



## POSTGRADUATE TRAINING IN ORAL AND MAXILLOFACIAL SURGERY IN THE UNITED STATES

A.Omar Abubaker, Professor and Chairman, Department of Oral and Maxillofacial Surgery, Virginia Commonwealth University

### ARTICLE INFORMATION:

#### Article History:

Received: 27 October, 2013

Accepted in revised form: 27 October, 2013

Published: 19 November 2013

#### Corresponding author:

A.Omar Abubaker

E-mail: abubaker@vcu.edu

**Keyword:** Oral and Maxillofacial Surgery, training, postgraduate courses, residency, USA

### ABSTRACT:

Oral and maxillofacial surgery is a specialty with relatively wide scope that treat many disorders, injuries and defects in the head, neck, face, jaws and mouth. It is an internationally recognized surgical specialty. In many countries around the world it is a recognized specialty of dentistry; in others, it is recognized as a medical specialty. The specialty shows constant development that reflected in the establishment of new training pathways and programs. In the United States, there more than one hundred approved training programs for dentists wish to become an Oral and maxillofacial surgeon that varies in duration, contents and outcomes. This paper will provide information on the application process, enrollment requirements, contents and the expected outcomes of various training and study programs.

### معلومات المقال:

#### تاريخ المقال:

استلم في: 27 أكتوبر، 2013

قبل بعد المراجعة في: 27 أكتوبر، 2013

نشر في: 19 نوفمبر 2013

#### المؤلف المسؤول:

عمر أبوبكر

البريد الإلكتروني: [abubaker@vcu.edu](mailto:abubaker@vcu.edu)

#### الكلمات المفتاحية:

جراحة الفم والوجه والفكين، برامج التدريب الدراسات العليا، الولايات المتحدة

### الملخص العربي

#### برامج التدريب و الدراسات العليا في جراحة الوجه والفكين في الولايات المتحدة

عمر أبوبكر، رئيس قسم جراحة الفم والوجه والفكين، جامعة فرجينيا كومونولث

جراحة الفم والوجه والفكين هو تخصص ذو نطاق واسع نسبيا لعلاج العديد من الاضطرابات والإصابات والعيوب في الرأس والعنق والوجه والفكين والفم. وهو تخصص جراحي معترف بها دوليا. في العديد من البلدان في مختلف أنحاء العالم هو تخصص تابع طب الأسنان، بينما في بلدان أخرى مسلم به كتخصص طبي أصيل. يشهد هذا التخصص تطورا مستمرا الامر الذي انعكس في إنشاء مسارات وبرامج تدريبية جديدة. في الولايات المتحدة تحديدا، هنا كأكثر من مائة برنامج تدريب معتمد لأطباء الأسنان الراغبين في الانخراط في تخصص جراحة الفم والوجه والفكين التي تختلف في مدتها ومضمونها ونتائجها. وهذه الورقة تقدم معلومات عن عملية التسجيل، ومتطلبات الالتحاق ومحتوياتها والنتائج المتوقعة من تلك البرامج التدريبية و الدراسية المختلفة.

**INTRODUCTION:**

Although the following discussion pertains mostly to training in Oral and maxillofacial surgery, many aspects of the discussion can be extrapolated to other specialties in Dentistry. Clearly the format and regulatory process are the same but the contents of the curriculum and the duration of training are different. Because admission to oral and maxillofacial surgery training programs is more competitive and more difficult than any other dental specialty, and because my involvement in the education over the past 25 years has been mostly in oral and maxillofacial surgery, I will be directing this discussion for the most part in relation to oral and maxillofacial surgery. Oral and maxillofacial surgery specialty is “the specialty of Dentistry which includes the diagnosis, surgical and adjunct treatment of diseases, injuries and defects of both the functional and esthetic aspects of the hard and soft tissues of the oral and maxillofacial regions”. Although such definition of the specialty was adopted in 1990 by the Commission on Dental Accreditation of the American Dental Association and applies mostly to the US, the scope contained in this definition is likely to apply worldwide. Despite such similarity in scope, in some countries, oral and maxillofacial surgery is a specialty of medicine whereas in others oral surgery is a specialty of dentistry. In this paper we will provide an overview of the oral and maxillofacial surgery specialty in general with somewhat more detailed discussion on the training programs in the US. Oral and maxillofacial surgery is a fairly rapidly changing specialty in the US and around the world almost transforming the face of the specialty over the past 50 years. Such change is both reflected in its scope, name, and its affiliations. It is indeed a unique specialty since it truly bridges medicine and dentistry in education, knowledge, training and scope. In addition to the changes in scope even the name has been modified from oral surgery, to oral and maxillofacial surgery to most recently calls for changing the name, at least in the US to oral and facial surgery. Similarly, the scope of the specialty has expanded from being limited to intraoral procedures expanding to extra-oral procedures then farther to the current expanded scope that includes many head and neck procedures such as craniofacial surgery, cosmetic facial surgery, oncologic surgery, and reconstructive surgery using micro-vascular tissues transfer. These later aspects of the scope, in some instances, require additional

training beyond the time allocated to the core curriculum of oral and maxillofacial surgery in the form of fellowship of one year or more. Affiliation of the specialty has been a subject of change as well. Historically, in the US oral and maxillofacial surgery has started and continues to be a specialty of Dentistry, with or without awarding a medical degree at the end of the training period. In some other countries, especially in Europe and the European Union countries, a prerequisite to training in oral and maxillofacial surgery is a medical degree, while a dental degree is only a prerequisite for oral surgery.



Fig: 1. Logo of the American Association of Oral and Maxillofacial Surgeons

Accordingly, in these countries, the specialty of oral and maxillofacial surgery is considered to be a specialty of medicine with or without dental degree while oral surgery is a dental specialty. While this discrepancy between the United States and some South American and Asian and African countries on one side, and the European model on the other side is unlikely to be reconciled at any time soon, there has been an increased affinity all over the world for acquiring medical degrees as a part of OMFS training program. Another variation among program is where training program is based. In some programs, oral and maxillofacial surgery training program is a hospital-based program with a medical school affiliation, whereas in others it is a dental-school program with a hospital affiliation and in others affiliated with both a medical school and a dental school. Based on a survey of oral and maxillofacial surgery programs and scope of practice around the world

on 1994, 55% of OMS were found to practice with a single degree, predominantly a dental degree, while 16% of the countries require a dual degree (MD, DDS). At that time, it was found that there was a trend toward the dual degree in the remaining 29% countries. It was also found that in countries where dual qualification is mandatory, the scope of practice is broadest, although in countries in which surgeons practiced with only DDS degree, the scope is equally broad.



Fig: 2. Logo of American Board of Oral and Maxillofacial Surgery

### ORAL AND MAXILLOFACIAL SURGERY TRAINING IN THE US:

In the US, OMFS is one of 9 recognized specialties of dentistry. The others programs are Endodontics, Pediatric dentistry, Orthodontics, Prosthodontics, Periodontology, Oral and Maxillofacial Radiology, Oral Pathology, and Public Health. Because of the extensive training during OMFS programs, the specialty enjoys a wide scope of practice. This has led to OMFS specialty scope of practice to often overlap with other specialties such as Periodontics, Plastic and Reconstructive surgery and ENT. In the US, as of 2013 there are still some variations in OMFS programs formats. The total number of accredited Oral and maxillofacial surgery programs in the US is 102. Of these, 56 are single degree OMS programs (4years of training) while 46 are dual degree OMS programs (between 5-7 years of training). The number of hospital based programs is 43 while the number of Dental School Based Programs are 38 and the programs which are

medical school-based is 10 and those which are federal military programs are 11. In the US, the core scope of oral and maxillofacial surgery and the core training regardless of the training period is fairly the same.

To illustrate such consistency, the following discussion is more geared towards the OMFS training in the US. For acceptance into OMFS residency program in the US a DDS or DMD is required. Some programs as per the corresponding states local licensing laws require the dental degree to be from accredited US or Canadian dental school. Other requirements include high scores in the Dental National Board. Such requirement is rendered less relevant since these changed from grades to pass fail format. Other requirements include high class ranking or high dental school grade point average (GPA), and for acceptance into some integrated MD programs the requirement also include high undergraduate (college) grades (GPA) comparable to medical school applicants but no MCAT is necessary for these programs for eventual admittance into medical school. Other requirements which are less critical but can be helpful include leadership, and volunteer experience. Other experiences are considered as an advantage but not necessary to be accepted into OMFS residency include internships (one year residency), MSc, PhD, and research experience, and OMFS externship (weeks of exposure to a residency program during the dental school years. Other extracurricular activities during and before Dental School education are looked at favorably. In light of the new change causing absence of a numerical scoring of the Dental National Boards results of dental school graduates, AAOMS has begun to offer the National Board of Medical Examiners Comprehensive (NBME®) Basic Science Examination (CBSE) for OMS applicants. Results of this test can provide programs an opportunity to measure the understanding of the applicants of basic sciences and provide an enhanced mechanism for OMS training programs to evaluate applicants for residency positions. AAOMS began to offer (NBME®) (CBSE) in February and August, 2014. This test open to all dental students interested in applying to oral and maxillofacial surgery residency programs. After completion of the examination, applicants will receive an electronic score report within one week from NBME. A copy of the score report will also be provided to the AAOMS. CBSE scores will not be available to medical schools. Dental students with

a numeric score on Part 1 of dental boards are not required to take the CBSE.

Table 1. The rotation for both 4 and 6-year OMFS residency

Specialty	Four-year Residency	Six-year Residency
	Duration (in months)	Duration (in months)
General Surgical specialties	4	6
Cardiology	1	1
Emergency Room	2	2
Neurosurgery	1	1
Anesthesia	5	5
Surgical Oncology	1	1
Pathology	1	1
Internal Medicine	2	2
The OMFS training period is 30 to 36 months		

## THE CURRICULUM OF USOMFS RESIDENCIES:

The curriculum of USOMFS residencies is fairly consistent regardless of the duration of the residency program. This consist of a duration of minimum of 48 months, a minimum of 30 months of clinical OMFS service, a minimum of 5 months of anesthesia , a minimum of 2 months of medicine, a minimum of 4 months of surgery, two additional months of clinical medicine or surgery, and a six months of expanded clinical and/or research opportunities, table 1. Generally the four-year OMFS Residency curriculum include rotation on Surgery services for 4 months, Cardiology-1month, Emergency Room-2 months, Neurosurgery- 1month,Anesthesiology-5 months, Surgical Oncology-1 month, Pathology-1month, Internal Medicine- 2 months The 6-Year OMS Residency curriculum include a various combination of medical school requirement and the residency requirement. This include 6 months on Surgery, Cardiology 1 month, Internal Medicine, 2 months, Neurosurgery 1 month, Emergency Room, 2 months, Pathology-1 month, Anesthesiology- 5 months. The 6-Year OMS Residency OMS Service rotation 2 ½ years, 3<sup>rd</sup> and 4<sup>th</sup> year Med School, Pathology- 1 month, 1 year General Surgery Internship, Anesthesiology-4 months Most oral and maxillofacial surgery training program focus on providing adequate knowledge and skills to carry out the core aspects of OMFS. These aspects are anesthesiology and sedation, dento-alveolar surgery, craniofacial surgery, TMJ surgery, pathology and oncologic surgery, cosmetic facial surgery reconstructive surgery, trauma, and orthognathic surgery (table 2). Most programs have as part of their training curriculum a limited exposure to craniofacial surgery, oncologic surgery, cosmetic surgery, and micro-vascular surgery. These aspects however

are mostly taught in an expanded fashion in the form of a one year fellowships following completion of an accredited US-OMFS residency program. Research Involvement during the residency varies among programs. Most programs encourage resident involvement in research activities during the residency. Some require research rotation and all require some form of involvement of the resident in scholarly activities such as publishing a paper, a book chapter or a presentation at a national meeting. This spelled out in the Accreditation Standards as “Advanced specialty education must engage in scholarly activity”. Financial aspects of residency programs include scholarships, salaries, and tuition fees. In most programs, no tuition is required for the residents (at least for US citizens), all offer salaries that vary with cost of living of the city, and most offer meals and accommodation while resident is on call .some training programs offer book allowances and paid expense trip to a national meeting or other continuing educational courses. All salaries and benefits are paid by the hospital. All trainees in OMFS programs in the US go through a national yearly examination to aid both residents and program director to assess the knowledge base of the trainees. The accreditation requirements for US OMFS Residency is set by CODA and used a s a guidelines for assurance of adequate skills upon graduation. For example, for each final year resident position the program must have3000 outpatient visit per year, 100 of sedation/general anesthesia, 75 major operating room cases at least 10 of which are in each of the following areas: trauma, pathology, orthognathic surgery, reconstructive and esthetic surgery. These requirements are being constantly reviewed and changed by the accrediting body for OMFS residency programs. Each residency program in the US undergoes a comprehensive evaluation every five years. The accreditation process is carried out by the Commission on Dental Accreditation (an agency of the American Dental Association, ADA). Accreditation is made based on a written report submitted by the program and a report submitted by2 consultants site visit who verify the report by a site visit to the residency program to a Review Committee (selected by AAOMS and ABOM). Accreditation Standards for OMFS residency in the US cover six major categories and include: 1.The institutional commitment and program effectiveness and affiliation,2.The program director and teaching staff, 3. Facilities and resources, 4. Program curriculum and duration, 5. Criteria for selection



and evaluation of residents and their rights and responsibilities, 6. Research. Details description of the process of evaluation of these standards by OMFS consultants reviewers are spelled out to the reviewed programs prior to each visit. After completion of accredited OMFS program, residency graduate are eligible to take the US OMFS Board certification. This is a two part process. The first part consists of a written examination which can be taken immediately following graduation from a residency program.

Table 2. The general training Domains in USOMFS

The major domains in USOMFS residency Training	
1	Anesthesiology and Sedation
2	Dento-alveolar surgery
3	Craniofacial surgery
4	TMJ surgery
5	Maxillofacial pathology
6	Oncologic surgery
7	Cosmetic facial surgery
8	Reconstructive surgery
9	Facial trauma
10	Orthognathic surgery

The second part is an oral examination that is taken at least after 18 months at least after graduation from the training program. This certification is valid for 10 years after which a written re-certification examination is required for renewal of such certification for another 10 years.

## **ORAL AND MAXILLOFACIAL SURGERY RESIDENCY ADMISSIONS PROCESS:**

### **Application to a residency program in the US:**

All applicants must have a DMD/DDS degree. Applicants must be eligible to obtain temporary licensure from the State where is the training program is located, for which graduation from an accredited U.S. or Canadian dental school is required. If accepted into the 6 years program, a candidate will be responsible for two- and one-half years of tuition and fees. Financial aid is available to U.S. citizens and permanent residents. For applicants who do qualify for financial aid criteria, payment for the full 2.5 years of tuition is due prior to matriculation. Students can apply to the program through the Postdoctoral Application Support Service (PASS) with the American Dental Education Association. The deadline for applications received through PASS varies but mostly around October 1<sup>st</sup> for the following years (July 1<sup>st</sup>) matriculation. Applications can be processed online through the PASS web site. Supplemental materials, including undergraduate transcripts, letters of reference, a \$25 application

fee, and a recent photo must be sent to the program directly or through the PASS. College (or previous BS degree) transcripts and three letters of reference should be submitted directly from the schools of graduation.

### **INTERVIEWS:**

Selected number of candidates (about 20 to 30 applicants) from the applicants pool will be selected for interview by a committee of faculty and residents in the program. Interviews of candidates for matriculation for July are usually conducted between October and January for year before entrance. The interview process requires the entire day for activities and interviews. In addition, the day includes a presentation by the program faculty, residents and medical school (when applicable) and candidates will have an opportunity to meet some of the medical school staff to discuss financial aid. A separate medical school interview is not required. All or some of the interviewed applicants will be ranked for selection through the Postdoctoral Dental Matching Program. All Oral and Maxillofacial Surgery program in the US participate in the Postdoctoral Dental Matching Program. Results of the match are usually announced by the last Monday of January.

## **ADDITIONAL INFORMATION FOR INTERNATIONAL APPLICANTS:**

Certain oral and maxillofacial surgery residency programs in the US accept applicants who are foreign dental school graduate who show proficiency in English language, excellent academic achievement and demonstrate proof of adequate personal financial resources to cover all years of the program.

## **MOST FREQUENT QUESTIONS (MFQA) BY NON US DENTAL SCHOOL GRADUATES CAN AGRADUATE OF FOREIGN DENTAL SCHOOL BE ACCEPTED IN POST GRADUATE TRAINING PROGRAM INTHE US?**

Yes. Many residency programs in the different dental specialties accept foreign graduates. However, because residents enrolled into dental specialty should be able to practice under a special training permit (temporary limited license), some states do not grant these license to foreign graduates. In these states, dental residency programs would not be able to accept graduates from foreign countries. One has to investigate state dental licensing laws (on the web) before inquiring about applying to programs in these

states. Oral and maxillofacial surgery programs are sometimes more difficult to be admitted to because residents in these programs are governed by hospital policies and procedures that applies to medical education and not necessarily to those of dental schools.

### **WHAT DOES IT TAKES TO GET ACCEPTED INTO A US RESIDENCY PROGRAM?**

Very critical to getting accepted to a residency program of any type medical or dental is mastering the language skills. Because residents have to fluently communicate with patients and other health care providers, lack of such skills cannot be overcome by any other qualification. The school where the applicant had graduated from and the grades during the dental education are also important. Recommendation letters, research and clinical expedience are also important.

### **WHICH ORAL AND MAXIL LOFACIAL SURGERY PROGRAMS I SHOULD APPLY TO: THE 4 YEARS OR THE 6 YEARS?**

That depends on one's future plans after completion of the residency. Most 4 and six year oral and maxillofacial surgery programs provide comparable clinical experience and the graduates is able to practice/teach the full scope of oral and maxillofacial surgery. However, if the graduate of the program is interested in pursuing a fellowship or sub-specialization in oncological, craniofacial, or cosmetic surgery after completion of the residency, then the 6 year program is more viable option because graduating from such program may facilitate future acceptance to such advanced training.

### **WHAT CAN A GRADUATE OF FOREIGN DENTAL SCHOOL DO THAT BRING CERTAINTY INTO ACCEPTANCE INTO ANY DENTAL RESIDENCY TRAINING IN GENERAL AND THE MORE COMPETITIVE ONE IN PARTICULAR (OMFS AND ORTHODONTICS)?**

The only assurance an applicant from foreign country can get to be on an equal footage when they apply into a residency in the US is qualification similar or better than American graduates. Accordingly, such assurance can only be brought about by acquiring an American dental degree with high grades. Such degree can be obtained through special programs specially

designed for foreign graduates. The programs are offered in most American dental school and can be completed within 18-24 months with graduation rate of almost 100%. Immediately after graduation from these programs, graduates will be able to be licensed in any state and accordingly can apply to any residency program in the US. Acceptance rate for such positions is fairly high especially if the graduate s is in the top 10 to 20 % of the class ranking.

### **CONCLUSION:**

Postgraduate training in Dentistry is very important to be able to provide a quality care dental care and or be able to be an effective teacher in the field. This is even more important if the undergraduate dental education is less than adequate. Training in Western Europe, the US has been historically well organized and well regulated to assure a high slandered training and education in knowledge and skills of the specialty of dentistry. Unfortunately because of the high competition for positions for training in these countries from the local graduates accepting foreign graduates can be difficult and frustrating for the foreign applicants. Such applicants can spend years waiting for an opportunity to be accepted with no positive outcome. This discussion provided a background and some information that hopefully some may find helpful.

### **USEFUL WEBSITES:**

- 1) The American Association of Oral and Maxillofacial Surgeons: <http://www.aaoms.org>
- 2) The American Dental Association: <http://www.ada.org>
- 3) The Joint Commission on National Dental Examinations: <http://www.ada.org/JCNDE.aspx>
- 4) The American Dental Education Association: <http://www.adea.org>
- 5) List of US dental schools: [http://en.wikipedia.org/wiki/List\\_of\\_dental\\_schools\\_in\\_the\\_United\\_States](http://en.wikipedia.org/wiki/List_of_dental_schools_in_the_United_States)
- 6) 6- The online PASS/MATCH application: <https://portal.passweb.org>
- 7) The American Board of Oral and Maxillofacial Surgery: <https://www.aboms.org/default.aspx>