsibilities on leadership teams within the university and school. Reflecting on his early days as chair, Carroll recalled: "My goal was to get us on strong financial footing, grow, and diversify our programs...to revitalize and diversify the training programs and expand our commitment to research and discovery. I did that with the help of very talented people around me, including a very committed faculty. We went from a more narrow but successful focus to developing and implementing a more expansive vision."

Turning his sights locally, Carroll searched for places within UCSF where

Urology could use institutional resources and collaborations to grow the program. "That was very helpful," Carroll commented. "One great example is in Oncology, where we started one of the first programs to develop an integrated approach to managing patients with urologic cancers. We drew on a very strong relationship with Radiation Oncology (Mack Roach, III, MD) Medical Oncology (Eric Small, MD) and Radiology (Hedvig Hricak, MD, PhD) to make that happen, a successful model I had observed at Memorial Sloan Kettering Cancer Center."

An Expanding University

The University in the mid-1990s was riding a wave of prosperity largely generated by the booming technology industry in the Bay Area. The City of San Francisco, under the guidance of Mayor Willie Brown, pursued plans that were formulated in the 1980s

Mack Roach III, MD





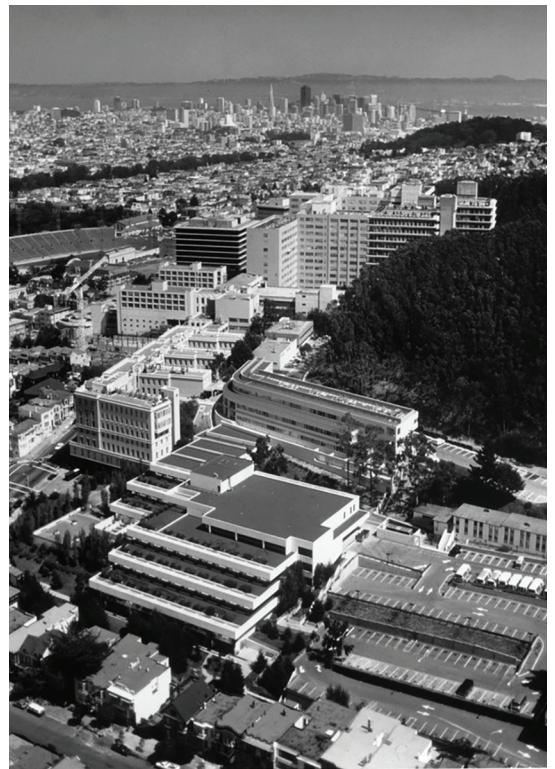
Eric Small, MD

to undertake a massive urban reclamation project in an area on the eastern shore of the city, called Mission Bay. Over 300 acres of barren land, once owned by Southern Pacific Railroad, provided an untapped resource for city planners who were emboldened by redevelopment projects in the downtown and South of Market neighborhoods. Located close to the new major league ball park and the corporate development of the China Basin neighborhood, the promise of a reinvigorated Mission Bay was bolstered by an agreement between the city and UCSF that would allow the health sciences campus to occupy a large portion of the land, constructing a biotechnology complex and a new hospital.

The development plan was bold, expensive, and not without complications.

UCSF was looking for a new home, as it had outgrown its footprint at Parnassus Heights, where useable space was strictly capped by city regulations. After considering sites in Alameda County and elsewhere in the San Francisco area, in 1997 the UC Regents approved Mission Bay as the location for UCSF's new campus and entered into an agreement with Catellus Development Corporation and the City and County of San Francisco for the donation of 43 acres of property. This addition would allow the campus to double its research space, speed the pace of biomedical discovery, and help

Parnassus campus aerial view





Above: Future home of Mission Bay campus
Opposite: Night scene of Mission Bay construction
Below: Construction begins for Mission Bay campus





prepare a new generation of students. Phase one of the construction, which cost \$800 million, included four research buildings, a campus community center, a student housing complex, two parking structures, and development of a large open space.

The year 1997 brought the implementation of another initiative to help the large biomedical enterprise compete in a changing healthcare landscape: UCSF merged with Stanford Health Services to become UCSF Stanford Health Care. One contentious issue was the transfer of publicly owned UC facilities to a private corporation, in line with Stanford's model. Faculty and the

unionized workforce raised other logistical concerns. But a large part of the rationale for the merger was to help both institutions manage severe financial challenges brought on through cutbacks in federal payments through Medicare and MediCal.

As a new department chair, Carroll was asked to speak to the UC Regents about the potential benefits of such a merger. Knowing well the financial pressures that his own department had faced, he argued that it might be an experiment worth pursuing. "Healthcare was changing," said Carroll, "and one thought was that by merging two academic medical centers we could better

Regents Set To Approve Merger Of UCSF and Stanford Hospitals

By Fred Gardner

The University of California Board of Regents will vote Friday, Sept. 19, to transfer the assets of UCSF Medical Center to a private nonprofit corporation called UCSF Stanford Health Care. The new corporation will operate Moffitt, Long and Mount Zion Hospitals, the Ambulatory Care Center, and affiliated clinics such as the UCSF Medical Group at Lakeshore—as well as Stanford University Medical Center and the Lucile Packard Children's Hospital in Palo Alto.

On Wednesday, Sept. 17, UCSF faculty and staff members opposed to the merger made last-minute pleas to the regents' Committee on Health Services, which had to approve the deal prior to the full board. The committee includes Los Angeles attorney Frank Clark, who has denounced the merger as unconstitutional; but a large majority supports the merger, and a yes vote is considered a lock as *Synapse* goes to press.

The regents will be sealing a deal that took two years to arrange.

The idea for the merger was first broached to former UCSF Chancellor Joseph Martin by Stanford President Gerhardt Caspar in the summer of 1995. After nine months of behind-closed-doors planning by top administrators from the two institutions—with help from Ernst & Young, a consulting firm that has orchestrated numerous business mergers—the case for merging the medical center with Stanford was presented to UCSF faculty, staff and students.

At a meeting in the MU Gym May 3, 1996, Martin described the merger as a response to "the new healthcare environment." Managed care companies were diverting patients from academic medical centers, he said. The occupancy rate at UCSF hospitals had dropped 28 percent between 1990 and 1995. Operating income was falling, as were Medicare and Medi-Cal re-

continued on page 5

UCSF *Synapse* covers UCSF merger with Stanford Hospitals

compete in the changing landscape and preserve academic interests and values."

UCSF and Stanford had a history of collaboration; for most of the previous century, they had operated side by side in hospitals throughout the City. But the complications of managing a formal merger and finding fiscal stability under those circumstances

proved too burdensome. Two years into the effort, it was announced that the two institutions would begin the process of unwinding the venture. UCSF moved forward with renewed vigor and focus, including plans to expand at Mission Bay. UCSF would continue to grow, just not as a merged entity.

The Mission Bay campus would not be fully operational for another decade. In the meantime, the department still needed room for growing programs. As the 21st-century began, the Department of Urology entered into an ambitious expansion and renovation of its academic, laboratory, and patient care areas on the Parnassus campus and also at the UCSF Mount Zion Medical Center on Divisadero Street.

In the fall of 2000, the program in Urologic Oncology moved to the new UCSF Cancer Center at UCSF/Mount Zion. The move allowed physicians from a variety of disciplines to see approximately 1,000 patients a month in a more timely fashion, thanks to an increase in size and staffing. New programs in imaging, high-risk patient evaluation, and psychosocial support were being implemented for cancer patients. With the opening in 2003 of new operating room, a seven-bed intensive care unit, and ancillary service at UCSF/Mount Zion, a range of cancer surgical activities were transitioned from the Parnassus

Right: Mt Zion campus
Below right: Reception
area Parnassus campus

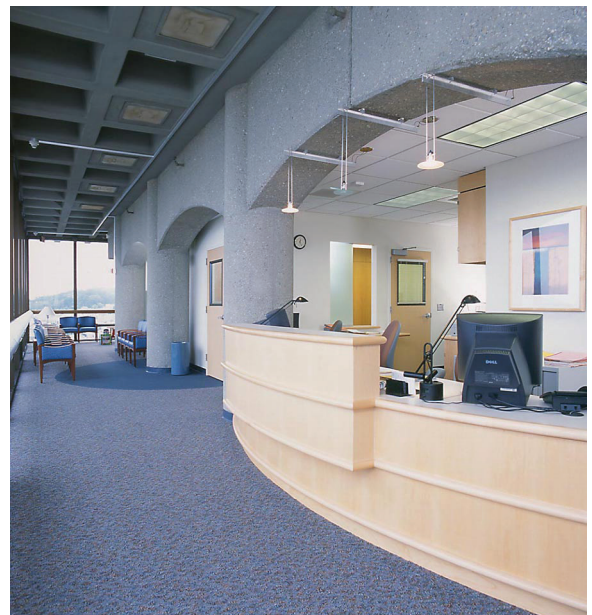


campus, expanding Urology's inpatient services at Mount Zion. These developments coincided with Carroll's appointment as the cancer center's first surgeon-in-chief.

Early in Carroll's tenure, academic and clinical space at the Parnassus campus started its own expansion. Renovations to the east wing of the Ambulatory Care Center on Parnassus provided space for a fully equipped fluoroscopy unit. This allowed urologists to offer state-of-the-art endoscopic and urodynamic evaluation in an outpatient setting next to academic offices.

New laboratories were also under development. In 2001, the department completed the building of the Frank Hinman, Jr. Urological Research Laboratory in the Health Sciences West building on the Parnassus campus, honoring the rich legacy of the Hinmans' influence on the department. By 2003, with the completion of extensive

renovations at Parnassus and UCSF/Mount Zion, the Department of Urology more than doubled its academic space, streamlined and upgraded its outpatient facilities, and consolidated its program in Urologic Oncology. No longer spread among several temporary





Left: Katsuto Shinohara, MD
Below: Urology surgeons with da Vinci Surgical System

offices at Mount Zion, the new Frank Hinman, Jr. Urological Research Laboratory site brought together faculty in urologic oncology and male infertility; residents and fellows; academic staff; clinical trials and outreach; and urology outcomes and epidemiology research teams. This physical plan supported the philosophy that working in

close proximity would foster faculty interaction and lead to successful multidisciplinary collaboration in a fast-growing program.

In 2006, construction began on the new Helen Diller Family Cancer Research Building on the Mission Bay campus, which would house a urological research laboratory to complement existing ones at other





Carroll joining then-UCSF Chancellor Mike Bishop and Helen and Sanford Diller at the groundbreaking ceremony in 2006

UCSF sites. The building was made possible by a generous \$35 million donation in 2003 from the Helen Diller Family Foundation. The Dillers' gift provided a fundamental investment in UCSF's burgeoning presence at Mission Bay, to support the new Cancer Research Building where a large portion of the building space is devoted to the department's research. By then, it was clear to

Maxwell V. Meng, MD

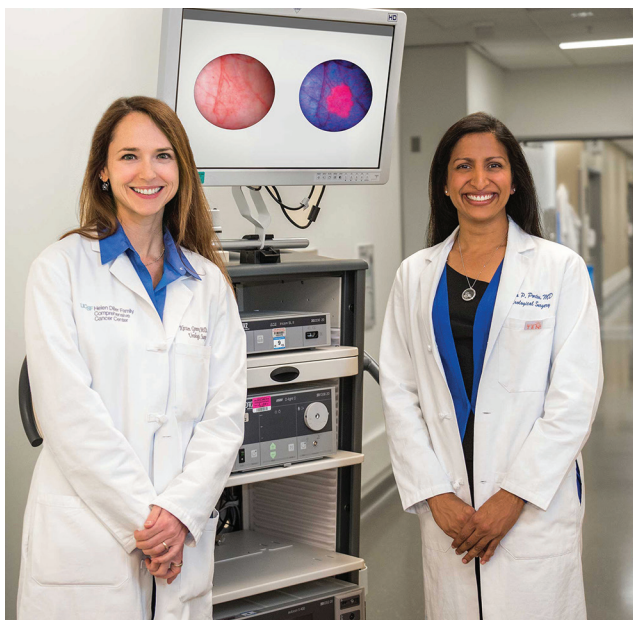
Carroll that the Mission Bay campus was the place to consolidate the department's oncology and pediatric programs.

A New Generation of Faculty and Programs

In 2015, Professor Maxwell V. Meng, MD, was named chief of urologic oncology, a position that oversees UCSF's research programs in prostate, kidney, bladder, and testicular cancers. Urologic oncology patients account for approximately 20 percent of all new patients seen at the UCSF Helen Diller Family Comprehensive Cancer Center, making it one of the largest oncology programs at UCSF.

Meng, a talented surgeon, currently oversees strategic planning, educational programs for students and residents, patient safety and quality of care, and clinical and basic science research. Keeping pace with patient demands required the retention and recruitment of several additional urologic





Drs. Kirsten Greene and Sima Porten

oncologists: Katsuto Shinohara, MD; Kirsten Greene, MD, MS; Matthew Cooperberg, MD, MPH; Sima Porten, MD, MPH; Lindsay Hampton, MD; Hao Nguyen MD, PhD; and, most recently, Anobel Odisho, MD, MPH.

Urology was among the first surgical specialties to realize the benefits of “thinking small” by using minimally invasive equipment to diagnose and treat diseases. The evolution in the surgical treatment of kidney stones demonstrates how such minimally invasive techniques transform common urological procedures. Marshall Stoller, MD, chief of the Division of Endourology and Stone Disease, pioneered new treatments in this area, developing techniques to approach kidney stones percutaneously through a one-centimeter incision. Miniaturization of

Marshall L. Stoller, MD



Dr. Carroll with da Vinci robot





Ira Sharlip, MD



James Smith, MD, MS

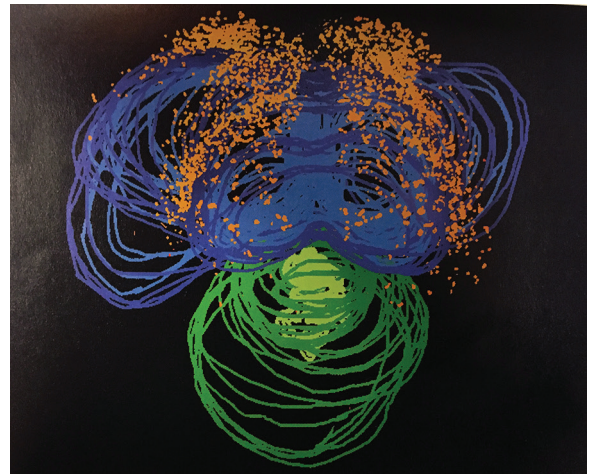
endoscopes provided more precise access to the kidney through the urethra. Lasers, pneumatic lithotries, and other modalities allow clinicians to break stones under direct viewing. Laparoscopy is also used in the cancer center to manage urologic cancers. In many procedures, urologists use the surgical robot to provide a new level of surgical precision. The urologic oncology service is the busiest robotic surgery program at UCSF.

James Smith, MD, MS, was recruited to lead the program in male reproductive health. The sub-specialty was enhanced further with the hiring of Ira D. Sharlip, MD, who has an active private urological surgery practice in San Francisco. He earned an international reputation as a leading authority on the microsurgical treatment of male infertility and helped elevate the department's reputation with his

experience performing vasectomy reversal.

The Division of Pediatric Urology, headed by Laurence Baskin, MD, remains a leader in providing comprehensive care to young patients who require evaluation or treatment for urological problems. The

Nerve distribution in the hypospadiac fetal penis





Baskin (left) at spotted hyena colony at UC Berkeley



Michael DiSandro, MD



Hillary L. Copp, MD, MS

division sees patients at the UCSF Benioff Children's Hospitals in San Francisco (Mission Bay) and Oakland (formerly Children's Hospital Oakland), where pediatric urologists work closely with pediatric nephrology, radiology, and anesthesia services. The division also staffs outreach clinics at several Bay Area locations.

Baskin is particularly well known for his research on hypospadias, a common birth defect affecting one in 125 boys. The incidence of the disorder seems to be increasing, according to the Centers for Disease Control, possibly resulting from as-yet-undefined environmental exposures. Working with a spotted hyena colony maintained at UC Berkeley, Baskin has found an animal model to explore the etiology of hypospadias. The spotted hyena has been of historical interest in urology because the females have a highly unusual reproductive anatomy - an elongated clitoris that resembles a male's penis, through which they urinate, mate and give birth. Researchers found that a condition similar to hypospadias occurred in male hyenas whose mothers were given drugs that block estrogen synthesis, suggesting a possible role for estrogen in the development of this birth anomaly. At the Center for the Study and Treatment of Hypospadias, Baskin and his team also explore other causes of hypospadias, including possible roles of androgen metabolism, endocrine disrupters, molecular genetics and cellular signaling in the urinary tract.

The pediatric urology team also specializes in other disorders of children. Hillary Copp,

MD, MS, is known for research on the utility of antibiotic prophylaxis in preventing urinary tract infection in children with hydronephrosis. Michael DiSandro, MD, specializes in the management of disorders of sexual differentiation.

The department's commitment to offering innovative care to underserved communities and to advancing research is well illustrated in the 2014 founding of a transgender genital surgery program at UCSF. With enthusiastic support from Carroll, Maurice Garcia, MD, MAS, traveled to England in 2013 and completed fellowship training with Europe's leading genital gender-affirming surgery (GAS) urologic surgery team at the University College London. On his return, he established a multidisciplinary transgender genital surgery program at UCSF, one that involved specialists in urology, plastic surgery, psychiatry, primary care, endocrinology, dermatology, and gynecology. When the UCSF transgender genital surgery program was instituted in 2014, it was one of only three academic medical center programs in the U.S. and the only in the West. Widely recognized for its success, the program has provided guidance to MediCare on eligibility guidelines and best practices.

Meanwhile, the department's clinical service at what is now known as Zuckerberg San Francisco General Hospital and Trauma



Maurice Garcia, MD, MAS

Center (ZSFGH) continues to provide urgent patient care and training for students and residents. In 2015, Benjamin Breyer, MD, MAS, was named chief of urology at ZSFGH. A highly honored graduate of the University of Chicago Pritzker School of Medicine, Breyer completed his urology residency at UCSF, followed by a fellowship in complex male genitourinary reconstruction and trauma surgery under recently retired chief Jack McAninch, MD, FACS. UCSF is one of the busiest programs in the country for male urethral reconstruction, using approaches such as the buccal mucosa graft that McAninch pioneered. Breyer's team currently treats hundreds of men annually for urethral stricture. Breyer is also a member of the Trauma



Benjamin Breyer, N. MD, MAS

and Urological Reconstructive Network of Surgeons (TURNs), a recently formed select national network of surgeons who perform clinical trials in reconstructive urology to help advance best treatment practices.

In addition to his role as chief of urology at ZSFGH, Breyer continues

to direct the UCSF male genitourinary reconstruction and trauma surgery fellowship, one of the few such training opportunities authorized by the Society of Genitourinary Reconstructive Surgeons.

“We developed collaborative programs long before it became common practice. It has been a priority in our growth to give the right kind of care at the right time to patients through diverse efforts.”

- Peter Carroll, MD, MPH

Jack McAninch



Professor Jack McAninch officially retired from full time practice in 2013 but the internationally renowned surgeon still serves as a consultant, educator and mentor at Zuckerberg San Francisco General Hospital, where he was chief of urology for 36 years. McAninch created the ZSFGH-based genitourinary trauma database in 1977 – with 4,000 cases to date, the largest of its kind – as well as a genitourinary reconstruction database (largely urethroplasty) that he started in the 1980s. Using these clinical

research tools, McAninch has developed or refined surgical approaches to many types of injuries. Guidelines for the management of renal trauma, developed under his leadership, are now accepted internationally. His work on extensive urethral strictures has yielded successful treatment for this very problematic injury using the fasciocutaneous penile flap and transpubic techniques—approaches that he pioneered.

McAninch grew up on a small West Texas ranch and attended Texas Tech and

the University of Idaho. He earned his MD at the University of Texas Medical Branch at Galveston. Genitourinary trauma and reconstruction was an obscure field when McAninch started his training, but during his urology residency in the early 1960s at Letterman Army Hospital in San Francisco he saw the need for such expertise in treating servicemen returning from Vietnam with complex pelvic wounds.

McAninch has received honors large and small over his career, including the American College of Surgeons Distinguished Service Award (2012), the AUA Ramon Guiteras Award (2009), the St. Paul's Medal of the British Association of Urological Surgeons (2008) and the Spence Medal of the American Association of Genitourinary Surgeons (2005). He has also served in leadership positions in premier professional societies, including stints as president of the American Urological Association, American Board of Urology, and the Society of Genitourinary Reconstructive Surgeons.*

But McAninch has particularly relished his role as an educator and mentor, training some 25 men and women as fellows. "That is what I

am most proud of, to have so many trainees in major institutions, where they are making significant contributions to the field of male reconstructive surgery and trauma," he said.

Interest in this surgical subspecialty continues to grow, perhaps because male genitourinary reconstruction remains largely an open surgical technique, without the robotics and endoscopes that are so prominent in other arenas. "It's all still scalpel and scissors and not likely to change anytime soon," said McAninch.

* For a full listing of other faculty members who are part of these societies, see the Appendix.





Research drives improvements in patient care

The Promotion of Basic Research

Improvements in patient care are built on a solid foundation of basic research, and early on Carroll saw the advantage of building a strong research team.

This meant investing funds to support basic science faculty, both within the department and by partnering with other departments to offer cross-disciplinary appointments to new faculty.

“We had a strategic vision to become the number one funded research program in the country,” Carroll said. “I felt that a place like UCSF and our commitment to discovery should be reflected in our NIH research ranking. So we invested heavily in the recruitment of superb basic and population scientists. Not just urologists doing science, but independent basic scientists, many of

whom came to us from outside our field. That’s relatively unique to our program. It’s not seen to the degree we have taken it in many departments in the country.”

This effort had begun under Tanagho with the recruitment in 1991 of the department’s first PhD scientist, Rajvir Dahiya, whose research has spanned mechanisms of bladder regeneration, treatment and prevention of impotence, and basic scientific investigations into prostate cancer. Under Carroll, many more investigators have been added to the department’s talent pool, and they work synergistically to advance understanding of the basic biology of prostate cancer. They include Davide Ruggero, PhD, who runs a research laboratory studying the molecular mechanisms by which impairments in mRNA translation, cell growth and overall protein synthesis rates lead to

Davide Ruggero, PhD





Robert Blleloch, MD, PhD

human disease and cancer. Robert Blleloch, MD, PhD, who holds the Peter Carroll Distinguished Professorship, studies the molecular mechanisms that regulate stem cell differentiation and de-differentiation and how these mechanisms become deregulated in cancers such as prostate cancer. His work has focused particularly on the role of post-transcriptional regulators, including microRNAs (miRNAs) and RNA binding proteins (RBPs). A recent recruit, Hani Goodarzi, PhD, brings an interest in developing integrated computational and experimental strategies to uncover the regulatory mechanisms that drive cancer progression and metastasis. One of the newest additions to the department,

Luke Gilbert, PhD, uses synthetic biology and functional genomics to help determine why some prostate cancer patients are cured with drug therapy while others are not. The translational cancer genomics research conducted by Pamela Paris, PhD, seeks to identify prognostic biomarkers for prostate cancer that will guide drug therapy. Clinician scientist Hao Nguyen, MD, PhD, studies the adaptive response pathways

UCSF Urology grew to #1 NIH funding

From the BLUE RIDGE INSTITUTE for MEDICAL RESEARCH		BRIMR.ORG
Rank	Name	Urology
1	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	\$7,137,144
2	NORTHWESTERN UNIVERSITY AT CHICAGO	\$6,659,199
3	YALE UNIVERSITY	\$4,781,368
4	UNIVERSITY OF CALIFORNIA AT DAVIS	\$4,742,911
5	UNIVERSITY OF MICHIGAN	\$3,987,272
6	COLUMBIA UNIVERSITY HEALTH SCIENCES	\$3,104,314
7	UNIVERSITY OF TEXAS HLTH SCIENCE CENTER	\$3,042,878
8	UNIVERSITY OF CALIFORNIA LOS ANGELES	\$3,038,512
9	UNIVERSITY OF PITTSBURGH AT PITTSBURGH	\$2,830,319
10	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	\$2,336,170
11	JOHNS HOPKINS UNIVERSITY	\$1,793,391
12	UNIVERSITY OF WASHINGTON	\$1,751,171
13	BAYLOR COLLEGE OF MEDICINE	\$1,616,073
14	UNIVERSITY OF IOWA	\$1,493,076
15	UNIVERSITY OF WISCONSIN-MADISON	\$1,478,924
16	UNIVERSITY OF ILLINOIS AT CHICAGO	\$1,179,916
17	TULANE UNIVERSITY OF LOUISIANA	\$1,162,346
18	UNIVERSITY OF SOUTHERN CALIFORNIA	\$1,111,928
19	EMORY UNIVERSITY	\$1,042,027
20	STANFORD UNIVERSITY	\$925,416
21	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$906,300
22	UT SOUTHWESTERN MEDICAL CENTER	\$902,555
23	ALBERT EINSTEIN COLLEGE OF MEDICINE	\$738,975
24	CASE WESTERN RESERVE UNIVERSITY	\$413,686
25	UNIVERSITY OF ROCHESTER	\$365,944
26	UNIVERSITY OF CALIFORNIA-IRVINE	\$353,419
27	INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS	\$340,476
28	UPSTATE MEDICAL UNIVERSITY	\$333,870
29	UNIVERSITY OF VIRGINIA	\$324,571
30	THOMAS JEFFERSON UNIVERSITY	\$321,625
31	UNIVERSITY OF MINNESOTA	\$315,934
32	UNIVERSITY OF OKLAHOMA HLTH SCIENCES CTR	\$289,942
33	WEILL MEDICAL COLL OF CORNELL UNIV	\$172,908
34	UNIVERSITY OF FLORIDA	\$106,118
35	UNIVERSITY OF PENNSYLVANIA	
	GRAND TOTAL	\$61,100,678
	MEAN	\$1,797,079
	Created 14 January 2017, updated 3 April 2017	
	MEDIAN	\$1,137,137



Felix Feng, MD

that prostate cancer cells use to evade cell death. Sima Porten, MD, MPH, focuses her research primarily on the diagnosis and management of urothelial carcinoma (bladder and upper tract), with the goal of developing new tests and novel therapeutics for patients with bladder cancer.

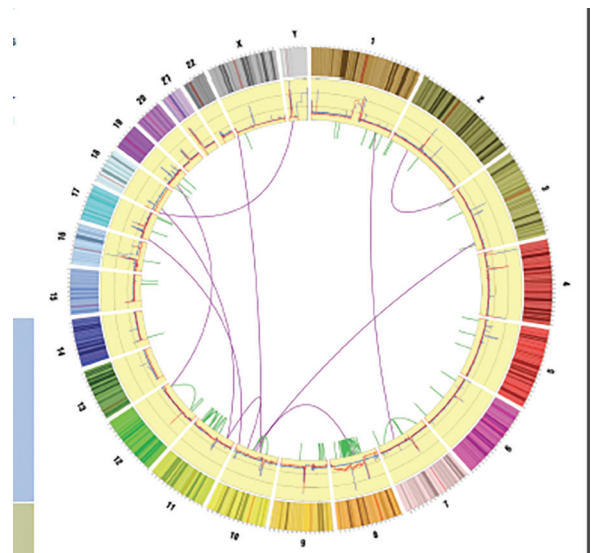


Sima P. Porten, MD, MPH

Many basic scientists hold cross-departmental appointments that reflect the breadth of their interests, such as John Witte, PhD, who was co-recruited and jointly appointed to the departments of epidemiology and biostatistics and urology. Witte pursues genetic epidemiology studies to examine the genetic basis of prostate cancer. Felix Feng, MD, received a joint appointment with radiation oncology, urology, and medicine; he studies the development of treatment resistance in prostate cancer.

Although prostate cancer is a major focus for the department, not all basic scientists work in this arena. Nadia Roan

Sequencing result showing genomic alterations in advanced prostate cancer from the Witte Lab





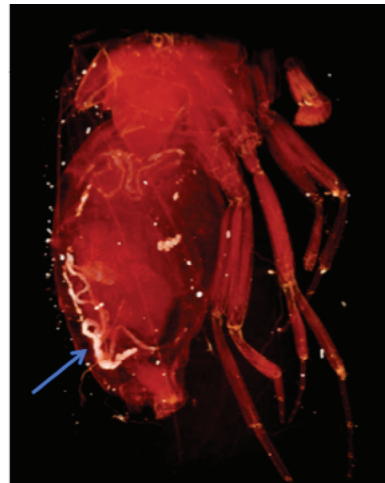
Nadia Roan, PhD

PhD, for example, investigates how HIV and other pathogens infect genital tissues. Other faculty members who focus on clinical care also run basic science research programs. James Smith, MD, MS, conducts basic science investigations on sperm stem cells in an effort to better preserve fertility in men and boys who undergo cancer treatments.



Nynikka Palmer, DrPH, MPH

Stoller, who heads the department's urinary stone division, and his colleague, Thomas Chi, MD, have worked with researchers at the Buck Institute on Aging to investigate urinary stone formation in the common fruit fly, *Drosophila melanogaster*, which forms something resembling stones in the Malpighian tubules, the fly equivalent of the human kidney. Using this animal model, the team has explored the effect of nutrients, including protein intake and zinc, on stone formation.



Computed Tomography reconstruction of *D. Melanogaster*. Arrow = calcium oxalate concretions present in *Drosophila* Malpighian tubules. D.T. Tzou et al. *International Journal of Surgery* 36 (2016) 596-606

Stoller's achievements in the science of urinary stone disease won him the American Association of Genitourinary Surgeons 2017 Barringer Medal for his



Thomas Chi, MD



Drs. Lindsay Hampson and Anobel Odisho

distinguished accomplishments. His work combined perspectives from urology, chemistry, flow dynamics and other disciplines creating a better picture of the events that precipitate stone formation.

Chi is studying the inside of the kidney to identify specific interactions among bacteria, host cells, and genetic material that might lead to stone formation. He is also creating a registry of patients with stones of the kidney and ureter to provide relevant clinical information for kidney disease research.

The Promotion of Clinical Research

Under Carroll's leadership, research began to migrate out of the laboratory to the domains of health services and population studies. Several recent faculty

Drs. Marshall Stoller and Thomas Chi





Under Carroll's leadership, the Department of Urology has undertaken a number of initiatives to collect and analyze data to improve care for patients, particularly those with prostate or other urologic cancers. These studies, including those conducted in collaboration with other groups, are coordinated through the Urologic Clinical and Translational Science (UCATS) program. Its director, June Chan, ScD, facilitates the implementation and

execution of research projects; assists in setting research priorities; develops new collaborations; and establishes goals and budgets for the overall program. The co-director, Matthew Cooperberg, MD, MPH, brings clinical expertise and additional scientific leadership to the program. This system to collect and analyze data enables new generations of clinicians to establish registries in specific fields, such as Chi's work in stones research and the work of Sima Porten, MD, MPH, in bladder cancer research.

recruits concentrate on epidemiological and public health research that can drive improvements in patient care. They include Nynikka Palmer, DrPH, MPH, a specialist in behavioral science and health promotion who studies racial/ethnic and geographic disparities in cancer follow-up care, and urologist Anne Suskind, MD, MS, who seeks to improve urologic care for older adults by developing a systematic method for weighing the benefits and risks of surgical

procedures in frail individuals. Two recent graduates of the urology residency program, Lindsay Hampson, MD, and Anobel Odisho, MD, MPH, have joined the faculty with a focus on using healthcare systems analytics to improve patient care delivery.

In 1995, Carroll established CaPSURE™, a longitudinal, observational study of men with all stages of biopsy-proven prostate cancer. Approximately 15,000 patients have enrolled at 43 community urology practices,

academic medical centers, and VA hospitals throughout the United States since the study began. CaPSURE research findings have expanded knowledge of prostate cancer risk prediction, diagnostic trends, treatment patterns, outcomes, and quality of life. CaPSURE investigators have published more than 177 articles in peer-reviewed journals and presented more than 200 papers at professional conferences. The study has set the standard for prostate cancer registries and was a harbinger of the new AUA Quality (AQUA) Registry, which Cooperberg proposed in 2012, together with David Miller, MD, of the University of Michigan. Cooperberg continues to guide this registry as part of the AUA leadership team. These efforts and other early successes led to Cooperberg winning the Department's second AUA Gold Cystoscope Award in 2015.



Prostate cancer specimen blocks

Another important clinical and research tool, the Urologic Outcomes Database, tracks detailed clinical baseline and follow-up data on patients seen and treated for genitourinary cancer at UCSF. It contains data on approximately 5,000 men with prostate cancer and supports research studies



Anne M. Suskind, MD, MPH



Hao G. Nguyen MD, PhD

Matthew R. Cooperberg, MD, MPH, with Gold Cystoscope Award, 2015



Variable	Specific patient's level	Points to be assigned
Age at diagnosis	Under 50	0 ●
	50 or older	1 ●
PSA at diagnosis (ng/ml)	less than or equal to 6	0 ●
	between 6.1 and 10	1 ●
	between 10.1 and 20	2 ●
	between 20.1 and 30	3 ●
	more than 30	4 ●
	Gleason score of the biopsy (primary/secondary)	no pattern 4 or 5	0 ●
secondary pattern 4 or 5		1 ●
primary pattern 4 or 5		3 ●
Clinical stage (T-stage)	T1 or T2	0 ●
	T3a	1 ●
Percent of biopsy cores involved with cancer (positive for cancer)	less than 34 percent	0 ●
	34 percent or more	1 ●

Cancer of the Prostate Risk Assessment (UCSF-CAPRA) score

The department remains committed to improving diversity in the field of urology



on topics such as biomarker discovery, nutritional epidemiology, novel therapeutics, quality of life, and high-risk markers. Extensive clinical and pathological data on renal cancer patients is also available. New registries in benign urological conditions are being developed under the guidance of Chi, Copp, Hampson and Suskind.

Since prostate cancer represents a spectrum of disease, Carroll has long advocated for implementing new clinical and research protocols to help patients and their families arrive at the right treatment or surveillance decisions. UCSF was one of the first programs to support active surveillance of the disease in selected patients, and it has held multiple Department of Defense and other grants designed to help men make informed and personally appropriate treatment decisions. Carroll's interest in this endeavor and others won him a coveted Barringer Medal in 2014. The active surveillance protocols

draw on tools such as the Cancer of the Prostate Risk Assessment (UCSF-CAPRA) score developed by Cooperberg, Carroll, and others in the department. The CAPRA score is widely used by programs across the United States and internationally, and it has served as the basis of a new generation of biomarker studies that UCSF has also led.

Indeed, clinical research at UCSF is constantly refining tools for managing prostate cancer. Katsuto Shinohara, MD, for example, is renowned for his use of a detailed grid to map lesion location during transrectal ultrasound (TRUS)-guided prostate biopsies. This information is then mined to improve biopsy techniques and estimate the likelihood of extracapsular disease.

The department has had a rich collaboration with the Department of Radiology. The development and refinement of novel imaging started under the direction of Dr. Hedvig Hricak and continues to this day

Opposite: Residents trained under Peter R. Carroll, MD, MPH
Right: Greene (left) with Melissa Sanford (right)



with Drs. John Kurhanewicz, Antonio Westphalen, Thomas Hope and Ronald Zagoria.

Excellence in Education

One of the first tasks to command Carroll's attention after becoming chair of the department was that of revitalizing the residency program. Carroll recognized that as the clinical programs grew, the residency program would also need to grow. The changes he undertook can broadly be classified into two major initiatives: first, to improve the numbers of women and underrepresented minorities trained in urology; and second, to commit to supporting research opportunities for residents and fellows. "I felt that the workforce should mirror the make-up of the population, so it was clear to me that we should develop a more diversified training program and faculty. Our residents not only pursue basic science, but we are seeing

increasing interest in population health and management, quality and safety, and international health," Carroll said. "These are themes that have arisen not just in urology, but, I think, in medical education generally."

Soon after assuming the chairmanship, Carroll appointed McAninch to direct the residency training program. Kirsten Greene, MD, MS, who was associate residency director under McAninch from 2008 until 2011, assumed the director's role on his retirement from full-time practice.

Greene arrived at UCSF after receiving her medical degree from the Johns Hopkins University School of Medicine in 2000. She completed her general surgery and urology training at UCSF, was inducted into the Alpha Omega Alpha Honor Society, and received the House Staff Teaching award in 2003. Greene became residency director in 2011 and is now also Vice Chair, Associate Chair for education of the Department of



Class of 2019

Urology and Chief of Urology at the VAMC. She has worked hard to help fulfill Carroll's vision of making urology more inclusive for women and a more diversified field in general. "If you look at the composite from twenty years ago and then you look at today's composite," Greene said, "our residency program is now about 50 percent women, which is huge. Our faculty has

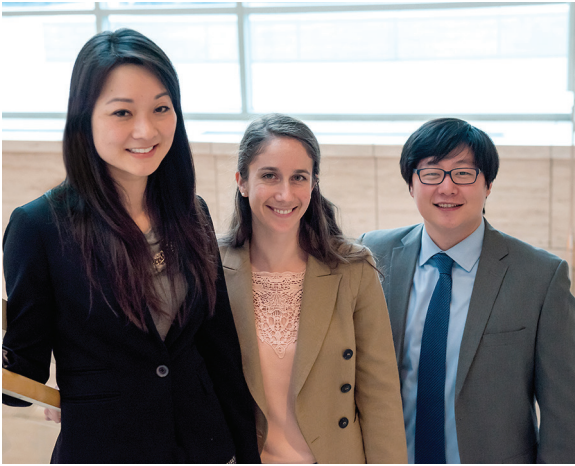
Class of 2020



more female faculty on it than probably anywhere else. When you take a specialty where 25 percent of residents are female and 75 percent male, and then you look at our residency being half and half, I think that is a major accomplishment."

Greene, Carroll, McAninch and Breyer also spearheaded significant structural changes to the residency program to enhance the learning and development opportunities for trainees. Residents are now able to join urology in their second year, after one year of general surgery, rather than the two years previously required. Advanced training in new surgical techniques such as laparoscopic surgery is a priority. Residents have the opportunity to use advanced technology including robotic and percutaneous techniques early in their training.

Financial support and encouragement to pursue clinical and scientific research is another key feature of the program. "We're one of the few programs that still prioritizes a fully funded research year," said Greene. "We fund residents to get advanced degrees, such as an MPH at Berkeley or a Master's at UCSF. I don't know if there is any other place that does that." The didactic program has also been revamped and strengthened.



Class of 2021

Reaping the Rewards

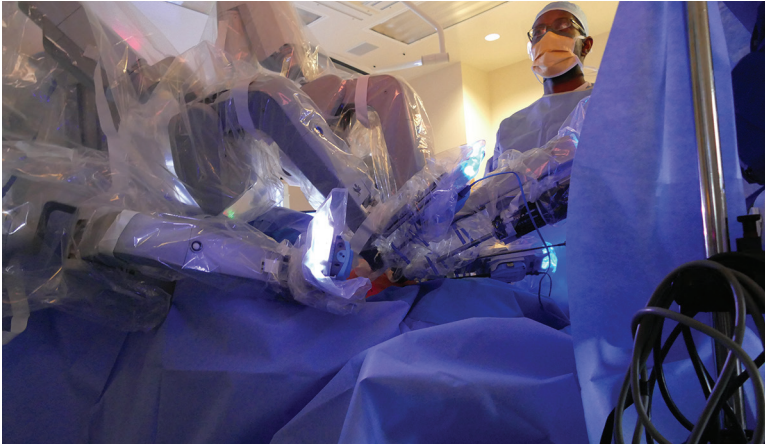
Over the course of the previous decades, the department has flourished, persistently ranking as one of the nation's best in urology as assessed by the *U.S. News & World Report*. In 2015, the National Institutes of Health biomedical research support study showed that UCSF for the first time attained the number

one position in funding for urology, with department investigators receiving over \$7 million in NIH research funding in 2016.

UCSF has also trained or been an early part of the professional lives of an extraordinary number of individuals who are now leaders in urology, often serving as chairs at other institutions. (See Appendix.) "There is no better testament to the strength of our program than the launching of so many impressive careers, which have shaped the field of urology in important ways," said Carroll.

In 2015, several urology programs relocated to UCSF's new Mission Bay campus, including urologic oncology, male reproductive health and pediatric urology. The new campus promises to transform the way UCSF advances cancer discoveries, translates them into next-generation therapies, and delivers them efficiently and effectively to patients. Meanwhile urology facilities at Zuckerberg San Francisco General Hospital

UCSF Medical Center
at Mission Bay



Resident Samuel Washington, MD

and Trauma Center and at the Parnassus campus continue to provide expert clinical services. “With our world-class faculty in this world-class facility,” Carroll declared, “just imagine what we’ll be able to do.”

Environments change and institutions adapt. Whatever the vision and the mission of the next Urology chair, the department’s

clinical strengths, robust research collaborations, and philanthropic endowments will support its continued success. “I, along with many others, have worked hard to make sure this program is able to maintain its missions in the future,” Carroll said. “In my opinion, the next chair will inherit a program that is financially stable, with

Endowed Professors at a gathering in 2016





UCSF Department of Urology faculty, 2017

a large endowment and most importantly a great culture and legacy. We have a sought-after residency training program and an enviable faculty. The department is near perfectly positioned to maintain and further expand our core missions of care, research, education, and leadership.”

The department’s growth has been fueled not only by external grants but also by the generosity and advocacy of committed donors. This includes steadfast support from the Helen Diller Family Foundation, which established a prostate cancer endowment ensuring a permanent source of funding for vital research. Total contributions to UCSF from the Helen Diller Family Foundation cumulatively amount to \$650 million.

Donor support, especially from the Diller family, has made possible the expansion of research infrastructure, allowing the department to recruit some of the most talented scientists working today. In some cases, these gifts have helped establish distinguished professorships, sustaining the work of specific faculty members. The department had no distinguished professorships when Carroll began his tenure; now it has 11, and at least three more will be added soon. Such professorships provide crucial support for the research and educational missions of the department and professorship recipients.

June Chan, ScD, who holds a distinguished professorship in urology, described how she has benefitted from generous support.



June M. Chan, ScD is honored with the Steven and Christine Burd Safeway Distinguished Professorship

"I have studied the potential beneficial effects of diet and lifestyle on prostate cancer outcomes since 1996 and was recruited to UCSF Urology in 2001 to continue this theme of work. In 2009, Dr. Carroll matched my research focus with an interest expressed by Steven and Christine Burd to support lifestyle research. It has been an honor to hold the Steven and Christine Burd Safeway Distinguished Professorship. The additional discretionary funds have allowed me to grow our research portfolio and recruit outstanding junior faculty members to our team. We were the first to identify exercise – in particular, vigorous physical activity – as a potential beneficial factor that may deter prostate cancer progression. With my junior faculty mentees, Stacey Kenfield, DSc, and Erin Van Blarigan, ScD,

our team now leads three web-based trials designed to improve healthy habits among men with prostate cancer and three exercise trials focused on improving quality of life, progression, or survival outcomes."

Supported and encouraged by Carroll and the Burds, Chan's team has become internationally recognized for leading novel translational studies of lifestyle and prostate cancer.

Opposite: Peter Carroll with wife Laura and grandchildren Luke and Caroline being congratulated by Chancellor Sam Hawgood for his 30 years of service at UCSF

“I’ve always pointed out that each chair has a certain task to do as a steward of the department. We are all committed to great clinical care, research, and education. But each chair, if they are going to preserve the fabric of the department, has to take on challenges which are unique to them in time and space. The challenges that Frank Hinman Sr. faced starting a new division were different than those Don Smith faced. Emil Tanagho had to build an academic infrastructure and get departmental status, and I had to sustain, grow and diversify our commitments to care, education and research. We all faced unique challenges and opportunities and were given different circumstances, but all had the support of talented, committed faculty and a great university.”

— Dr. Peter Carroll



APPENDICES

San Francisco Hospitals and Medical School Timeline

- 1857 - The first San Francisco City and County Hospital opens on the north side of Telegraph Hill.
- 1868 – The Organic Act creates the University of California, designating 160 acres of land in Berkeley for its use.
- 1872 - San Francisco City and County Hospital moves to its new site on Potrero Ave. Structuring of divisions and building construction underway at UC Berkeley. A “medical department” is established under the control of physicians in San Francisco.
- 1895 – Adolf Sutro donates land for the Affiliated Colleges—Medicine, Pharmacy, and Dentistry—on Parnassus Ave.
- 1899-1903 – Arnold D’Ancona, former physiology professor, becomes Dean of the Medical Department. His lobbying leads to the creation of full time scientific faculty positions in anatomy, pathology and physiology in San Francisco.
- 1906 – Due to earthquake and fire the two preclinical years of the curriculum—basic science departments of anatomy, pathology and physiology—are moved to Berkeley.
- 1907 - Classrooms of the Medical School building at Parnassus were turned into a complete 75-bed teaching hospital.
- 1908 - Dilapidated and plague-infested San Francisco City and County Hospital is ordered burned down. Patients are relocated to the Ingleside Race Track and Laguna Honda Hospital.
- 1912 – The UC Board of Regents votes “that it shall be the policy of the Board to consolidate the Medical Department in San Francisco.” Years of debate obstruct the Regents’ plan.
- 1915 - San Francisco General Hospital (SFGH) opens on Potrero.
- 1917 – A new UC Hospital, known also as the University Hospital, opens at 533 Parnassus Avenue, adjoining the Affiliated Colleges. The opening of the

UC Hospital creates a distinguished category of University service that comes closest to officially marking the origin of the Department of Urology at UCSF.

- 1947 – The Regents restate their commitment to the San Francisco site for the UC Medical School.
- 1955 – UC Medical Center opens, which includes Moffitt Hospital and the Medical Science building.
- 1958 – The basic sciences, biochemistry, physiology, and anatomy return to the Parnassus campus.
- 1970 – The University of California, San Francisco Medical Center is renamed the University of California, San Francisco by the Regents, in recognition of the diversity of disciplines on campus and for uniformity with the other UC campuses.
- 1976 – A new San Francisco General Hospital Medical Center (SFGH) opens.
- 1990 – UCSF acquires Mt. Zion Hospital.
- 1997 – UC Regents approve Mission Bay as site for UCSF's new campus.
- 2000 – Urologic Oncology moves to Mt. Zion campus.
- 2006 – Construction begins on new Helen Diller Family Cancer Research building on Mission Bay campus.
- 2015 – Urologic Oncology and Pediatric Urology move to Mission Bay campus.
- 2016 - SFGH is revamped and renamed the Zuckerberg San Francisco General Hospital and Trauma Center.

***The variability of recorded founding dates for the hospital reveals the haste and improvisational nature of its creation (the first UC Hospital: http://history.library.ucsf.edu/1899_medical_center.html)

*Prestigious Awards and Society Memberships
Secured by the Department of Urology, UCSF
Over the Decades*

The Barringer Medal (Awarded by the American Society of Genitourinary Surgeons)

2017 – Marshall Stoller, MD

2014 - Peter Carroll, MD, MPH

1984 - Frank Hinman, Jr., MD

The Keyes Medal (American Society of Genitourinary Surgeons)

2006 - Emil Tanagho, MD

1954 - Frank Hinman, Sr., MD

The Spence Medal (American Society of Genitourinary Surgeons)

2005 – Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

Gold Cystoscope Award (American Urologic Association)

2015 - Matthew R. Cooperberg, MD, MPH

1988 - Tom F. Lue, MD

President, American Urologic Association

1996-1997 – Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

President, Western Section of the American Urologic Association

1991-1992 – Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

Secretary, Western Section of the American Urologic Association

1985-1990 – Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

President, Society of International Urology

2004-2006 – Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

AUA Ramon Guiteras Award (American Urologic Association)

2009 - Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

2000 - Emil A. Tanagho, MD

1985 - Frank Hinman, Jr., MD

1974 - Donald R. Smith, MD

Hugh Hampton Young Award (American Urologic Association)

1977 - Frank Hinman, Jr., MD

Eugene Fuller Triennial Prostate Award (American Urologic Association)

2010 - Peter R. Carroll, MD, MPH

William P. Didusch Art and History Award (American Urologic Association)

1995 - Frank Hinman, Jr., MD

Distinguished Contribution Award (American Urologic Association)

2014 - Marshall L. Stoller, MD

Certificate of Achievement Award (American Urologic Association)

1996 - Emil A. Tanagho, MD

Presidential Citations (American Urologic Association)

2012 - Tom F. Lue, MD

Distinguished Service Award (American Urologic Association)

2001 - Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

St Paul's Medal (British Urologic Association)

2008 - Jack McAninch, MD, FACS, FRCS (Eng) (Hon)

1991 - Frank Hinman, Jr., MD

**Foundation John W. Duckett, MD, Pediatric Urology Research Excellence Award
(American Urologic Association)**

2012 - Laurence Baskin, MD

John Duckett Medal (European Society of Pediatric Urology)

2007 - Laurence Baskin, MD

The Valentine Medal (New York Academy of Medicine)

2013 - Tom F. Lue, MD

2010 - Jack W. McAninch, MD, FACS, FRCS (Eng) (Hon)

1997 - Emil Tanagho, MD

1995 - Frank Hinman, Jr., MD

*Former UCSF Residents, Fellows and Faculty who
became members of the American Association of
Genitourinary Surgeons*

- 1920 Frank Hinman, Sr., MD – first Chair at UCSF
1947 Thomas E. Gibson, MD
1952 Henry M. Weyrauch, MD - Chair at Stanford University
1954 Frank Hinman, Jr., MD
1955 Justin Cordonnier, MD - Chair at Washington University
1960 Donald R. Smith, MD - Chair at UCSF
1963 R.G. Weaver, MD - Chair at University of Utah
1965 John A. Hutch, MD
1969 Richards P. Lyon, MD
1973 Clair E. Cox, MD - Chair at University of Tennessee
1979 Emil A. Tanagho, MD - Chair at UCSF
1986 Jack W. McAninch, MD, FACS
1990 Richard F. Williams, MD - Chair at University of Iowa
1992 Tom F. Lue, MD, ScD(Hon), FACS
1996 Joachim W. Thuroff - Chair at University of Mainz
1998 Peter R. Carroll, MD, MPH - Chair at UCSF
2001 Barry A. Kogan, MD - Chair at Albany Medical College
2008 Marshall L. Stoller, MD
2009 Christopher Evans, MD - Chair at UC Davis
2010 Stuart J. Wolf, Jr., MD
2011 Hunter Wessells, MD – Chair at the University of WA
2014 Wayne Hellstrom, MD
2014 Christopher Kane, MD - Chair at UC San Diego
2015 Laurence Baskin, MD
2015 Badrinath R. Konety, MD - Chair at University of Minnesota

*Members of the Clinical Society of Genito-Urinary
Surgeons (Former residents and faculty)*

Peter R. Carroll, MD, MPH

Frank Hinman, Sr., MD

Frank Hinman, Jr., MD

Barry Kogan, MD

Jack W. McAninch, MD

Department of Urology
University of California, San Francisco
ENDOWED CHAIRS

Laurence S. Baskin, MD

Frank Hinman, Jr., MD, Distinguished Professorship in Pediatric Urology

Robert Blelloch, MD, PhD

Peter R. Carroll, MD, Distinguished Professorship

Peter R. Carroll, MD, MPH

Ken and Donna Derr-Chevron Distinguished Professorship in Urology

June M. Chan, ScD

Steven & Christine Burd-Safeway Distinguished Professor

Matthew R. Cooperberg, MD, MPH

Helen Diller Family Chair in Urology

Stacey Kenfield, ScD

Helen Diller Family Chair in Population Science for Urologic Cancer

Tom Lue, MD, ScD (Hon), FACS

Emil Tanagho Endowed Chair in Clinical Urology

Nynikka Palmer, DrPH, MPH

Helen Diller Family Chair in Community Education and Outreach for Urologic Cancer

Michael Rabow, MD, FAAHPM
Helen Diller Family Chair in Palliative Care

Davide Ruggiero, PhD
Helen Diller Family Chair in Basic Research in Urologic Cancer

Katsuto Shinohara, MD
Helen Diller Family Chair in Clinical Urology

Faculty under each chair

HINMAN, SR. (Partial list of full-time and volunteer faculty)

William Carroll, MD
Tom Gibson, MD
Mark Hand, MD
Fred Howard, MD
Clark Johnson, MD
John Leonard, MD
William Murphy, MD
Sidney Olson, MD
Harry Partridge, MD
Lionel Player, MD
Donald R Smith, MD
Lloyd Reynolds, MD
John Schulte, MD
Hudson Smythe, MD
Henry Weyrauch, MD
William P. Willard, MD

SMITH (Partial list of full-time and volunteer faculty)

James Elliot, MD
Alex Finkle, MD
Frank Hinman, Jr., MD
Frederick Howard, MD

John Hutch, MD
Irving Katz, MD
Richards Lyon, MD
Sumner Marshall, MD
Patrick McLin, MD
Joseph Presti, Sr., MD
Stanwood Schmidt, MD
John Schulte, MD
William Smart, MD
Frank Tavel, MD
Vernon Weldon, MD

TANAGHO (Full and part-time faculty)

Sherif Aboseif, MD
Laurence Baskin, MD
Peter R. Carroll, MD, MPH
Rajvir Dahiya, PhD
George Fournier, MD
Curtis Gleason, PhD
Robert Kahn, MD
Barry Kogan, MD
Tom F. Lue, MD
Jack W. McAninch, MD
R. Dale McClure, MD
Edwin Mears, MD
Perinchery Narayan, MD

Joseph Presti, Jr., MD
Richard Schmidt, MD
Ira D. Sharlip, MD
Marshall Stoller, MD
Paul Turek, MD
Richard Williams, MD

CARROLL (Full and part- time faculty)

Laurence S. Baskin, MD
Robert Blelloch, MD, PhD
Benjamin N. Breyer, MD, MAS
June Chan, ScD
Thomas Chi, MD
Colin Collins, PhD
Matthew R. Cooperberg, MD, MPH
Hillary Copp, MD, MS
Donna Deng, MD
Michael DiSandro, MD
Felix Feng, MD
Maurice Garcia, MD, MAS
Luke Gilbert, PhD
Hani Goodarzi, PhD
Kirsten Greene, MD, MS
Gary Grossfield, MD
Lindsay Hampson, MD
Christopher Kane, MD

Stacey Kenfield, ScD
Badrinath Konety, MD, MBA
Wendy Leng, MD
Long-Cheng Li, PhD
Guiting Lin, MD, PhD
CS Lin, PhD
Tom Lue, MD, ScD(Hon), FACS
Jack McAninch, MD, FACS
Maxwell V. Meng, MD
Hao Nguyen, MD, PhD
Anobel Odisho, MD, MPH
Nynikka Palmer, DrPH, MPH
Pamela Paris, PhD
Sima P. Porten, MD, MPH
Nadia Roan, PhD
Davide Ruggero, PhD
Sharanjot Saini, PhD
Ira D. Sharlip, MD
Katsuto Shinohara, MD
James Smith, MD, MS
Marshall Stoller, MD
Anne M. Suskind, MD, MS
Paul Turek, MD
Erin Van Blarigan, ScD
Thomas Walsh, MD, MS
Soichiro Yamamura, PhD

Fellows

Oncology Fellows, Directors Peter Carroll, MD, MPH, and Maxwell Meng, MD

Ardalanejaz Ahmad, MD
Muhammed Ahmed, MD
Krishnan Anand, MD
Mohamed Bakr, MD
Kelly Clinton Cary, MD
Michael Cher, MD
Matthew Cooperberg, MD, MPH
Marc Dall'Era, MD
Benjamin Davies, MD
Cole Davis, MD
Tracy Downs, MD
Renu Eapen, MD
Ahmad Ejaz, MD
Mohamed Eltemany, MD
Vincent Fradet, MD
Kirsten L. Greene, MD, MS
Gary Grossfeld, MD
Ahmed Hussein, MD
Mohammed Jalloh, MD
Alexander Karl, MD
Jun Kawakami, MD
Michael Leapman, MD

Viraj Master, MD
Maxwell Meng, MD
Hao Nguyen, MD, PhD
Sanoj Punnen, MD
Khaled Refaai, MD
Philip Ross, MD
Huiqing Wang, MD
Christopher Welty, MD
Jared Whitson, MD

Trauma and Reconstructive Fellows (Directors Jack W. McAninch, MD, FACS, and Benjamin Breyer, MD, MAS)

Nejd Alsikafi, MD
Amjad Alwaal, MD
Noel Armenakas, MD
Sarah Blaschko, MD
Steven Brandes, MD
Benjamin Breyer, MD, MAS
Jill Buckley, MD
K. Jeff Carney, MD
Alexandre Castanheira, MD
Nadya Cinman, MD
Christopher Dixon, MD
Sean Elliott, MD

Bradley Erickson, MD
Reynaldo Gomez, MD
Catherine Harris, MD, MPH
Young Tae Lee, MD
Viraj Master, MD, PhD
James McGeady, MD
Michael Metro, MD
Kennon Miller, MD
Allen Morey, MD
Gregory Murphy, MD
Jeremy Myers, MD
Peter Nash, MD
Charles Osterberg, MD
Mark Rosen, MD
Daniel Rosenstein, MD
Michael Safir, MD
Richard Santucci, MD
Bryan Voelzke, MD
Hunter Wessels, MD

Neuro-Urology Fellows (Directors Emil Tanagho, MD and Tom F. Lue, MD, ScD (Hon), FACS)

Sherif Raouf G Abo-Seif, MD
Mohamed Abozeid, MD
Emre Akkus, MD
Maarten Albersen, MD
Carlos Gomesde Araujo, MD
Katsuyuki Baba, MD
Emre Bakircioglu, MD
Mahmoud A. Bazeed, MD

Anthony J. Bella, MD
Francois Benard, MD
Derek Bochinski, MD
Guy Bogaert, MD
J.H.L. Rudolph Bosch, MD
William Brant, MD
Jan Breza, MD
Regine Brissot, MD
Gerald Brock, MD
Homero Bruschini, MD
Serge Carrier, MD
Rafael Ernesto Carrion, MD
Stefan Dahms, MD
Robert C. Dean, MD
Wolfgang Diederichs, MD
Craig Donatucci, MD
Ahmed I. El-Sakka, MD
Thomas Fendel, MD
Ludovic Ferretti, MD
Julio Resplandede Araujo Filho, MD
Andreas Floth, MD
Benard Francois, MD
Maurice Garcia, MD
Tulio M. Graziottin, MD
Ahmed Harraz, MD
Maqsood Ul Hasan, MD
Narihiko Hayashi, MD
Burkhardvon Heyden, MD
Hao Chung Ho, MD
Yu Cheung Ho, MD
Rainer Hoffman, MD
Markus Hohenfellner, MD

Pao-Shiu Hsieh, MD
Ju Ton Hsieh, MD
Geng-Long Hsu, MD
Kenneth Hsu, MD
Chun C. Hsu, MD
Su-Tsung Huang, MD
Yun-Ching Huang, MD
Wilhelm Hubner, MD
Nobuhisa Ishii, MD
Amr Jad, MD
Keith Jarvi, MD
Udo Jonas, MD
Lawrence Jones, MD
Klaus Peter Juenemann, MD
Gyung-Woo Jung, MD
Kwang Myung Kim, MD
Nam Wee Kour, MD
Shang-Sen Lee, MD
Ming-Chan Lee, MD
Yung-Chin Lee, MD
Huixi Li, MD
Shinn-Nan Lin, MD
Guiting Lin, MD, PhD
Mujun Liu, MD
Gang Liu, MD
Zhihua Lu, MD
Jianan Luo, MD
Bernard Marc, MD
Luis Martinez-Pineiro, MD
Wolfgang Diederichs, MD

Kuo Chiang Chen, MD
Andreas Mersdorf, MD
Drago Milutinovic, MD
Kazukiyo Miura, MD
James Mooney, MD
Assaad M. Mounzer, MD
Stefan C. Muller, MD
Kuwong Mwamukonda, MD
Koichi Nagao, MD
Hongxiu Ning, PhD
Rainer Opsomer, MD
Hazem Orabi, MD
Jae-Seung Paick, MD
Charlotta Persson, MD
Hans Piechota, MD
Hans-Juergen Piechota, MD
Michael Probst, MD
Xuefeng Qiu, MD
Flavio E.T. Rocha, MD
Yajun Ruan, MD
Richard A. Schmidt, MD
Alan Shindel, MD
Karl-Dietrich Sievert, MD
James Smith, MD
Walter Stackl, MD
Christian-Georg Steif, MD
Jun Kyu Suh, MD
Yoshiatsu Takahashi, MD
Takao Takamura, MD
Kavirach Tantiwongse, MD

Joachim W. Thuroff, MD
Matadeen Umraiya, MD
Thomas Walsh, MD
Chii-Jye Wang, MD
Guifang Wang, MD
Jianwen Wang, MD
Lin Wang, MD
Bohan Wang, MD
Hsun Shuan (Chris) Wang, MD
Rong Yang, MD
Chung Hsin Yeh, MD
Salim J. Zeineh, MD
Haiyang Zhang, MD
Xiaoyu Zhang, MD
Jun Zhou, MD
Tie Zhou, MD
Peter Zvara, MD

**Endourology and Laproscopy Fellows
(Directors Marshall L. Stoller, MD, and
Thomas Chi, MD)**

Brian Eisner, MD
Joe Miller, MD
Mat Sorensen, MD
Tim Tseng, MD
Bradley Schwartz, MD
Roger Low, MD
Keith Lee, MD
Andreas Floth, MD

Damien Bolton, MD
Rainer Hofmann, MD
Wilhelm Hubner, MD
Bijan Shekhariz, MD
Pierce Irby, MD
Tom Chi, MD
Aaron Berger, MD
Bennett Stackhouse, MD
Javaad Zargooshi, MD
Jonathan Rubenstein, MD
Affonso Carmargo, MD
Andrew Joel, MD
Mitch Abrahams, MD
H. J. Chung, MD
Maxwell Meng, MD
David Rudnick, MD
Noah Schenkman, MD
Don Gentle, MD
Eric Taylor, MD
Krishna Ramaswamy, MD
Ryan Hsi, MD
Benjamin Sherer, MD
Kazumi Taguchi, MD, PhD
David Tzou, MD
Manint Usawachintachit, MD
Scott Weiner, MD

**Pediatric Fellows clinical and research
(Director Laurence Baskin, MD)**

Adam Hittelman, MD, PhD
Adriane Sinclair, PhD
Ali Erol, MD
Anand Krishnan, MD
Benchun Liu, MD, PhD
Bruce Scholmer, MD
Carlos Ramon Torres, MD
Dong-Soo Ryu, MD
Emily Willingham, PhD
Eric Kurzrock, MD
Esequiel Rodriguez, Jr., MD
Gerald Mingin, MD
Guanghai Wei, MD
Hubert Swana, MD
Jason Wilson, MD
Jennifer Yang, MD
Jenny Yiee, MD
Jiang Li, MD
Kai-Wen Chuang, MD
Kara Saperston, MD
Koray Agras, MD
Kun Suk Kim, MD
Liang Qiao, MD, PhD
Marcelo Vilela, PhD
Max Ferretti, MD
Michael DiSandro, MD
Michael Hsieh, MD, PhD
Michele Ebbers, MD

Nicholas Holmes, MD
Nicholas Kalfa, MD, PhD
Phitsanu Mahawong, MD
Ron Sutherland, MD
Sarah Janssen, MD, PhD, MPH
Selcuk Yucel, MD
Shweta Choudhry, PhD
Sisir Botta, MD
Yavuz Akman, MD
Yoshiyuki Shiroyanagi, MD, PhD
Zhong Wang, MD

Andrology Fellows (Director Tom F. Lue, MD)

Amjad Alwaal, MD
Anthony Bella, MD
William Brant, MD
Rafael Carrion, MD
Robert Dean, MD
Uche Ezeh, MD
Maurice Garcia, MD
Kuwong Mwamukonda, MD
Amanda Reed-Maldonado, MD
Cayan Selahittin, MD
Shai Shefi, MD
Alan Shindel, MD
James Smith, MD, MS
Tom Walsh, MD, MS
Ulrike Zenke, MD

Residents

Residents under Frank Hinman, Sr., MD

Stan Achmidt, MD
Juan Aycinina, MD
Kenwood D. Babcock, MD
John R. Barr, MD
A. Elmer Belt, MD
Perry A. Bonar, MD
Joseph Borkness, MD
Myer Brodtkin, MD
Robert A. Burns, MD
Oliver M. Butler, MD
W. A. Carroll, MD
D. A. Charnock, MD
D. G. Corbett, MD
J. Cordonnier, MD
Edwards Dart, MD
Robert E. DeLaval, MD
James Elliott, MD
T. E. Gibson, MD
F. L. A. Gonzales, MD
Le Grand L. Hall, MD
H. Harrington, MD
S. H. Harris, MD
Carl Hartwig, MD
Frank Hinman, Jr, MD
A. B. Hopler, MD
Federick S. Howard, MD
Clark M. Johnson, MD
A. A. Kutzman, MD
T. E. LeDuc, MD
R. K. Lee-Brown, MD
William Manuel, MD
Matthew M. Marshall, Jr., MD
Samuel McMahon, MD
Thad M. McNamara, MD
O. Kemper Mohs, MD
D. M. Morison, MD
W. K. Murphy, MD
T. T. Nickels, MD
Sidney Olsen, MD
R. A. Peterfey, MD
Tracy O. Powell, MD
John Pruett, MD
Verne Ross, MD
Stanwood S. Schmidt, MD
John W. Schulte, MD
William R. Smart, MD
Donald R. Smith, MD
Joseph Sorkness, MD
John J. Sullivan, MD
M. E. Vechi, MD
T. Brent Wayman, MD
Henry Wayrauch, MD
R. G. Weaver, MD
Henry M Weybrough, MD

Residents under Donald R. Smith, MD

Alfred A. Alekma, MD
Paul F. Alpert, MD
Robert D. Ayers, MD
William F. Breyer, MD
Herbert S. Brody, MD
Eugene V. Cattalica, MD
Edward J. Collins, MD
Robert Corbett, MD
Clair E. Cox, MD
Herbert F. Cromin, MD
A. Warner Dewey, Jr., MD
Anthony A. Eason, MD
R. Cameron Emmett, MD
David Ferguson, MD
Robert Fisher, MD
Gregory G. Fouts, MD
Jose Galvez, Jr., MD
Charles N. Glassman, MD
Roger B. Goodfriend, MD
Jack Hagewood, MD
L. Richard Hayne, MD
John P. Heine, MD
Frank de Miur Hill, MD
John C. Huffer, MD
Bernard H. Hymeï, MD
Marvin P. Jessie, MD
James B. Karol, MD
Irving Katz, MD
Robert S. Klein, MD
Phillip A. Lahr, MD
Gary M. Lincklider, MD
Donald G. Linker, MD
Richards P. Lyon, MD
Donald A. MacDonald, MD
Matthew Marshall, Jr., MD
Sumner Marshall, MD
Patrick McLin, MD
James L. Mee, MD
Gerald M. Miller, MD
Norman G. Miller, MD
Allan Moreira, MD
Kenneth E. Mosslin, MD
Harry P. Novick, MD
Byron C. Olson, MD
Rudolf O. Oppenheimer, MD
Theodore G. Osius, MD
Dean Packard, MD
James R. Palleschi, MD
Harry H. Pitts, MD
Leonard Plaine, MD
Kenneth N. Rankin, MD
Edwin R. Roberts, Jr., MD
Steven M. Rudy, MD
Revelle Russell, MD
Alvin B. Rutner, MD
Arnold I Schalz, MD
John F. Schmaelzie, MD
Alan Shapiro, MD
Ira D. Sharlip, MD
E. Lee Simmons, MD
Nicholas D. Simopoulos, MD
Gilbert I. Smith, MD
Joseph Smith, MD
Joseph T. Spaulding, MD

Paul B. Stratte, MD
Mark I. Tabenkin, MD
Frank R. Tavel, MD
Ronald Tecantino, MD
Donald I. Van Glesen, MD
Jerome M. Weiss, MD
Vernon E. Weldon, MD
Albert Wood, MD

Residents under Emil Tanagho, MD

Jason Abber, MD
Sherif Aboseif, MD
Karl Anderson, MD
Anthony Avalone, MD
Laurence Baskin, MD
Sansern Borirakchanyavat, MD
Peter Bretan, MD
Gregory Broderick, MD
Peter Carroll, MD, MPH
Paramjit Chandhoke, MD
James Chang, MD
John Connolly, MD
Alexios Diamantopoulos, MD
R. Cameron Emmot, MD
Christopher Evans, MD
Lionel Foster, MD
George Fournier, MD
Mark Gasparini, MD
Charles Glassman, MD
Gordon Gluckman, MD

Mantu Gupta, MD
Wayne Hellstron, MD
Alexander Ingerman, MD
Craig Iriye, MD
Regina Jovey, MD
Robert Kahn, MD
James Karol, MD
Paul Klosterman, MD
Amos Lash, MD
Gary Licklider, MD
Gregory Marshall, MD
Arturo Martiniz, MD
Sharon Mee, MD
Alan Melamud, MD
Hrair-George Mesrobian, MD
Hiep Thieu Nguyen, MD
Gary Nicolaisen, MD
Kenneth Nitshara, MD
Bradley Orvis, MD
James Palleschi, MD
Farhad Parlvar, MD
John Pearson, MD
Cu Ngoc Phan, MD
Joseph Presti, Jr., MD
Benjamin Rhee, MD
John Roberts, MD
Joseph Sardina, MD
Leon Smith-Harrison, MD
Mark St. Lezin, MD
Marshall Stoller, MD
Stephen Taylor, MD
Carl Thomas, MD

Michael Tran, MD
Charles Turzan, MD
Jonathan Vapnek, MD
Lawrence Werboff, MD
J. Stuart Wolf, MD
Steven Workman, MD
His-Yang Wu, MD

Residents under Peter R. Carroll, MD, MPH

David Aaronson, MD
Herman Bagga, MD
Nathalie Barnes, MD
Avi Baskin, MD
David Bayne, MD
Sarah Blaschko, MD
Jonathan Brajtbord, MD
Benjamin Breyer, MD, MAS
Jim Buckley, MD
Christi Butler, MD
Claire de la Calle, MD
Helena Chang, MD
Johnny Chang, MD
Meera Chappidi, MD
Thomas Chi, MD
Carissa Chu, MD
Matthew Cooperberg, MD, MPH
Donna Deng, MD
Sean Doyle, MD
Rachel Edlin, MD
Michael Eisenberg, MD

Sean Elliott, MD
Lawrence Flechner, MD, PhD
Joseph Franks, MD
Adam Gadzinski, MD
Maurice Garcia, MD, MAS
Shahram Gholami, MD
Reza Goharderakhshan, MD
Brian Grady, MD
Kirsten Greene, MD, MS
Lindsay Hampson, MD
Catherine Harris, MD, MPH
Adam Hittelman, MD, PhD
Michael Hsieh, MD, PhD
Theresa Koppie, MD
Natalia Leva, MD
John Lindsey II, MD, MS
Selma Masic, MD
Viraj Master, MD, PhD
Yi Li, MD
Jennifer Mehdizadeh, MD
Maxwell Meng, MD
Ian Metzler, MD
Thomas Minor, MD
David Nudell, MD
Anobel Odisho, MD, MPH
Ephrem Olweny, MD
Maya Overland, MD, PhD
Sangtae Park, MD
Surat Phonsombat, MD
Sima Porten, MD, MPH
Rajveer Purohit, MD
Nadeem Rahman, MD

Adam Reese, MD

Rodman Rogers, MD

Thomas Sanford, MD

Bogdana Schmidt, MD, MPH

Allen Simms, MD

Melissa Talbert, MD

Gregory Tasian, MD, MSc, MSCE

Matthew Truesdale, MD

Jacqueline Villata, MD

Kelly Walker, MD, MBA

Samuel Washington, MD

Dana Weiss, MD

Jared Whitson, MD

David Wu, MD

Alex Wu, MD

Glen Yang, MD

Heiko Yang, MD, PhD

Edward Yun, MD

Uwais Zaid, MD

Bibliography

"Academic Staff FTE, 1972-1973." AR 84-12. Academic Senate Records, 1959-. Carton 3. Archives and Special Collections, University of California, San Francisco Library.

Amend, William. "A History of Transplant Nephrology at UCSF." Online at: <https://nephrology.ucsf.edu/about/kidney-transplant-history-ucsf.pdf>.

American Medical Association Council on Medical Education and Hospitals. 1963. AR 92-83. SOM Dean's Records. Carton 7. Archives and Special Collections, University of California, San Francisco Library.

Anonymous. "Book Reviews – The Principles and Practice of Urology." *The American Journal of Surgery* 29:2 (1935), p. 336.

Anonymous. "The Division of Urology." *Alumni Bulletin*. 7 (1961): pp. 2-3.

Anonymous. "Renal Transplant/Kidney Transplant Unit, 1975-1979." Moffitt Hospital, Department of Nursing Services. AR 83-2. Carton 1. Folder #16. Archives and Special Collections, University of California, San Francisco Library.

Anonymous. "Reviews and Notices of Books – General Urology." *The British Journal of Surgery* 45: 191 (1957), p. 302.

Anonymous. "Reviews – Urology." *British Medical Journal* 2:3904 (November 2, 1935), p. 841.

Arnot, Philip. Alumni Faculty Association, *Tales and Traditions*. 3 (1954): p. 175. Archives and Special Collections, University of California, San Francisco Library.

Bourne, Henry and Vermillion, Eric. *Follow the Money: Funding Research in a Large Academic Health Center*. San Francisco: University of California Medical Humanities Press, 2016.

Carter, W.E. Alumni Faculty Association, *Tales and Traditions*. 1 (1954): p. 101. Archives and Special Collections, University of California, San Francisco Library.

Cordes, Frederick. "As I Remember the University of California Medical School from 1915, the Year of the Fair to the End of World War I, 1919." *Tales and Traditions*. 2 (1959): pp. 160-171, p. 164. Archives and Special Collections, University of California, San Francisco Library.

Crall, Herbert. "Department of Urology." Alumni Faculty Association, *Tales and Traditions*. 5 (1954). Archives and Special Collections, University of California, San Francisco Library.

Crall, Herbert. "The Medical School of the University of California." Alumni Faculty Association, *Tales and Traditions*. 4 (1954): p. 233. Archives and Special Collections, University of California, San Francisco Library.

Crall, Herbert. "The Department of Urology." Alumni Faculty Association, *Tales and Traditions*. 5 (1963): pp. 168-184. Typescript. Archives and Special Collections, University of California, San Francisco Library.

Elliot, J.S. "A Comparison of the Chemical Composition of Urine in Normal Subjects and in Patients with Calcium Oxalate Urinary Calculi." L. Cifuentes, L., et. al., eds. *Urinary Calculi: Recent Advances in Aetiology, Stone Structure, and Treatment*. International Symposium on Renal Stone Research, 1972. Basel: Karger, 1973. pp. 24-30.

Dunphy J. Englebert to Julius Krevans. Letter. November 17, 1972. AR 84-12. Academic Senate Records, 1959-. Carton 3. Archives and Special Collections, University of California, San Francisco Library.

Smith, Donald to John Saunders. Letter. February 27, 1963. AR 92-83. SOM Dean's Records. Carton 7. Archives and Special Collections, University of California, San Francisco Library.

Fergusson, J.D. "Short Guide to Urology." *The British Medical Journal*. 1 (1967): p. 686.

Garcia, Maurice M. "The History of the Department of Urology, UCSF." Online at: <https://urology.ucsf.edu/about/the-history-of-the-department-of-urology-ucsf>.

Harper, Franklin, ed. *Who's Who on the Pacific Coast*. Los Angeles: Harper, 1913.

Hinman, Frank. "The Preparatory Treatment of Urological Operations." *The Johns Hopkins Hospital Bulletin*. 26 (May, 1915): pp. 1-8.

Hutch, John A., Miller, Earl A., and Hinman, Jr., Frank. "Vesicoureteral Reflux: Role in Pyelonephritis." *The American Journal of Medicine*. 34 (1963): pp. 338-349.

Immergut, Mark, ed. *Classical Articles in Urology*. Springfield, IL: Charles C. Thomas, 1967.

Kerr, William (Director of UC Hospitals and Clinics) to Emil Tanagho. Letter. August 25, 1977. AR 90-56. Carton 5. Folder #89. Archives and Special Collections, University of California, San Francisco Library.

Krevans, Julius to Ralph Kellogg (Chair, Educational Policy Committee) and Hibbard Williams (Chair, Faculty Council). Letter. July 26, 1973. AR 84-12. Academic Senate Records, 1959-. Carton 3. Archives and Special Collections, University of California, San Francisco Library.

Legge, Robert. Alumni Faculty Association, *Tales and Traditions*. 1 (1954): p. 14. Archives and Special Collections, University of California, San Francisco Library.

L., J.S. "General Urology (Book Review)." *Ulster Medical Journal*, 27:1 (1958), p. 90, online at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2480471/pdf/ulster-medj00147-0106b.pdf>

Medical School Executive Committee Meetings. AR 24.2. Series 1. Carton 2. Folder 3. p. 4. Archives and Special Collections, University of California, San Francisco Library.

Miller, Earl. "Cinefluorography in Practice." *Radiology*. 73 (1959): pp. 560-565.

Porter, Langley. "University of California - School of Medicine: 1925-1941." *Tales and Traditions*. 2 (n.d.): pp. 33-40. Archives and Special Collections, University of California, San Francisco Library.

"Residency Training Program, Urology" in "Pre-survey Questionnaire: Liaison Committee on Medical Education: Clinical Departments #2, Form 11: Orthopaedics - Urology." AR 92-83. SOM Dean's Records. Carton 7. Archives and Special Collections, University of California, San Francisco Library..

Rockafellar, Nancy and Dolan, Brian. "1940-1958: The Growth of Organized Research and Consolidation of the Parnassus Campus." A History of UCSF. Online at: http://history.library.ucsf.edu/1940_parnassus.html.

Schwarz, J.C. ed. *Who's Who Among Physicians and Surgeons*. New York: Broadway, 1938.

Shumway, Norman. Letter to Dean of School of Medicine. 1958. AR 90-56. SOM Dean's Records. Carton 5. Archives and Special Collections, University of California, San Francisco Library.

Smith, Donald to John B. deC. M. Saunders. Letter. July 27, 1956. AR 90-56. SOM Dean's Records. Carton 5. Folder #89. Archives and Special Collections, University of California, San Francisco Library.

Smith, Donald to Julius Krevans. Letter. October 30, 1972. AR 84-12. Academic Senate Records, 1959-. Carton 3. Archives and Special Collections, University of California, San Francisco Library.

Smith, Donald to Dean Julius Krevans. Letter. October 30, 1972. AR 84-12. Academic Senate Records, 1959-. Carton 3. Archives and Special Collections, University of California, San Francisco Library.

Smith, Donald to Dean Julius Krevans. Letter. October 30, 1972. AR 84-12. Academic Senate Records, 1959-. Carton 3. Archives and Special Collections, University of California, San Francisco Library.

Smith, Donald to Associate Dean SOM William Reinhardt. Letter. April 8, 1971. AR 90-56. Carton 5. Folder #89. Archives and Special Collections, University of California, San Francisco Library.

Snell, M.E. "General Urology." {Book Review} *The British Journal of Surgery*. 61 (1974). p. 504.

Tanagho, Emil to Julius Krevans. Letter. April 19, 1977. AR 90-56. Carton 5. Folder #89. Archives and Special Collections, University of California, San Francisco Library.

Whipple, George. "Autobiographical Sketch." *Perspectives in Biology and Medicine*. 2 (1959): pp. 253-289.

Woolsey, John Homer. "Frank Hinman, M.D. (Urology)." Alumni Faculty Association, *Tales and Traditions*. 3 (1958) Typescript. Archives and Special Collections, University of California, San Francisco Library.

Young, Hugh Hampton. "Foreword." *The Journal of Urology*. 1 (February 1917): p. 2.