

***A HISTORY OF ORAL AND MAXILLOFACIAL SURGERY
AT MASSACHUSETTS GENERAL HOSPITAL***

By Walter C. Guralnick, DMD

The genesis of the department of oral and maxillofacial surgery (OMS) at Massachusetts General Hospital is entwined with the establishment of the Harvard Dental School in 1867. Hapgood's "History of The Harvard Dental School" (1930) is an established reference point for reviewing the development of oral and maxillofacial surgery at Mass General. A. Laurence Lowell, President of Harvard University, wrote the "Forward" to the book and parts of his statement are pertinent in describing the development of OMS from a dental clinic to an oral and maxillofacial surgical service. Lowell's particularly applicable statements are these: "Medicine took centuries in raising itself in estimation to a level with the learned professions; and dentistry – largely because of the predominance of its mechanical side – lagged behind medicine.... Only gradually of late years has the relation of the teeth to health been widely recognized, and the subject able to claim its position as a branch of medicine."

The evolution of Mass General Oral and Maxillofacial Surgery from its outset as a dental clinic fulfilled President Lowell's prophetic recognition of dentistry's role as a branch of medicine. Tracing our service from its roots to its present stature is an interesting tale.

The 1868 report of the Mass General Trustees of the hospital's outpatient department states: "This department has been enlarged during the year by the addition of a Dental Service in connection with the Dental School of Harvard College." In 1872, Benjamin S. Shaw, MD, Resident Physician (analogous to the present, President of the hospital title) requested, "that the Trustees establish a new office, viz: that of Dentist and that the office be filled by some suitable person." Dr. Shaw continued to explain that dental school faculty had been gratuitously providing care of dental patients, in the OPD, for the past three years. The "gentlemen"(dental school faculty), "would like to have one of their members appointed to office with proper rules or duties prescribed and I think such a plan would be for the interest of the hospital."

The office of Dentist was forthwith created and Charles Wilson, DMD, was appointed to the position. Dr. Wilson soon requested that his title be changed to Dental Surgeon, which the Trustees granted. From an historical perspective, it seems appropriate, therefore, to consider Dr. Wilson the first "Chief" of the service that began as Dental and is presently Oral and

Maxillofacial Surgery.

Prior to Dr. Wilson's appointment in 1872, a "Dental Service" established at Mass General was staffed by faculty of the recently established Harvard Dental School. Faculty and students came to the OPD from the school. In Dr. Shaw's report to the Trustees, it was noted that 1,078 persons (patients) were treated in the Dental Service. The only procedure for which there was a charge was the use of gold foil. In March 1878, the HDS faculty petitioned the hospital trustees to allow "a small fee – say 25 cents – for each simple operation" which they felt most patients could afford. The request was denied.

In 1883, a new outpatient area, the Gray Ward, was opened and the trustees were reluctant to include the dental clinic within it. Dr. JH Whittenmore, the hospital Resident Physician advised the Trustees that the Dental Clinic was "of no advantage to the hospital," its heavy equipment (chairs) were difficult to move, keeping the rooms clean and ventilated was a problem, etc. Four thousand patients a year were seen and, in short, the Dental School could assume the work in its own building, now adjacent to the MGH." In that year, 1893, the Medical School moved from its building on Fruit Street and gave the building to the Dental School.

Thomas W. Chandler, the Dean of the Dental School graciously replied to the Mass General Trustees that the School would be able to see patients from the O.P.D. in its new location. He wrote, "Allow me to thank you and your Board of Trustees for all your kindness to us in the past, when in our infant condition we might have found it difficult to struggle up without it, and also to hope that we may still be permitted to call ourselves and to be the Dental Infirmary of the Massachusetts General Hospital."

A direct connection between the dental school and the hospital was established when a key to the North Anderson Street gate to the hospital was given to the dental school faculty. This "neighborly" arrangement lasted until the dental school moved to its new building on Longwood Avenue in 1910.

Hospital dental patients were plentiful but it became apparent that the range of dental services offered had to be limited. The work of the department was restricted to relief of pain and extractions and surgical treatment "for patients who come to the hospital for medical or surgical care." We now begin to see the infancy of the department of oral and maxillofacial surgery.

Of particular historical interest is the annual report of the Resident Physician in 1910.

“A Dental Surgeon and Assistant Dental Surgeons have been appointed to the Hospital and a Dental Clinic established in the Out-Patient Department. This last was made necessary by the removal of the Harvard Dental School from our neighborhood to another section of the city.” In the staff list for 1911, Leroy M.S. Miner, MD, DMD appears as Dental Surgeon and six Dental Surgeons assigned to the Out-Patient department are named.

It is important, at this point, to describe Dr. Miner who is a major figure in the development of the OMS service. Leroy M.S. Miner graduated from HDS in 1904 with an interest in oral surgery and a conviction that medical training was important to the practice of oral surgery. He, therefore, matriculated at Boston University medical School and received the MD degree in 1907. He was appointed Dean of HDS in 1925 by President Lowell who, on a later occasion endorsed his selection by stating: “I believed Dr. Miner was the man for the place and now I know he is.”

Miner was named Chief of the Mass General Dental Service in 1924 and continued in that capacity until succeeded by Dr. Kurt Thoma in 1943. He was thus simultaneously Dean, Professor of Oral Surgery at the Dental School as well as Chief of Service. It was because of his foresight and influence at the hospital that the first oral surgical internship was established in 1937. Dr. George H. Sweetnam, HDS 1937, was the first intern.

In a 1963 survey of Mass General interns, initiated by Donald Leake HSDM '72, Sweetnam recollected how it began. “Dr. Leroy M.S. Miner, Chief at the time (and Dean of HSDM) mentioned to someone that someday they hoped to have a dental intern at the MGH. Hearing that, I had a talk with Dr. Miner. He suggested that I spend the summer working in the Out-Patient Clinic. During the summer, the Trustees accepted the idea of a dental internship.”

He described his program as follows: “My duties were similar to the present ones; Out-Patient Department and assisting staff members... At that time, infection, especially osteomyelitis of the jaw, was common. I did my first external I&D after allowing one of the surgical interns the opportunity to extract a loose tooth.” At the end of the year, he continued, “I was allowed quite a bit of freedom. I was very fortunate to have a chance to assist Dr. V.H. Kazanjian many times and made some of his appliances.”

The staffing and functioning of the clinic at this time and until about 1966 is interesting and best described by Thoma in his 1944 paper “Massachusetts General Hospital Dental Clinic.” He wrote: “The Outpatient Department continues to give splendid service. It consists

of dental surgeons and assistant dental surgeons. One group is assigned to each morning clinic and is in charge of a chief of the day.” He then named the chiefs of each day of the week – Monday through Friday. In addition, assistant dental surgeons were identified each of whom had a specific daily assignment. In 1943 Thoma noted that 4,476 patients were treated by the outpatient staff. This same arrangement of staff coverage of the clinic existed during Miner’s tenure. It is noteworthy that part-time staff duty at Mass General was a coveted appointment.

Dr. Miner was succeeded by Kurt H. Thoma, HDS ‘11, who became Chief on February 19, 1943. Within a few months, the hospital’s Trustees voted “to appoint a second Dental Intern with the understanding that the hospital would provide only meals.” Dr. Thoma had been the Brackett Professor of Oral Pathology at the dental school for a number of years. His collection of oral pathology cases was unique and more extensive than that of any other dental school. It was utilized as both teaching material for the HDS student course and for Thoma’s widely used Textbook of Oral Pathology. Although students at HDS knew him as principally an oral pathologist, he maintained a significant private oral surgical practice. Parenthetically, it is interesting that Thoma had several other commitments. He was an accomplished horseman, a horticulturalist whose formal garden, at his home, was a showplace and, additionally, he was recognized as a principal investor in the Boston Stock Market!

Thoma became Chief of the OMS service during World War II, a time when the hospital surgical services were depleted of many senior staff who were commissioned in the medical services of the armed forces. Circumstances provided an opportunity for Thoma’s oral surgical service to expand its horizons. Thoma’s department of “oral surgical diseases” and “oral surgical operations” expanded the previous responsibilities of the service. Some of the categories he enumerated were: jaw deformities; cysts and tumors of mouth and jaws; salivary stones; fractures of upper and lower jaws and facial lacerations; ankylosis of the jaws; osteotomy for congenital and acquired deformities of the jaws; and, of course, the gamut of dento-alveolar surgery. It is also worthy of note that Thoma noted that the “Chief of the Department serves on a half-time basis.” The day of full-time faculty was still some years away.

The service was still named the Dental Service although it provided no restorative dentistry. There were two one-year internships, one financially supported by the hospital, the other by the dental school. Thoma had instituted several specific teaching and review sessions

attended by both house officers, staff and visitors. Several of these were: fracture rounds on Friday mornings, osteomyelitis (“osteomyelitis”) that same day; surgical grand rounds, Thursday mornings; and tumor rounds on Friday. Also, on two Thursdays of each month, from 8:00 AM to 9:00 AM, a “dental conference” was held in the lower OPD amphitheatre at which “the diagnosis, treatment and pathological findings of the cases that had been treated in the outpatient clinic or the house” were presented and discussed.

During Thoma’s chiefship, there was no “bench” research done on the service but clinical research; although sparse, was encouraged. It was noted that Dr. David Weisberger, a senior staff member was completing a study of the abnormalities of the salivary glands using sialography. (Weisberger and Schultz subsequently published their classic salivary gland paper in the *New England Journal of Medicine*).

Thoma, who was a compulsive collector and archivist, carefully recorded the records of surgical cases done during his “Chiefship.” His collection was the basis of his well received book, “Oral Surgery” as well as numerous journal publications.

During the Thoma years, there were nine house officers who completed an internship of one year’s duration. There were a number of others who were unable to complete an internship, serving only a few months, in some instances, due to being called up for war services.

Upon the conclusion of World War II, Mass General staff returned to the hospital. Some surgeons felt that the oral surgical service had encroached upon their traditional territory and a change in leadership of the service was decided upon. Dr. David Weisberger, Professor of Dental Medicine at HDS, who was known for his collaborative work with other Mass General physicians in the Huntington Memorial Hospital, a Mass General affiliate, was an appealing candidate for the position of Chief of the Dental Service. In 1948, the Trustees appointed him Chief of the Dental Service. In view of his primary interest in mucosal diseases, the service’s title was changed to The Dental Medicine Service.

David Weisberger, DMD ’29, MD (Yale ’33) was a gifted teacher, an investigator and pioneer and expert in the developing field of oral medicine. During his years at HDS, he had decided that an education in medicine was important in the recognition, diagnosis and treatment of oral disease – be it of calcified or soft tissue. At this time, the Yale Medical School had established the Sterling Fellowship for qualified dental school graduates interested

in a career investigating and treating oral disease. Weisberger was one of a small group – about six or seven men (there were no women dental school graduates at that time) who were accepted into the program and completed the four year Yale medical school course.

Weisberger returned to HDS and established an oral medicine course that was a student favorite. His Friday afternoon seminars, known as “Uncle David’s course”, began before he became Chief at Mass General and continued throughout his career. The basis of discussion was Weisberger’s excellent, extensive collection of slides of oral disease ranging from mucosal and/or salivary gland disease to oral cancer.

The fact that Weisberger had a medical degree was appealing to Mass General. In addition, he was known to the Mass General oncologists because he worked with them both at Mass General and The Huntington Memorial Hospital. His appointment, to follow Thoma, was readily endorsed. Although he renamed the department Oral Medicine, he did not diminish the oral surgical responsibilities of the service. When he took over the Chiefship, the service had but one intern, a second was authorized in 1950 and almost a decade later, a Resident was appointed.

Several items in a Weisberger annual report to the Trustees are of historical interest. The major activity of the service was in the clinic where he reported an increased patient volume, approximately 4,700 patients having been cared for that year. The cases seen were, “a variety of stomatological problems such as aphthous stomatitis, herpetic lesions, pemphigous, lichen planus, gumma of the palate and tongue, salivary gland diseases, and all types of benign and malignant neoplasia of the mouth.”

The clinic staffing, at this time, is also of interest for its contrast with the present day. Weisberger’s report notes, “The clinic is staffed by twenty-six (26) visiting men and three house officers. Most of the visiting staff members active in the clinic are general practitioners with dental surgical experience.”

Although Weisberger’s surgical training was minimal, he enjoyed operating on oral cancer patients with Drs. Grantley Taylor and Ira Nathanson, both very well established surgical oncologists and valued friends and colleagues of his.

There were a number of residents during the Weisberger years whose names remain familiar. They are: Earle Rosenberg, J. Henry Stempien, Barry Agranat, David Hall, Norman Trieger. David Hall subsequently finished his training at Alabama and became Chief of OMS

at Vanderbilt. Trieger was the first Chief of Oral Surgery at UCLA and later became Chief at Montefiore Hospital in New York. Rosenberg and Stempien were appointed to the Visiting Staff upon completion of their training and continue, today, to visit in the outpatient clinic.

After World War II, with the establishment of the American Board of Oral Surgery in 1946, and with the GI Bill providing educational benefits for increasing numbers of young veterans eager to become oral surgeons, several dental schools established master's degree, post doctoral didactic programs. Eligibility for Board examination required two years of training, one of which was didactic, the other clinical. Some hospital programs incorporated their own didactic teaching in conjunction with the clinical training, but most applicants for Board examination, at that time, received training best described as disjointed. A trainee could fulfill Board requirements by having a year's hospital internship and enrolling for a didactic year at one of the schools which granted a master's degree. The schools offering the master's program were less than enthusiastic when the advantages of an integrated program were discussed, tuition paid by the GI Bill being a guaranteed source of income. Change, however, did occur and is an important part of the Mass General oral surgical story.

Dr. Weisberger, unfortunately, died in 1966 and Dr. Walter Guralnick was asked by Dr. John Knowles, the Mass General General Director, to become the Acting Chief of Service. Guralnick had been appointed to both the school's department and the hospital staff in 1950. An ad hoc committee was appointed to select a permanent chief and Guralnick was the Committee's choice as Chief and Professor and Chairman of the school's Department in 1967.

One of the first changes made was revising the service's name to Oral Surgery. There were three residents already on the service, two of whom are known to many in the department. Chuck Bowen, who practices in Burlington, Vermont, and the late Dan Nozik, who, after practicing oral surgery both in the service during the Vietnam War and privately for a short time thereafter, became an anesthesia resident at Mass General and was a staff anesthesiologist teaching both OMS and anesthesia residents until his retirement in 2008.

Guralnick had been critical of the disjointed way in which oral surgeons were being trained. An alternative to the master's degree route for many was residencies in two different hospitals, both positions being at a first year level and, therefore, lacking the responsibility of a senior position but fulfilling the temporal requirements of the Board. Fortunately, there were colleagues in the America Society of Oral Surgeons who were equally critical of the system

and agreement to alter it was reached. It was mandated after 1971 that all programs had to be fully integrated and include at least three years of training. Some programs were eliminated by the ruling because of educational deficiencies, but the quality of programs was standardized and improved.

The educational level of oral surgery was also enhanced by the publication in 1963 and 1968 of the “Essentials of an Advanced Education Program in Oral Surgery.” These important criteria were established by conferences and workshops initiated by the American Society of Oral Surgery. They are testimony to the maturation of what had begun as a Society of Exodontists in 1918.

The OMS service established a three year program, with the hospital’s enthusiastic support, and selected two residents each year. Among the first residents selected at this time were Bruce Donoff, Steve Roser, Len Kaban and Edward Seldin. It is also worth mentioning that selection of them, and all succeeding house officers, was made from a pool of 100 to 150 applicants, evidence of the national reputation of the OMS service at Mass General.

R. Bruce Donoff succeeded Guralnick as Chief in 1983, Leonard Kaban was Chief at UCSF before succeeding Donoff as Mass General Chief of OMS in 1994 and Steve Roser after his residency was Chief of the OMS at Columbia until becoming Chief at Emory in Atlanta

Despite progress in the form of a standardized three year training program, Guralnick was concerned about the medical educational deficit of dental school graduates who were becoming oral surgical residents. As the scope of oral surgery broadened, from exodontia to correction of facial deformities, there were two major differences between oral and other surgeons: lack of basic medical knowledge and lack of basic surgical training. Now that oral surgeons wanted and were being given responsibility for the total care of patient, fundamental educational credentials equivalent to those of surgical colleagues was needed.

As an initial move in that direction, three month rotations on both the Medical and Surgical services was arranged for the OMS residents. This was in addition to a two month assignment on anesthesia. Clerkships in medicine and surgery were innovative. Important as this was, however, educationally it was a compromise. What was really hoped for was finally consummated in 1971. After several years of planning, and with the substantial and invaluable help, principally, of Dean Goldhaber of HSDM and Dr. Gerry Austen, Chief of Mass General Surgical Services, the HMS Faculty Council officially approved a combined degree Mass

General Oral Surgical Residency Program. Graduates of the Harvard School of Dental Medicine were allowed to return to Harvard Medical School and earn the M.D. degree in one year. It was activated in 1972 and the first “graduates” of it were Bruce Donoff, Steve Roser and Len Kaban. Despite its importance to both Harvard and Mass General, limiting the dual degree to HSDM graduates was neither fair nor ideal. That, however, was corrected later.

Another enhancement of the education of our residents that was unique and important both educationally and culturally was an exchange program with residents of England. The program was initially established with Norman Rowe at St. Mary’s Hospital in Roehampton. Mr. Rowe was among the most distinguished oral surgeons in Europe and was equally enthusiastic about the exchange of residents between our two institutions.

From that early beginning, exchanges were made with other British teaching programs so that the OMS service now has a considerable, loyal “alumni group” in England. Among our prominent English alums are David Keith and Malcom Harris, the former Head of the Eastman Dental Hospital in London.

We were also able to arrange brief rotations with Professor Hugo Obwegger in Zurich for some of our residents.

The exchange program of residents had to be discontinued in 1974 when the OMS program was expanded to the Brigham and Children’s hospitals. The residents who would have rotated to England were now assigned to work with Dr. Kaban’s service at the two Longwood area hospitals.

Another service milestone was erected in 1974 when long standing discussions with Dr. Joseph Murray, Chief of Plastic Surgery at the Brigham and Children’s Hospital Medical Center, and hospital authorities were successfully concluded and Dr. Leonard Kaban, who had just completed his residency, became head of a new Division of Oral Surgery at Children’s and the Brigham. This enabled our Chief Residents to spend six months at these institutions, under Kaban’s guidance, where they gained experience in both pediatric and craniofacial surgery. The beginnings of a Harvard-wide service, headquartered at Mass General, were thus initiated.

In 1979, the name of the service was changed to Oral and Maxillofacial Surgery to reflect the expanded scope of the specialty and the work being done by the Mass General service.

In addition to the residency programs, the Service offered a number of continuing

education programs. One popular and important course that was given for dentists every two years was “Oral Cancer – Current Concepts.” It was directed at dental general practitioners who were an important source of patient referrals to the Mass General tumor clinic. It was particularly gratifying to note a marked increase in referral of patients with oral cancer to the Cox oral cancer clinic following the courses. Of even more importance was the increase in early detection as a result of awareness and recognition of suspected lesions by the patient’s primary care dentist.

Several other continuing educational offerings should be mentioned. One was another course geared to dentists, either generalists or specialists, entitled “The relationship of medical conditions to treatment of the dental patient.” The faculty was drawn from both the staff and a number of physicians who were experts in medical specialty areas such as hematology, endocrinology and oncology. Other important education events, geared specifically to oral and maxillofacial surgeons, were a series of all day sessions by distinguished foreign colleagues. Oral and maxillofacial surgeons throughout New England were invited (at no charge) to attend these outstanding lectures. Some of the luminaries who served as visiting professor-speakers were: Hugo Obwegeser and Milivoj Perko of Zurich, Switzerland; Richard Trauner of Groz, Austria; Norman Rowe, David Poswillo, B.W. Ficling, T. Craddock Henry, Geoffrey Howe, F. Gordon Hardman, Malcolm Harris and John Hovell of England. These guest speakers served as true visiting professors who interacted with the residents and, in some cases, operated with them. This program continues and contributes enormously to the breadth and pleasure of the service.

Finally, for several years, a review course for oral and maxillofacial surgeons preparing to take the Board of Oral and Maxillofacial Surgery examination was given. The course usually ran for five days and was appreciated by those who subscribed to it.

When Walter Guralnick resigned in 1982, Bruce Donoff, DMD, MD was selected as Chief by the Ad Hoc Committee that conducted a world wide search for a candidate with the scholarly qualifications Harvard and the hospital demand of their department heads.

Donoff’s contributions to the progress and advancement of the service were substantial. Chief among these was gaining permission from the medical school for all residents to be admitted to Harvard Medical School in order to eliminate the discrimination between residents who were HSDM graduates and those who were not. As an accomplished scientist, Donoff

also established a basic research component of the service that had not previously existed. His work in microvascular grafting and microvascular repair of nerves was on the leading edge of the specialty's advances. He introduced dental implants to the service and practiced a full, expanded range of oral and maxillofacial surgery. Among the visionary and important changes during Donoff's years, was expansion of the Harvard-wide nature of the program and the increase in residents accepted each year from two to three. The Oral and Maxillofacial Surgery Department at the Beth Israel Hospital became an additional training site for the Mass General-directed program. In order to cover Mass General, Brigham and Women's, Children's Hospital Medical Center and Beth Israel properly, the increased number of residents was essential.

"The Longwood Area" developed into an ever increasingly important venue for both residents and student externs. Doctors Nalton Ferraro and Willie Stephens, former Mass General OMS residents, provided experience and teaching of a broad scope of oral and maxillofacial surgery. All residents spent a considerable portion of their "Chiefship" year in the Longwood area.

Also, during the Donoff tenure, the full-time staff of the service was increased by the addition of Dr. Meredith August. There was now a cohort of seven full-time faculty: Donoff, Seldin, John Kelly, David Keith, Meredith August, Nalton Ferraro and Willie Stephens.

One of Donoff's final acts as Chief of Service was establishment of the first endowed Chair at the Harvard School of Dental Medicine. He became the first Walter Guralnick Professor of Oral and Maxillofacial Surgery, a title transferred to Dr. Kaban upon his appointment as Chief in January 1994.

When Donoff became Dean of the Dental School in 1992, he remained Chief of the Service with Guralnick serving as his Deputy for two years. During that time, Harvard's Ad Hoc Committee conducted a search for the position of Professor of Oral and Maxillofacial Surgery and Chief at Mass General. Dr. Leonard Kaban was the Committee's choice and he returned to Boston from UC—San Francisco to head up the school's and hospital's department on January 1, 1994.

At the time of the Mass General Bicentennial, Leonard B. Kaban, DMD, MD, FACS is Chief of the Service and Walter C. Guralnick Professor of Oral and Maxillofacial Surgery at HSDM. The full scope of the specialty is both taught and practiced by a full-time staff of

fourteen oral and maxillofacial surgeons. Although the department's primary site remains at Mass General, from 1994-2006 the program included Children's Hospital, Brigham and Women's Hospital, Beth Israel-Deaconess, and the clinics of HSDM and the Cambridge Hospital's Health Alliance. Because of the increased volume and commitment at Mass General and Children's and restrictions on resident work hours, the program was consolidated from 2006 to include Mass General and Children's only. Affiliations with Brigham, Beth Israel-Deaconess and Cambridge Health Alliance were ended.

Dr. Kaban has significantly expanded the OMS faculty during his tenure. David Perrott, DDS, MD was recruited from UCSF to be Director of the OMS Residency Program in 1994. During his two-and-a-half years of service, Perrott made significant contributions to the sequence of resident training. Upon completion of medical school, the residents now complete the full year of general surgery training before returning to the OMS Service, where they spend twenty of their last twenty-four months on the OMS Service. This revised sequence makes OMS training more concentrated and provides better continuity for the residents. Bonnie Padwa, an HSDM and Mass General graduate, was added to the faculty in July 1994. She helped to expand the Children's Hospital service, becoming Chief, Section of OMS at Children's Hospital—Boston in 2008. Dr. Shelly Abramowicz was recruited as a full time oral and maxillofacial surgeon at Children's hospital in 2008, after Nalton Ferraro and Willie Stephens left the full time faculty for private practice.

In addition to its primary commitment to OMS, the Department includes a Division of General Dentistry. In 1994, Agnes Lau, DMD, became Director of Dentistry at Mass General. The staff consisted initially of three general dentists and a rotating dental general practice resident operating within the OMS Clinic in the Wang Ambulatory Care Center. Under the leadership of Kaban and Lau, and with support from the Hospital and the Mass General Physicians Organization, a new, state of the art 11 chair dental facility was built at 165 Cambridge Street to expand dentistry at Mass General to include all dental specialties. Its staff now includes 8 general dentists, two orthodontists, two periodontists, an endodontist, two pediatric dentists, a maxillofacial prosthodontist, and an oro-facial pain specialist. In 2008, Dr. Kaban and Mass General acknowledged the importance of this service and it was officially recognized as the Mass General Division of Dentistry within the Department of OMS. Dr. Agnes Lau was appointed Chief of the Division. The collaboration between the dental division

and the OMS service has been mutually beneficial to Mass General, the Department and, most importantly, to our patients. In August, 2010, the Department opened a new facility at Mass General North Shore Medical Center in Danvers. This includes a general and pediatric dentistry service and will expand over time to include all the specialties.

Kaban's long-standing interest and experience in pediatric craniofacial syndromes and deformities attracts a large number of affected patients from here and abroad, thus enhancing the clinical richness of the residency program to include the genetic, psychological, and familial considerations of caring for patients with a diverse mix of clinical conditions. In addition, Kaban created the Skeletal Biology Research Center in 1994 to study pre- and post-natal growth and repair of skeletal tissue, appointing Julie Glowacki, PhD the first director. The SBRC is studying the molecular basis of bone healing in distraction osteogenesis in a porcine animal model. Dr. Ed Seldin has developed several models of miniaturized implantable devices. Through these efforts, new surgical techniques are evolving that promise better outcomes with less trauma for children and adults facing major facial reconstructive surgery. This is just one example of how the Department's leading edge scientific and translational research is transforming the practice of oral and maxillofacial surgery by improving the quality of patient care and outcomes.

In 1997, Dr. Maria Troulis completed the AO/Synthes/MGH Fellowship in Pediatric OMS under the tutelage of Kaban in the fields of minimally invasive (endoscopic) maxillofacial reconstructive surgery and distraction osteogenesis. She was recruited to the faculty in 1997 and was later appointed director of the SBRC. Since 2005, she has also served as director of Residency Training.

Thomas Dodson, DMD, MPH, was recruited in 1998 as director of Residency Training. During his seven-year tenure as program director another important change occurred in the residency program. For the first time, students graduating from dental schools other than Harvard were admitted to the third year class at HMS, while HSDM graduates were required to complete a full two years at HMS. This established a uniform program for both HSDM and non-HSDM graduates with all OMS residents completing a six-year program. In 2005, Dodson established and became director of the department's Center for Applied Clinical Investigation (CACI). Dodson and the numerous students and post-docs he mentors—many of whom are supported by OMS Foundation fellowships—are active contributors to patient-oriented

research. The following are several examples of current research: (1) Dodson and Zavras, at Columbia, with NIH funding are looking at genetic markers associated with bisphosphonate-related osteonecrosis of the jaw (BRON); (2) Dodson et al are evaluating the management of third molars, particularly addressing the controversy relating to care of asymptomatic third molars; (3) Dodson et al are addressing the prevention of complications in third-molar surgery using advanced imaging techniques and decision analysis; (4) Dr. Sung-Kiang Chuang and Dodson are assessing and improving implant survival; (5) Dodson, with former faculty Dr. Leslie Halpern, designed and published a diagnostic protocol to identify women with injuries attributable to intimate partner violence (IPV). Drs. Chuang and Halpern both completed CACI Fellowships in clinical investigation and then were recruited to join the faculty. Dr. Halpern has become a national spokesperson on IPV and serves on the AMA's taskforce on domestic violence.

Dr. Thomas Flynn was recruited in 1999 to oversee the predoctoral course in OMS at HSDM. Students have specific assignments to the school clinic for instruction in dento-alveolar surgery. A series of lectures by members of the department are given in The Advanced Surgical Treatment Course. Also, students are assigned for four week externships at Mass General or the Longwood area. This has been the department's responsibility for the past thirty years and is a highlight of the HSDM undergraduate curriculum.

Since 2002, the OMS Department reserves a portion of its clinical revenues to endow its own Education and Research Fund (ERF). The ERF underwrites investigational pursuits and presentations at important scientific meetings, signifying the Department's commitment to the research interests of its residents and faculty. An important adjunct to extramural funding, the ERF ensures continuity in the development of the next generation of academic oral and maxillofacial surgeons.

Under Kaban's leadership, the OMS department not only offers residents exceptional clinical and scientific exposure, but the Department as a whole has reached an unprecedented level of clinical and scientific achievement as well. The faculty and residents have produced close to four hundred peer reviewed articles and seventy book chapters and reviews. Research has been supported by significant grants from the NIH, the OMS Foundation, CIMIT, and other public and private sources. In addition, dozens of ERF-funded pilot projects have been conducted by OMS residents and HSDM students under the mentorship of OMS faculty. The

OMS residents have been singled out for their research accomplishments by AAOMS and AADR, while faculty members have been honored for their achievements by AAOMS, AMA, HSDM, HMS, JOMS, and others. The Department's research portfolio contains groundbreaking work on distraction osteogenesis, tissue engineering, bone healing, giant cell tumors, and bisphosphonate-related osteonecrosis of the jaws while also contributing evidence-based standards of care in third molar management, implants, and use of imaging. Members of the department are recognized as leaders in craniofacial deformities, minimally-invasive surgery, intimate partner violence, statistical evaluation and research methods, evidence-based clinical practice, nerve injury and repair, and orofacial pain. The department is a pillar of the regional OMS community, a productive voice in national debates and health emergencies, and a major force in the globalization of clinical teaching and promoting quality care.

The Oral and Maxillofacial Surgery Service at Mass General is now in its one hundred and forty-third year of hospital service. During its impressive lifespan, it has grown from a fledgling dental unit to a leading destination for clinical excellence, research, and training. To those who have trained and taught within its walls, there is an enduring connection to the history of the hospital as well as to the evolution of oral and maxillofacial surgery as a specialty of dentistry and medicine. Its standing as a major force in defining and shaping oral and maxillofacial surgery results from its continuous legacy of distinguished graduates who today serve as the academic leaders, deans, outstanding clinicians, and researchers of the specialty.

Walter C. Guralnick, DMD, is Professor Emeritus of Oral and Maxillofacial Surgery. He has been a member of the Massachusetts General Hospital staff since 1950, servicing as chief of service and professor and chair of the department of oral and maxillofacial surgery at Harvard School of Dental Medicine from 1966 to 1983. He was a founding member of what is now Delta Dental of Massachusetts and served as its president for 10 years. He was the principal architect of "the combined degree" residency training program in OMS, which was approved by the Harvard Faculty of Medicine in 1981.

Dr. Guralnick was elected to the Royal College of Surgeons in England and into membership of the Institute of Medicine of the National Academy of Sciences, both in 1996. He received the Harvard Medal in 2005, and in 2009 received the Arnold K. Maislen Award at New York University and the Gavel Prize of the Forsyth Institute.